319 ELGIN AVENUE
Heritage Tax Credit Application

September 8, 2004



CORBETT CIBINEL ARCHITECTS
420A Stradbrook Avenue
Winnipeg, MB R3L 0J8
p 204.989.8910
f 204.989.8920

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1.0

1.1 Basic Information

Address: 319 Elgin Avenue, Winnipeg, MB R3A O4K
Registered Owner: Dr. Meredith Penner
Legal Property Desicription:
SP LOT 14 PLAN 32336 W.L.T.O. IN
R.L. 8 AND 9, PARISH OF ST. JOHN
Certificate of Title Number: 1395624
Assessment Roll Number : 13071884000
Heritage Designation: Grade III, no interior elements

1.2 Occupancy History

Since acquiring 319 Elgin on April 15, 2004 the premises have been vacant.



above:
319 Elgin in the context of the Exchange District

2.0 condition assessment

2.1 Architectural

The warehouse measures approximately 16.8 x 33.6 x 14.0 metres (55 x 110 x 46 feet) and consists of a basement partially above grade with three upper storeys. Resting on a reinforced concrete foundation and a steel beam and girder framework, the exterior walls are built of common clay brick (east, north and west) and face brick (south). The front (south) façade begins at grade with a raised concrete foundation, interrupted by small square-headed windows. The upper storeys are clad in dark-hued face brick and are divided into four bays by pilasters running from the concrete base to the corbelled brick area above the third-storey windows. The pilasters are embellished with concrete capitals above the first- and third-storey windows. The western-most ground-floor bay features a ca.1950s doorway, while the other three bays contain large multi-paned windows with concrete lug sills. A concrete belt course acts as a continuous head for these openings.

below:
South Elevation



below:
East Elevation



The second and third floors are symmetrical and similarly designed, the middle pilaster replaced by brick panels. All windows on these floors feature large central panes with smaller side windows, multi-paned transoms and concrete lug sills and heads. Above the top storey windows is a corbelled brick area leading to the brick parapet, raised at intervals to highlight the pilasters below.

The cladding and window treatment are continued a short distance on the east façade. The remainder of this elevation consists of a series of unadorned pilasters dividing the common clay brick wall into six bays. The ground-floor bays are unmatched; some feature windows and/or doors, others are uninterrupted. The second and third floors feature matching rectangular, multi-paned windows with continuous concrete lug sills and wide continuous concrete heads. Corbelled brick above the uppermost window heads leads to the plain brick parapet.

The rear (north) elevation is similar in design and layout to the east, with paired and single windows, a large loading door and concrete accents. The west façade is uninterrupted save for a recessed light well near the rear of the building and windows adjacent the well. This light well occurs at a spot where the building and property line jog. It is not clear why the property possesses this peculiarity. A concrete staircase runs up the west side of the interior with office, factory and warehouse space located to the east. The entrance vestibule includes marble tile accents and a wood and glass partition.

This building has seen very limited exterior alteration in its 90-year existence. The front entrance has been replaced. However, windows, roofline detailing and even rear loading doors and hardware appear to be original. There is considerable deterioration of exterior concrete elements on the south, north and east façades.

The roof has been replaced within the last 5 years with a tar and gravel built-up membrane yet may require some repair due to expansion of the substrate. The new roof has positive slope to drains using sloped insulation. The wood attic structure appears to have been removed down to the concrete roof slab. Minor work to the roof is anticipated.

below:
Roof



Building Materials

The interior masonry walls have been painted throughout the building life. From a heritage standpoint, it is recommended that the walls be cleaned with soap/water and a stiff brush or sandblasted very lightly to remove all old paint. A sample of any sandblasting will be performed to ensure the integrity of the brick masonry is not comprimised. The concrete finishes are more durable but should be assessed in a similar fashion.

Similarly, the exterior brick work should be cleaned and re-pointed as necessary and damaged lugs and sills recast or repaired as necessary. At no point will the exterior brick masonry be sandblasted. Cleaning of the exterior masonry will be done with a low pressure water power wash or similar non-destructive method. Proposed methods will approved by the City of Winnipeg through the Architect on behalf of the applicant. It is recommended the original front entrance location should be restored for both heritage and functional purposes.

The original steel sash windows are one of the character-defining elements of the building from an heritage perspective. The windows require minor repair to sills, replacement of translucent and broken glazing, re-puttying, and painting. The glazing units should be re-puttied within the existing sashes. These metal units will function as storm windows. The original wood frame windows will also require minor repair to the sills, frames, and sashes. In some instances, the original wood frame is in need of replacement. Glazing will be replace where required.

In place of the interior storm sashes on both the metal-frame units, the installation of a secondary wood seul sash is proposed. This would allow for a greater weather seal and better window performance. This seul sash can be operable or non-operable, and sealed to existing stops or new stops fastened to the brick jamb with a neoprene gasket and removable fasteners. There is no requirement for a muntin breakup on the seul sashes however, if they are operable the sash should be sympathetic to the existing window patterns.



above:
Original west stair rising up west side of building

2.2 Structural

The building is three stories with a full basement. The building is framed with exterior masonry bearing walls and cast-in-place concrete slabs and columns. The basement slab is cast on grade. Although not verified, the building is assumed to be supported on a stepped footing foundation. Out to out dimensions of the building are 55' x 110'. Interior columns are on an approximate 13'-4" x 15'-5" grid. There are no available drawings for the original construction.

below:
Industrial sash windows with original "chicken wire" fire glazing



There are slab openings through the north/west corner of each floor for a freight elevator shaft and stair. There is also an opening through the main floor for a second freight elevator and stair to the basement, and openings through each floor for the stair extending from the main entry to the third floor along the west wall. There was a second main floor entry that has been infilled. The floor openings for the main entry stairs are framed with concrete beams and are staggered towards the back of the building at each floor. Aside from the exterior wall to the west of the stair, the walls enclosing the stair are not considered to be load bearing. Removing the stairs and infilling the slabs is, therefore, an option when redeveloping the floors.

The basement floor slab on the south end of the building has experienced significant heaving due to soil swelling (apparently the result of a water main break). There is also deterioration of the exterior concrete window sills in several locations on the east and north elevation of the building.

2.3 Mechanical

The existing mechanical systems for the building are very basic and designed to serve a warehouse building. The boiler is in good condition and could be kept to provide the building heating system, ideally through a hot water distribution. However, developing the building to provide office space would require the addition of mechanical equipment to handle the required cooling and ventilation. Currently there is no mechanical equipment installed to handle these loads. Also, the heating distribution system will need to be modified in order to provide the required zone control.

Mechanical Services to the Building

Natural gas service is provided to the building gas meter located at the south end of the east wall of the building. The building water service consists of a 1" domestic water supply to the water meter at the south wall of the basement. The building sewer is a 6" combined sanitary and storm water sewer that leaves the building along the south wall to mains on Elgin Street.

Fire Protection

The building is not sprinklered. Installing a wet sprinkler system requires the installation of a new 6" water service to the building.

Building Heating System

The building is heated by a natural gas-fired steam boiler with steam unit heaters throughout. The boiler is a Weil-Mclain cast-iron boiler, model LGB-12S, rated at 3620 lb/hr of steam, 1,430 MBH natural-gas input. The boiler is relatively new, installed in 1997 following the decommissioning of the City of Winnipeg Amy Street steam plant, and appears to be in good condition. There is a pumped condensate return system with a Monarch ½ hp pump. Again, the equipment appears to be in good condition.

No visible problems were noted on the steam and condensate piping. The piping within the boiler room appears to be relatively new, and likely installed with the boiler. However, the piping within the rest of the building likely pre-dates the boiler and can be expected to exhibit some problems with leakage (especially in the condensate system).

Ventilation and Cooling Systems

Some areas of the main floor are served with a horizontal air handling unit located at high level on main floor. The only mechanical cooling consists of two window air conditioners along the east wall of the building. Other than washroom exhaust and some small miscellaneous exhaust fans, there is no mechanical ventilation or cooling equipment.

Plumbing

The plumbing system consists of a single washroom core at the northwest corner of the building. The domestic hot water is provided by a single gas-fired hot water tank located in the basement mechanical room. The venting terminates at the roof in this area. The sanitary drain piping is 4" cast-iron piping.

The roof drainage system consists of a single conventional roof drain with a 6" rain water leader located at one of the central columns of the building. The building parapet is approximately 4' higher than the roof, and there are no overflow scuppers for overflow storm water from the roof. This may require correction with the proposed renovation to suit new Building Codes.

2.4 Electrical

The existing electrical systems are not sufficient for reuse with respect to the requirements of the proposed new occupancies. Any implementation of new programs will require the installation of new electrical service to the building including distribution panels and subdivision panels on each floor. Existing lighting will also have to be replaced but could be used for temporary construction and leasing purposes.

3.0 zoning / proposed uses

3.1 Zoning

319 Elgin falls under the new Downtown Zoning Bylaw 100/2004. Since the building at 319 Elgin is existing, the building is non-conforming in many aspects yet these are waived or "grand fathered".

The potential of development adjacent this property to the east is of concern to this project. 319 Elgin abuts a former rail spur line to the east that is currently utilised as surface parking. When this property was sold to the current owner, no provisions were made to restrict development on the site. The new bylaw does not provides any provision for a side yard setback with one exception as noted below.

Without restrictions under a bylaw, the only restriction is that which falls under the MBC dealing with limiting distances. If the neighbouring property owner were to develop a building, built to the property line as allowed under the relevant bylaws, the onus will be upon the owner of 319 Elgin to provide a suitable fire separation between the two buildings. In this case, the only option would be to fill in the windows on the east facade.

The exception to the side yard setback is in the scenario where a residential use is proposed for the adjacent property under the proposed new downtown bylaw. The restrictions under this scenario are provided below.

210(6) For all Residential Uses, a 10 foot interior side yard shall be provided for the portion of the building containing such uses, to a maximum height of 4-storeys. Above 4-storeys, a 20 foot interior side yard shall be provided for the portion of the building containing such uses. These yards must also be provided when a building or structure containing non-residential uses is established on a lot that abuts a lot containing

Residential Uses.

210(7) Notwithstanding 210(6), no interior side yard shall be required when no windows, doors, or other openings (not including fire escapes) are provided in the wall facing the adjacent property and in the adjacent property wall.

210(11) Permitted projections and obstructions into required minimum Residential Uses yards include:

- *(a) open terraces, landings, and steps (maximum 4 foot height);*
- *(b) open walkways and wheelchair ramps;*
- *(c) open patios (maximum 4 foot height);*
- *(d) wing-walls, porte cocheres, eaves (including troughs and downspouts), and awnings;*
- *(e) open recreational equipment, including private swimming pools and tennis courts;*
- *(f) open garbage enclosures, loading areas, and parking areas;*
- *(g) open fire escapes (maximum 5 foot depth);*
- *(h) alcoves and vestibules (maximum 5 foot depth);*
- *(i) landscape features (including trees/shrubs, benches, reflection pools) and fences/hedges (maximum 4 foot height).*

There will be, at minimum, one residential suite in the building.

below:
319 Elgin is shown in its context. The former spur line is shown to the right, the new Red River College is under construction in the bottom of the photo. North is up in the photo. Note the jog in the building and lot near the lane.



3.2 Proposed Uses:

The total gross square footage is 24,900. It is expected that the building will be leased with the following approximate area breakdown. This is the targeted mix of uses. The actual may differ as the market dictates.

Floor	Total Gross	Common Space	Office	Studio	Residential
Basement	6225	1500	4725		
Main	6225	2050	4175		
Second	6225	1150	4375		700
Third	6225	1050	3975	1200	
	24,900	4250	17,250	1200	700

4.0 proposed scope of eligible work

The **eligible** scope of work to be performed under the Heritage Conservation Tax Credit Programme includes:

1. Window refurbishment
   - South wooden windows to be refurbished.
   - East and north steel sash windows to be refurbished with new wood seul sash installed.
   - Interior steel sash fire stair windows to be refurbished.
2. Door refurbishment
   - Original entry doors to be installed and refurbished.
   - Interior doors to be refurbished and relocated where required.
   - Refirbishment of existing loading doors.
3. New door systems
   - New entry door system to be installed in structural bay which once contained the retail entry.
   - New access and loading doors to be installed at the north side of the building.
4. Masonry repair
   - Masonry sills to be recast or repaired.
   - Repointing of brick masonry to be performed as required.
5. Interior finishes
   - Interior finishes to be constructed including the reorganisation and refurbishment of original glass/wood partitions.
   - Retention of original masonry vault and main floor service elevator if possible.
   - Refurbishment of the original freight elevator shaft and installation of new elevator.
6. Building Code upgrades
   - New fire stair, revisions to existing stair, new elevator, new universal access at the main entry, and new fire doors.

The scope of work to be performed which is **ineligible** for the Heritage Conservation Tax Credit Programme includes:

1. Interior leasehold finishes including flooring, drywall, painting, etc.
2. Sandblasting of the interior spaces
3. Construction management fees.
4. Printing
5. Building lighting/signage
6. Taxes, RST, PST, and GST.

5.0 project schedule

August 2004	Cleanup and site preparation	ongoing
September 2004	Heritage Tax Approval	
	Construction work begins on base building eligible costs	
October 2004	Tenant Leasehold improvements begin on 3rd floor	
November 2004	Exterior scope of eligible costs complete	
	Tenant Leashold improvements begin on Basement	
December 2004	3rd floor tenant move-in	
	Tenant Leaseholds begin on Main and 2nd floors	pending lease arrangements
February 2005	Final Leashold improvements complete	pending lease arrangements

6.0 costs

Costing for this project has been performed by Stratfield Properties acting as Construction Manager (CM). In keeping with Construction Management procedures, costs are acquired through a series of sequential invited tenders, coordinated by the CM, and approved by the Owner/Developer. The following are the cost estimates to date.

Eligible Costs.

Exterior Finishes	
MASONRY	$ 58 000
WINDOWS	140 000
NEW ENTRY DOOR ETC.	38 500
Interior Finishes	
DEMOLITION	25 000
NEW STAIRWAY	78 000
ELECTRICAL	52 000
MECHANICAL	150 000
INTERIOR BUILDING FINISHES	20 000
NEW DOORS	19 500
FIRE SEPARATION WORK	32 000
Elevator	
ELEVATOR (CASH ALLOWANCE)	100 000
Professional Services	
PROFESSIONAL FEES	30 000
Total	**743 000**

Ineligible Costs.

Construction Managment	
FEE	$ 20 000
SITE COSTS	21 500
Miscellaneous	
DEVELOPMENT COSTS	50 000
SIGNAGE AND LIGHTING	20 000
PAINTING	15 000
FLOORING	3 000
SANDBLASTING	18 000
INTERIOR FINISHING	2 000
FINISHING MATERIAL	2 000
OFFICE MATERIALS	2 000
PRINTING	2 000
Tenant Improvements	
ESTIMATE	354 000
Taxes	
GST (7% ON ELIGIBLE SUBTOTAL)	52 000
RST (7% ON ELIGIBLE SUBTOTAL)	10 850
GST (7% ON ELIGIBLE SUBTOTAL)	35 500
Total	**$ 607 850**

7.0 maintainence and repair strategy

319 Elgin will be managed and operated by the original investors of the building, one of whom is also a tenant. The presence of an investor as a tenant will ensure the maintanence of the building will be at a high standard. In addition, the creation of a Media Centre within the building will require a high standard of care for the building.

Proposed maintenance will be scheduled as follows:

minor maintenance	monthly
elevator maintenance	monthly
janitorial	weekly/monthly
HVAC/Electrical	as required - service on call
roof	yearly
other	as required and communicated by tenants

The approximate cost of the expected maintenance and repair is $1000/month.

8.0 drawings and specifications

8.1 Architectural

1.1 DEMOLITION

- .1 All interior plumbing, piping and fixtures to be removed.
- .2 All interior heritage walls, mouldings, doors, and heritage glass to be salvaged for possible reuse.
- .3 Existing central elevator and shaft from main floor to basement to remain until Main Floor tenant is confirmed.
- .4 Existing elevator and all related equipment at northwest corner of building to be removed at the completion of the construction phase. Confirm with Architect prior to removal.
- .5 New shaft for north interior exit stair to be cut through main, second and third floors between gridlines B and C and between gridline 7 and 8.
- .6 All brick masonry to be salvaged for potential reuse.
- .7 Remove all remaining components of the former mechanical system. Remove boiler.

2.1 EXTERIOR WALLS

- .1 All graffiti to be removed from existing exterior masonry with pressurised sodium bicarbonate wash or similar non-abrasive means. Confirm sample on existing masonry with Architect. Do not sandblast.
- .2 Damaged concrete sills to be repaired or recast as required.
- .3 Masonry to be repointed as required. Areas under sills on east façade to be investigated.
- .4 Clean existing paint residue from exposed concrete surfaces adjacent face brick on south and east facades.

3.1 INTERIOR WALLS

- .1 Sandblast all interior brick masonry surfaces with a light pressure wash to remove built-up paint only. Do not use high pressure. Sandblast concrete columns, ceilings, and cast concrete stairs to remove built-up paint only.
- .2 New wall construction to be built to centre line of grids unless noted otherwise.

4.1 STAIRS

- .1 New stairs to be constructed with steel pan construction c/w steel stringers and cast concrete tread as shown on drawings. Paint all exposed steel including handrails.

5.1 DOORS and EXISTING RATED WINDOW ASSEMBLIES

- .1 Provide shop drawings relating to Door Schedule issued with drawings. Clearly indicate each type of door frame, material, steel core thicknesses, mortises, reinforcement, locations of exposed fasteners, anchors, glazing, openings, arrangement of hardware, and finishes.
- .2 West stair: Existing doors and steel frame windows into existing west exit stair to be cleaned, refinished, and reglazed with Georgian wired glass as noted below, thickness to match existing glazing.
- .3 Wood doors:
  - .1 Existing wood doors to be cleaned, operation repaired where required (new hinges, strike plates, etc), and painted.
  - .2 New main entrance door to be 1 3/4" solid core fir with double glazed AFG Ti-R unit as shown on drawings, paint finish.
  - .3 Interior flush doors
    - .1 Solid core non rated:
    - .2 Core material: particle board
    - .3 Construction: framed core of extruded particle board
    - .4 Face: 3mm (1/8") masonite hardboard
    - .5 Grade: stain - (clear polyurethane finish)
- .4 Doors at all walls shown with ratings to be hollow metal, 45 minute rating.
- .5 Hollow metal doors:
  - .1 Thickness of component parts as follows unless otherwise specified.

.1 Door frames:
.1 1.6mm (16 ga.) welded
.2 1.6mm (16 ga) knockdown
.2 Door with sidelite frames: 1.6mm (16ga.) welded
.3 Doors: 1.2mm (18 ga.)
.4 Astragals: 1.9mm (14ga.)

.2 Door construction
.1 Honeycomb (hollow) core doors
.2 Glazed doors: opening reinforced with 0.90mm, 20 ga. channel, before stops and trim applied.

.3 Labelled fire doors
.1 Provide labelled doors and frames for openings requiring fire protection ratings as scheduled.

.4 Installation
.1 Install hollow metal frames plumb and square with a maximum diagonal distortion of 1.5mm (0.06"). Ensure frames are securely and rigidly anchored to adjacent construction.
.2 During installation, touch up all scratched or damaged surfaces and prime coat.
.3 Install hollow metal doors and hardware, lubricate and adjust for correct fit and ease of operation.
.4 Install acoustical insulation in all frames installed in acoustically insulated walls. Fill all cavities. Caulk perimeter of frame to wall and floor at each side of wall.
.5 Install one (1) layer of 16mm type X GWB horizontally within the full area of the head of all rated frames.

.5 Glazing
.1 Polished plate or float glass: To CAN2-12.3-M90 glazing quality. Thickness 3mm (1/8") unless noted otherwise.
.2 Polycarbonate sheet: Thickness 3mm (1/8"), clear sheet, non yellowing.
.3 Wired glass: To CAN2-12.11-M90, Type 1, wire mesh style 3, 6mm (1/4") thick.
.4 Insulating glass units: To CAN1-12.8M 90 hermetically sealed dual glazed with 12mm (1/2") air space between AFG Ti-R panes. Thermal separator to be Super-Spacer® as manufactured by EDGETECH. Thickness of glass as prescribed in National Building Code, or as indicated otherwise.

6.1 WINDOWS

.1 New main entrance window unit to be fir construction to match existing. Insulated glazing units as previously specified.

.2 East/North facing windows:
.1 Existing exterior metal sash to be cleaned, repaired, repainted, and reglazed with clear glazing.
.2 New interior seul sash to be installed. Insulated glazing as previously specified. Sash to be installed and neoprene gasketed against the existing frame for the interior storm or against a new frame with nutsert.

.3 South facing windows:
.1 Existing exterior wood sash (primary) to be stripped, refinished, reputtied, and reglazed where required. Window unit to be reinstalled and sealed with new brass V-type weatherstripping at the head and jamb and surgical bubble set into a kerf at the sill.
.2 Existing interior storm window wood sash to be stripped, refinished, reputtied, and reglazed where required.

.4 Option for south facing windows:
.1 This specification is based on factory-assembled wood windows in fixed frame and with vertically opening sashes installed in the frame (double hung) where shown on the drawings.
.2 Fixed frame units with upper and lower sashed units shall be fabricated in a similar fashion as the operable units with the lower sash unit set back from the upper sash. Details to be similar to those for the operable units.
.3 Paint finish for all windows. Quote supply of removable interior perimeter wood grilles.
.4 Standard of Acceptance :
.5 Willmar

.6 Loewen
.7 Marvin

7.1 FINISHES / MISCELLANEOUS
.1 Interior GWB walls and ceilings to be painted finish using one coat latex primer and 2 coats eggshell enamel latex.
.2 New concrete block walls and existing
.3 Floor in new main entrance shall be exposed concrete, sealed with Lapidolith (Sonneborn) after a minimum of 10 day cure over new concrete. Apply 3 coats in accordance with Manufacturer's instructions.
.4 New railings in all interior stairs to be steel, painted with one coat spot primer, one coat enamel undercoat, and 2 coats semi gloss latex.

8.1 ELEVATOR
.1 MODEL TYPE
.1 Garaventa Stair-Lift Model XPRESS II:
.2 PLATFORM TYPE
.1 Platform Size. Standard width is 800mm (31.5").
.1 "1220" Platform (48" long)
.2 Add 185mm (7.3") to each end for platform ramps.
.3 Platform to be rated for a load of 228kg (500 lbs.), with minimum 5X safety factor.
.2 Keyless operation
.3 Non-slip surfaces on the deck and ramps,
.4 Stainless effect paint finish for the lift finish.
.5 Lift to be equipped with a platform grab rail, autofold feature, and fire service feature to ensure lift is not used in emergency situations.

8.2 Structural

See drawings.

8.3 Mechanical

The following mechanical outline specification is based on a schematic design only, intended for feasibility study and preliminary cost estimates. The design assumes the owner will provide the base building mechanical systems including a perimeter heating system and the air handling equipment to accommodate two zones per each of the four floors. Completion of the base building mechanical system will meet the mechanical requirements for an occupancy permit based on typical office tenancy.
An optional system which eliminates the hydronic system entirely is shown as well.

Tenant improvement of the mechanical systems will require the completion of the air distribution system (ducting, diffusers, terminal units) to accommodate future development of the interior spaces. Development of any of the areas into uses other than typical office or retail use (e.g. lounge or restaurant) may require additional mechanical equipment beyond that supplied with the base building.

Demolition

Steam System
1. Remove and dispose of all steam radiators and unit heaters.
2. Remove and dispose of all steam and condensate piping and related equipment, back to the boiler.

HVAC Systems
1. Remove and dispose of all existing air handling equipment and ductwork within the building.

Plumbing
1. Remove and dispose of all plumbing fixtures and piping above grade, except for roof drain leader.

New Work

Mechanical contractor to provide pricing for the following complete systems:

HVAC

1. Boiler to be de-rated to hot water boiler. Base building heating will be provided by perimeter radiation, with piping for hot water coils at each floor. Provide new hydronic piping system, including:
    - .1 Duplex primary pumps
    - .2 Duplex secondary pumps for perimeter radiation (estimate 75 gpm)
    - .3 Duplex secondary pumps for air handler coils (estimate 45 gpm)
    - .4 Distribution piping and wall-fin radiators for all perimeter walls
    - .5 Entrance force-flow heaters
    - .6 Hydronic unit heaters in basement.
    - .7 Hydronic supply and return riser in center of building, with 3" branches to mechanical room on each floor for air handler heating coils.
2. Split-system air handling units, two per floor (8 in total)
    - .1 3,000 cfm air handling unit, c/w mixing box, filter section.
    - .2 Hot water coil c/w 3-way modulating valve, circuit setter valve
    - .3 DX cooling coil
    - .4 Supply and return duct mains terminated after penetration through mechanical room wall. Future air distribution systems to be installed by tenants.
3. Fresh-air supply duct riser in vertical shaft adjacent to mechanical rooms, 30" x 40". Duct to be thermally insulated. Provide 20" x 20" fire-dampers at each floor.
4. Relief-air supply duct riser in vertical shaft adjacent to mechanical rooms, 30" x 40". Duct to be thermally insulated. Provide 20" x 20" fire-dampers at each floor.
5. Fresh-air intake hood located on rooftop, sized for 12,000 cfm.
6. Relief air hood located on rooftop, sized for 12,000 cfm.
7. Condensing units to match air handlers, 2 per floor (8 in total).
    - .1 Condensing units to be single-stage, high efficiency, with scroll compressors, disconnect switch.
    - .2 Locate units on isolated equipment pad located on the rooftop, north end.
    - .3 Provide refrigeration piping to DX coils in each air handler.
8. Ceiling exhaust fans for washrooms, 150 cfm each, two per floor, c/w exterior wall cap, all required ducting (assume 10' to exterior wall, typical).

HVAC *(option)*

1. *Delete previous HVAC item 1, Hot water heating system*

2. *Delete hot water coil in air handlers. Split system air handlers to be commercial furnace type with gas-fired heat exchanger (200 MBH input), 3,000 cfm, with DX cooling coil and condensing units as previously described (e.g. Lennox G24-200 series). Include provision for combustion air to mechanical rooms and combustion venting.*

Plumbing

1. New sanitary drainage, venting, and domestic cold water risers for a single washroom core serving all four levels.
2. New plumbing fixtures and trim for men's and women's washrooms on each of 4 floors, consisting of (total per floor):
    - .1 Two barrier-free and one standard water closet – 6-L flush-tank, elongated bowl.
    - .2 One urinal
    - .3 Two wall-hung lavatories, c/w concealed arm carriers
    - .4 Point-of-use electric hot water tanks, 10 gal. capacity.
3. Two-compartment kitchen sink with point-of use electric hot water tank, 10 gal. capacity, one per floor.
4. Duplex sump pump system, one location.

Storm Drainage

1. Existing roof drain and storm drainage piping to remain.
2. Provide new scuppers at parapets, typical 4 locations.

Sprinkler System

1. Provide a separate price to install a complete wet sprinkler system to serve all areas of the building, including a new 6" water service to the building. Assume two zones per floor.

8.4 Electrical

This electrical outline specification is based on the schematic design only. The electrical design assumes the Owner will provide the base building electrical systems in common areas only with adequate provision for tenant electrical systems as may be required for the interior spaces. Development of any areas for uses other than typical National Building Code Type D occupancies may require electrical systems beyond the scope of the proposed base building systems.

Demolition

1. Remove the existing main electrical service and all sub services.
2. Remove all redundant electrical lighting and power items as required, leaving enough lighting for construction and leasing purposes.

New Work

1. Supply and install a new 600A, 120/208V, 3 phase, 4 wire Main Distribution complete with metering in the new Mechanical/ Electrical room.
2. Supply and install new 225A, 120/208V, 3 phase, 4 wire 66 circuit sub panels protected by 125A, 3P breakers in the new electrical rooms on each floor.
3. Supply and install new 100A, 120/208V, 3 phase, 4 wire 30 circuit isolated ground panels protected by 70A, 3P breakers in the new electrical rooms on each floor.
4. Supply and install fluorescent lighting in all stairwells, mechanical/electrical rooms, washrooms and common floor areas.
5. Supply and install general power wiring for receptacles and all mechanical equipment as required in the common areas.
6. Supply and install a system of LED exit lights at all exits and battery powered emergency lighting fixtures in all stairwell and common areas on each floor.
7. Supply and install a telephone entrance backboard in the main mechanical/electrical room and a conduit riser system to backboards in the mechanical/electrical room on each floor.
8. Supply and install a fire alarm and detection system complete with a main panel in the mechanical/electrical, an enunciator at the main entrance, manual pull stations at each exit, and audible devices throughout. Connect all sprinkler flow and tamper devices to the fire alarm system.