FILE COPY

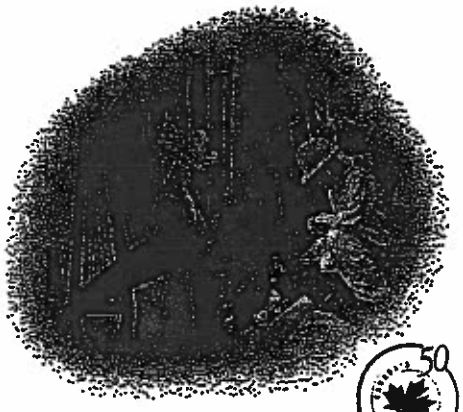
Trow 50 YEARS

BUILDING ENVELOPE ASSESSMENT
AT
LEXINGTON NORTH
3709 PENDER STREET
BURNABY, BC

File No. 071-03272

PREPARED FOR
The Owners of Strata Plan LMS 1301
c/o Atira Property Management
120 Columbia Street
Vancouver, BC
V6A 3Z8

Attention: Mr. Peter Fairchild, Property Manager
October 19, 2007



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EXECUTIVE SUMMARY

Trow Associates Inc. was retained by Strata Plan LMS 1301 to evaluate current building envelope performance at Lexington North, 3709 Pender Street, Burnaby, BC.

Lexington North is comprised of one four-storey wood-frame residence building containing 21 units over a one-story below-grade concrete parking structure.

Exterior walls are predominantly clad with face-seal stucco with aluminum frame windows and sliding doors, and wood-framed metal-clad doors. From a rain resistance point of view, face-seal cladding was common for multi-unit residential buildings in the Lower Mainland at the time Lexington North was constructed. Unfortunately there is little redundancy in a face-sealed design for prevention of water ingress because of the heavy reliance on the performance of the cladding. In recent history the performance of such construction in weather-exposed conditions in the Lower Mainland has been very poor.

During our fieldwork on September 7 and 19, 2007 we observed some inadequate construction details throughout the building and damages to building envelope components. Signs of active water ingress were observed below the balconies, and Levels 4 and 5 decks. We typically took elevated moisture content readings at the base of walls on the balconies and decks. We also observed that most asphalt shingles at sloped roofs were compromised and require replacement.

We observed signs of water ingress below the previously remedied areas. The Strata must review, warranty coverage if any of the previous building envelope remedial work (by others).

Based on our observations and tests we present two options for the Strata to consider: comprehensive building envelope remedial work and targeted building envelope remediation and maintenance. The detailed descriptions of the two options are presented in Section 5.1 Recommendations. Our Opinions of Probable Cost is presented in Section 5.2 Opinions of Probable Cost.

1.0 INTRODUCTION

1.1 TERMS OF REFERENCE AND SCOPE OF SERVICES

Trow Associates Inc. (Trow) was retained by Strata Plan LMS 1301 (the Strata) to evaluate current building envelope performance at Lexington North, 3709 Pender Street, Burnaby, BC. The assessment was performed in general conformance with our proposal dated June 15, 2007 which was authorized on June 22, 2007 (Appendix A).

1.2 BUILDING DESCRIPTION

The plan of Lexington North is shown on Figure 1.

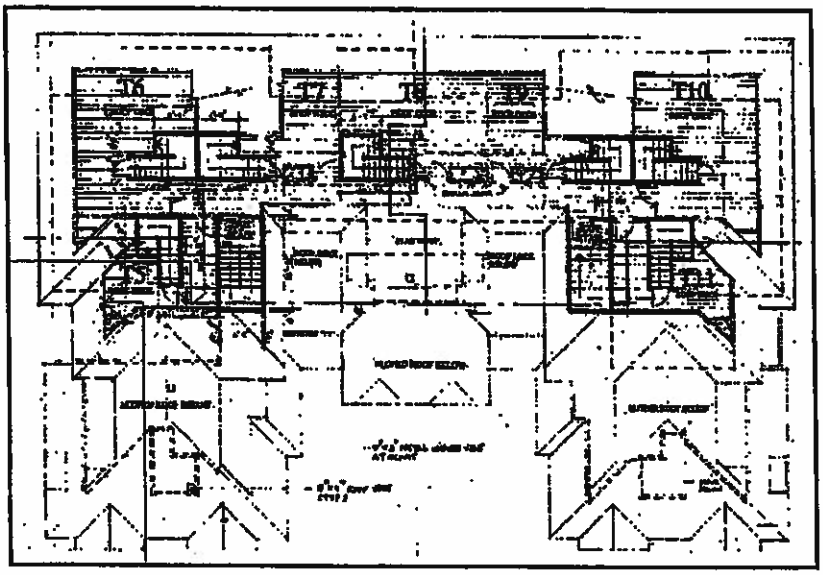

Figure 1 Plan

The following table is a summary of relevant building statistics.

Table 1 - Relevant Building Statistics

Construction	One four-storey wood-frame residence building over one-story below-grade concrete parking structure.
Date of Construction	Architectural Drawings dated May 1993.
Developer	N/A
Architect	Kingsley K. Lo Architect Inc.
Building Envelope Professional	N/A
Building Envelope Warranty	N/A
Legal Description	*"Lot 18, 19, and 20 Block 9, DL116, Plan 1236"* quoted from original Architectural Drawing A-1.
No. of Units	21 Residential.
Floor Area	19,432.12 sq. ft.
Exterior Wall Cladding	Face-seal stucco with wood trims.

Roof Membranes	Asphalt shingles on sloped roofs, built-up membrane on low-slope roof.
Walkway/ Balcony/ Deck Membrane	Self-adhered sheet membrane or liquid-applied waterproofing membrane.
Exposure	Medium Exposure *(Based on Figure 5.1 Exposure Category Nomograph from the CMHC Best Practice Guide for Wood-Frame Envelopes in the Coastal Climate of BC).*

1.3 BACKGROUND

The following documentation was provided by the Strata for our reference:

Table 2 - Documentation Provided

Description	*Author*	*Date*
Architectural Drawings (i.e. A-1S, A-1 ~ A-22)	Kingsley K. Lo Architect Inc.	May 31, 1993

2.0 OCCUPANT SURVEY

A questionnaire was provided to the Strata coordinator for distribution to suite occupants. A copy of this questionnaire is included in Appendix B. Occupants of 8 of the 21 suites (38 %) responded.

The results of the survey are summarized in Table 3.

Table 3 - Results of Survey

Problems	*% Reporting Problem*
Evidence of water ingress at windows, doors, floors or ceiling	4/8 suites (50%)
Moisture staining	5/8 suites (63%)
Condensation	1/8 suites (13%)
Mould, fungi or mildew	2/8 suites (29%)
Cold surfaces or drafts	0/8 suites (0%)
Balcony peeling or water ponding	1/8 suites (13%)
Dryer vent exhaust	0/8 suites (0%)

The residents of Unit #104 reported water ingress from sprinkler activation at the past fire event in Unit No. 203 (the north neighboring unit). We understand that this had been addressed and no further water ingress was reported and the past fire damage was being remedied.

Based on the survey and observations made during our assessment, we conducted a review of a select number of suites. The results of this review are included in 3.6 Select Suite Review.

3.0 OBSERVATIONS AND RECOMMENDATIONS

Fieldwork was conducted on September 7 and 19, 2007. This section includes a description of relevant building envelope items, observations, deficiencies and recommendations. Information from original construction or by others was indicated in *"italics"* in brackets.

Deficiencies are not intended to be a complete list, but is a representative sample that should serve to illustrate the severity and extent of problems. They reflect a focused review of issues, which in our experience are known to result in failures.

Deficiencies were assessed based on:

- Items that have resulted in, or have potential to, result in water ingress.
- Items that may reduce serviceability and/or add to maintenance.
- Deviations from reasonable levels of workmanship.

Because the cost of repair is sometimes prohibitive relative to the severity of the concern, some deficiencies noted have no repair recommendation.

3.1 EXTERIOR WALLS (FIELD OF WALL)

Wall construction, from above to below, is indicated on Architectural Specification A-1S, and Drawings A-9 and A-20 to be:

- Exterior finish coating (*"Type PW13B manufactured by Preswitt"*)
- Stucco cladding assembly (3/4")
- Sheathing membrane (*"Tyvek paper"*). We assume that this means DuPont Tyvek by DuPont Canada Inc.
- Sheathing (*"1/2" plywood or OSB board"*)
- 2 x 4 wood frame
- Fibre glass batt insulation (*"R-12"*) between studs
- Polyethylene vapour retarder
- Interior gypsum board (1/2")

Face-sealed exterior cladding, in this case stucco, is expected to shed the majority of the rain. There is little provision for management of water that may leak past the cladding at cracks and transitions between the cladding and other materials (e.g. windows). Therefore the cladding and its adjacent components must be virtually leak-proof over the life of the building, which is a difficult task given that the exterior skin of the building is constantly exposed to environmental loads (e.g. rain, temperature fluctuations, ultraviolet rays).

Water ingress past the cladding may enter the building, causing obvious inconvenience to occupants. Interior finishes may be damaged, and continued wetting of wood components in the wall can cause fungal growth and the decay of wood. The fungal growth may be unhealthy to occupants, and the wood decay may advance to the point where the structural capacity of the wood is decreased significantly.

This type of wall design was common for multi-unit residential buildings in the Lower Mainland at the time Lexington North was constructed. Unfortunately there is little redundancy in a face-sealed design for prevention of water ingress because of the heavy reliance on the performance of the cladding. In recent history the performance of such construction in weather-exposed conditions in the Lower Mainland has been very poor. Consequently, the British Columbia Building Code has not allowed this type of construction since 2006.

The empirical evidence over the years has shown that attempts to improve the face-seal of exterior walls with remedial caulking and/or coatings do not provide sufficiently enduring solutions. Although these repairs may have lower initial cost, their frequent failure rate would render them uneconomical. The problem with such repairs is that the level of installation and maintenance required for success is often unrealistically rigorous.

In our moisture content survey (described in Section 4) we recorded elevated moisture content readings (readings above 19% are considered elevated) at the following key locations:

- Walls on walkways, balconies and decks.
- Columns on walkways.
- Structure below patio door thresholds.

Most upper portions of exterior walls are protected by a sloped roof overhang. However, the base of wall is exposed to rain and ponding water.

However, signs of systemic failure of the field of exterior walls were not detected.

RECOMMENDATIONS

We present two options for the Strata to consider.

Option 1: Comprehensive Building Envelope Remedial Work

The intent of our remedial work is to provide effective and economical long-term solutions. This means comprehensive, not piecemeal work. In order to achieve this, given the inadequacies of the existing exterior wall construction, the remedial work we are recommending includes the implementation of a drainage cavity in all exterior walls. The cavity will provide a means for water in the wall to drain out, as well as facilitating the drying of the wall. Such a wall assembly is commonly known as a "rainscreen wall", where the cladding is the rainscreen and the air cavity provides added redundancy for rain resistance.

The approach of implementing rainscreen walls during remediation of water-damaged buildings has become increasingly popular in the building envelope industry since 1996, and is actually mandated by building codes and municipality by-laws for new construction. The most common method of incorporating rainscreen walls includes the removal of the existing cladding and wood sheathing, installing new pressure-treated wood sheathing and ¾ inch thick vertical wood strapping (to form the drainage cavity), and then reinstalling the cladding. Installation of waterproofing membrane and finish materials (e.g. metal flashing) at windows, wall penetrations and at each floor is also required.

Such walls have been implemented in remedial work on numerous buildings in the Lower Mainland since approximately 1996. While the long-term performance of this generation of remedied buildings is not yet known, successful performance of similar assemblies around the world has been documented. Most Canadian building codes have adopted such wall construction since 2005.

Option 2: Targeted Building Envelope Remediation and Maintenance

TARGETED BUILDING ENVELOPE REMEDATION

The only method of achieving long term comprehensive assurance against water ingress would be to replace the existing cladding at all locations (Option 1). However, as only limited indicatives of the building wall damage were observed during our assessment, the Owners have the option of targeted wall cladding replacement to conduct necessary structural repair of the wall damage as follows:

a) Replace wall cladding with new rainscreen cladding where it is required for the waterproofing membrane replacement at all balconies, and Level 4 and 5 decks. We assume that the base of wall framing has experienced water ingress and structural damage; the replacement of studs and plates will be necessary.

b) It was confirmed water ingress at the east wall of the Level 3 master bedroom of Unit No. 202. We assume that the previous construction on the Level 4 deck of Unit No. 202 was not adequate and is causing active water ingress to construction below. Some interior and exterior walls below the Level 4 deck of Unit No. 202 must be reviewed and have structural repairs as necessary.

c) Regarding the Level 4 roof deck enclosure of Unit No. 202, check with the City of Burnaby if this interior space addition was adequately approved with necessary construction documents. If the addition was filed in the City of Burnaby, replace vinyl siding with non-combustible wall cladding. Review the wall construction (e.g. vapour retarder and insulation).

d) Replace wall cladding with new rainscreen system at the Level 3 north exterior walls of Units No. 303 and 307. We assume that the wall and walkway areas below the sloped roof fascia and building wall intersections have experienced water ingress and structural damage.

e) Construct continuous vapour retarder and insulation in the southeast wall of Unit No. 108. Refer to Exploratory Opening in Section 4.0.

MAINTENANCE

We recommend the following maintenance:

a) Review warranty coverage if any for the previous building envelope remedial work. We observed signs of water ingress and compromised building materials at several locations of the previous work areas.

b) Have a qualified building envelope specialist set a long-term maintenance plan and conduct a maintenance review every 2 years to ensure the adequate performance of the previous remedial work by others and un-remedied building envelope components (e.g. walls, windows, doors, below-grade parking garage roof).

c) Keep vigilant to monitor for water ingress. Water ingress must be promptly reported to relevant parties for immediate repairs.

3.2 EXTERIOR WALL PENETRATIONS

Penetrations through the exterior walls are critical from a water resistance perspective. Since they are more complicated to address in design and construction than the field of the wall, they are often more prone to water ingress. Although the most common penetrations prone to water ingress problems are windows and doors there are other susceptible penetrations such as hose bibs, exhaust fan duct terminations, exterior lights and electrical outlets.

Metal flashings and sealants are the two primary elements used to waterproof around wall penetrations and are therefore included in this section as well.

WINDOWS

Existing windows are a combination of fixed, sliding, and casement windows, with aluminum frames. The mitred corners of the aluminum frames are mechanically fastened together and sealed with a small amount of joint sealant. These mitres are not only notoriously difficult to seal during window manufacture, the small amount of joint sealant is also difficult to maintain during the service life of the window. The mitred corners often open by excessive loads placed upon them and thermal movement. Therefore water ingress through the mitred corners is a common problem contributing to building frame damage below the bottom corners of windows.

Our observations are listed below:

- Windows have insulated glass units (IGUs).
- Condensation within some IGUs was reported. Service life expectancy of the seal of an IGU is typically 15 years. It is common that aged IGUs experience condensation between glass panes.
- At the head of windows, wood trim was installed proud of the wall cladding above (Photo 36). There is no head flashing or means of diverting rainwater away from the window opening.
- Water staining was observed under the window sill and jamb intersection of many windows (Photos 45 and 46). It is probable that some window frame and sub-sill waterproofing cannot adequately drain water away from the wall below.

DOORS

Patio and balcony doors are mainly sliding with aluminum frames (Photos 10, 20, 47, and 48). The mitred corners of the aluminum frames of the sliding doors are mechanically fastened together and sealed with a small amount of joint sealant. It is common that these sealed mitres fail due to traffic impact; water ingress through the mitred corners may contribute to building frame damage below the sliding door threshold.

There are wood framed metal-clad hinged doors at walkways, balconies, and decks (Photos 16, 41, and 60).

Our observations are listed below:

- Most sliding doors have IGUs. At the sliding door IGU of Unit No. 108, the aluminum spacer within the insulated glass unit was date stamped "*IGMAC AIMETCO NEW WEST 93-3*".
- At the head of the door, wood trim was installed proud from the wall cladding (Photos 24, 42). There is no head flashing or means of diverting rainwater away from the door opening.

- Heavy water staining was observed at the sliding door sill track corners. The seal of some door frame mitre joints has failed.
- It appears that some patio sections were re-waterproofed. Visual inspection of the door trims revealed that existing sliding doors had not been removed; the waterproofing membrane may not extend under the door. It is expected that water enters the building frame under the threshold.
- Most hinged doors at balconies and decks are partially exposed. The doors are not designed for rainwater exposure. A canopy flashing was installed by others at the hinged door locations at the Level 5 deck of Units No. 301, 303 and 309 (Photo 60). This indicates that exposed hinged doors have experienced rainwater ingress. It is expected that water enters the building frame under the threshold.

OTHER

There were many locations of exhaust vents, B-vents, hose bibs, exterior lights and electrical outlets. Some exhaust vents are located close to a light fixture (Photo 23). Stucco cladding around the vent between Units No. 205 and 207 contains significant cracks (Photo 37).

METAL FLASHING

Metal flashing is used at transitions between dissimilar materials. Although it does help shed water from the envelope surface, metal flashing is not intended to be the primary source of waterproofing because water can leak at its seams. The flashing often serves as an aesthetically appealing protection for underlying waterproofing membrane from ultraviolet rays and physical damage.

Our observations are listed below:

- **Head flashings** are not provided at windows and doors.
- **Sill flashings** are not provided at windows.
- **Cap flashings** have been installed on top of solid guards and curbs. Adequate saddle flashing and waterproofing have not been installed at intersections between balcony/ deck guard walls and building walls (Photo 29). Stucco patch was observed at most guard wall and building wall intersections (Photos 6, 50, and 51). It is questionable that adequate lap and seal between original wall sheathing membrane and the upturn of the cap flashing and waterproofing membrane were achieved.
- **Diverter flashing at sloped roofs** is inadequately installed. Signs of water ingress at the sloped roof and building wall intersection were observed (Photos 35 and 36).
- **Valley flashing and wall-to-sloped roof flashing** was generally not observed (Photos 2 and 58).

SEALANTS

The exterior wall assembly design relies a great deal on sealant to manage exterior water. Maintenance of sealants is therefore crucial to the performance of the exterior wall assembly. Further, the building code requires that sealant be installed between dissimilar materials.

Our observations are listed below:

- Sealant was previously applied (not original construction) at the top of the wood trim at the head of windows and doors (Photo 42). This indicates that water ingress at the head of windows and doors has occurred.
- Sealant was previously applied (not original construction) at the exposed termination of some flashings (Photo 4). Sealant must be maintained.
- Sealant was not observed at wall penetrations, such as at hose bibs, exterior lights, electrical outlets and railing attachments.

RECOMMENDATIONS

We present two options for the Strata to consider.

Option 1: Comprehensive Building Envelope Remedial Work

All aged and compromised windows, doors, flashings and sealant can be replaced along with the replacement of wall cladding system.

Option 2: Targeted Building Envelope Remediation and Maintenance

TARGETED BUIILDING ENVELOPE REMEDIATION

We recommend the following targeted remediation:

a) Replace all existing windows, doors and vents on the exterior walls of the affected balconies and decks.

b) Provide new cap, diverter, head and sill flashings on the exterior walls of the affected balconies and decks.

We recommend maintenance same as Section 3.1. We also recommend for the Strata to replace compromised IGUs as necessary.

3.3 PARKING GARAGE

A single level concrete parking garage is situated under the building. Architectural Specification A-1S - indicates using self-adhered sheet membrane *("Butithene -3000 with primer P-3000 by W.R. Grace"*; We assume this meant Bituthene-3000 by W.R. Grace*)* with protection board *("90 lb roofing felt")* for horizontal surfaces, and emulsified asphalt *(2 coat application, CGSE 37-GP-2M, 1976)* with protection board *("1/4" asphalt hardboard")* for vertical surfaces.

Our observations are listed below:

- Water stain in existing spray foam insulation was observed on the concrete ceiling above Stalls No. 23, 35, 36 and 38 (Photo 52). It is probable that the transition between the previous work and the original construction along the building perimeter exterior wall is not watertight at some areas.

- Heavy water staining through exhaust fan penetration around Stall No. 9 was observed (Photo 53). The building manager advised that the exhaust fan penetration was protected by new cap flashing and water ingress has not re-occurred.
- Water staining was observed at the cold joint of the parking garage roof slab and wall above Stalls No. 17 to 20 (Photo 54). This indicates that the existing waterproofing membrane above does not as intended.

RECOMMENDATIONS

The only method of achieving long-term comprehensive assurance against water ingress at the parking garage would be to provide new waterproofing membrane to the concrete parking garage roof slab and walls.

The parking garage structure walls are damp-proofed, but not waterproofed. The American Society for Testing and Materials defines dampproofing as treating a structure with a material or materials that only resist the passage of water. No hydrostatic pressure can be present. Dampproofing material cannot bridge cracks in foundation structure and will break down and leach toxins into surrounding soil over time. Water ingress into the parking garage structure over time will cause corrosion of the reinforcing steel in the concrete and will ultimately affect the structural integrity of the structure.

However, as water ingress was observed only at limited locations during our assessment the Strata has the maintenance option as follows:

a) Have the contractor and/ or the engineer (who conducted the previous building envelope remedial work) review the construction of the ground level above Stalls No. 35, 36 and 38.

b) Have a qualified building envelope specialist conduct a regular maintenance review every 2 years to monitor the waterproofing and drainage performance of the below-grade parking garage.

3.4 WALKWAYS, BALCONIES, AND DECKS

WALKWAYS

Walkways are located on the south and north elevations of the building. Walkway construction, from above to below, is indicated on Architectural Specification A-1S and Drawing A-20 to be:

- Concrete topping
- Protection board (*"90 lb roofing felt"*)
- Self-adhered sheet membrane *("Butithene -3000 with primer P-3000 by W.R. Grace").* We assume this means Bituthene-3000 by W.R. Grace.
- 5/8" plywood sheathing
- Floor joists
- Two layers of Type 'X" gypsum board

Our observations are listed below:

- Liquid-applied waterproofing membrane (not original construction) was applied on the top of concrete topping. Minor water ponding was observed along walkway (Photo 38). Sufficient slope to the walkway floor was not provided.
- If existing concrete topping was not removed during the previous walkway floor re-waterproofing work, original structural damage by past water ingress might not be repaired yet.

BALCONIES AND DECKS

Balcony and deck construction, from above to below, is indicated on Architectural Specification A-1S and Drawing A-20 to be:

- Vinyl sheet membrane (*"Vinyl waterproofing membrane, Surcoseal,, by Ensurco Engineered Suriance Corp."*). We assume this means polyester reinforced PVC waterproofing sheet, Surcoseal colour, by Ensurco Duradeck (Canada) Ltd.
- Concrete topping
- 5/8" plywood sheathing
- Floor joists
- Rigid insulation (*"6" Roofmate"*) between joists
- Two layers of Type 'X' gypsum board

Our observations are listed below:

- A painted coating on the top of concrete topping was observed (Photos 7, 47, and 48). The coating appears not to be waterproofing material. The coating on many areas of balconies and decks is compromised.
- Water ponding was observed at various locations.
- During drilling for the moisture content survey probes, bitumen debris was observed behind stucco cladding. It is probable that a waterproofing layer is present below concrete topping.
- Heavy water staining was observed at base of wall at some balcony and deck areas (Photo 7). Clearance between the floor and the cladding for capillary break is not provided.
- At the southwest corner of the Level 4 deck of Unit No. 216, an existing drain was previously covered by concrete patch (not original construction). Water ponding was observed at the deck corner.
- Existing concrete topping contains numerous cracks allowing water entry below the topping (Photo 15).
- It appears that the Level 4 deck of Unit No. 202 has relatively new waterproofing and concrete pavers (not original construction). The residents who live below the deck reported signs of water ingress (e.g. water staining on ceilings). It was noted that water staining on the Level 3 bedroom ceiling of Unit No. 208 is located directly below the transition of new and existing deck topping materials. It is probable that the previous re-waterproofing on the deck is insufficient.

RECOMMENDATIONS

We present two options for the Strata to consider, similar to Section 3.1.

Option 1: Comprehensive Building Envelope Remedial Work

We recommend replacing waterproofing membrane and concrete topping with new 2-ply SBS membrane system and precast concrete pavers at all patios, walkways, and decks. Replace deck sheathing in order to accommodate existing structural repair, provide adequate ventilation, and slope the deck floor adequately. Each balcony and deck should have one drain and one overflow.

Option 2: Targeted Building Envelope Remediation and Maintenance

The only method of achieving long term comprehensive assurance against water ingress at patios, walkways, balconies and decks would be Option 1. However, as patios, walkways and some decks were re-waterproofed previously, the Strata has the option of the following targeted building envelope remedial work at all balconies and Level 4 and 5 decks:

a) Removal of existing concrete topping and provision of new pavers.

b) Deck sheathing replacement

c) Provision of adequate ventilation for the deck structure.

d) Reconstruction of new privacy walls and sloped roof gable walls.

e) Replacement of cladding of adjacent exterior walls with a new non-combustible rain-screen cladding system. See Section 3.1

f) Replacement of existing windows and doors in the affected exterior walls. See Section 3.2.

g) Repair of concealed compromised building structure. We assume that extensive structural damage is concealed behind existing building wall and deck sheathing. It is possible that water ingress at upper level decks has already migrated into building structure below.

We recommend maintenance same as in Section 3.1. We assume that the patios and walkways (i.e. previously repairs by others) have some construction deficiencies and concealed original construction damage. Have the contractor and/or the engineer (who conducted the previous remedial work) review the construction.

3.5 ROOFS

SLOPED ROOFS

Sloped roofs are located in Levels 4 and 5, and main roof. Sloped roof construction, from above to below, is indicated on Architectural Specification A-1S and Drawing A-20 to be:

- Asphalt shingles (*"Domtar-Endura"*).
- No 15. roofing felt underlay
- Self-adhesive rubberized asphalt sheet eave protection.
- Sheathing

- Roof frame (ventilation is allowed through guardwall.)
- 5/8" Type 'X' Gypsum board
- 3/4" stucco ceiling.

Based on visual review only, our observations are listed below:

- Most existing asphalt shingles are compromised (Photos 2, 3, 17 and 58).
- Relatively new asphalt shingle material was observed at some sloped roof areas (Photos 1, 5, and 16).
- Fascia board was decayed at some sloped roofs (Photo 18).
- Gutter joint seal failed at some locations (Photos 25 and 32).
- Some rainwater leader sections were clogged (Photo 43).
- Some rainwater leaders were not adequately connected to building drainage system (Photos 41 and 47).
- At the north sloped roof and walls of Units No. 303 and 307, roof gutter is embedded in stucco cladding, and gutter is sloped toward the building wall (Photos 35 and 36). It is probable that active water ingress occurs at the sloped roof and building wall intersection.
- Wall-to-sloped roof flashing is terminated without end dams. (Photo 49).
- A vent pipe on sloped roof was folded over (Photo 58). The vent cannot perform.

LOW-SLOPE ROOFS

Low slope roofs are located at the middle of the building over stairways (3). Architectural Specification A-1S and Drawing A-20 indicate a built-up roofing system *("Conventional Roof Membrane using Type 2 Asphalt, No. 15 Felts and gravel")*. Other roof materials and assembly are not indicated in architectural specification and drawing.

A rainwater leader was not provided at the scupper drain (Photo 59). We could not access the main roof; current roofing conditions are unknown.

RECOMMENDATIONS

Based on our field observations we recommend replacing existing roofing systems at all sloped roofs.

We also recommend including the replacement of the roofing system of the low-slope roofs in conjunction with the roofing replacement work at the sloped roofs, due to economic benefit of providing access and construction management once for the roofing replacement of both roof types.

3.6 SELECT SUITE REVIEW

Based on information from the Occupant Survey (see Section 2.0 Occupant Survey), our site assessment (see Section 3.0 Observations and Recommendations), and on suite availability, we reviewed 5 suites. See the following table for our observations.

Table 4 - Select Suite Review Summary

Suite	Reasons for Selection	General Comments and Observations
108	Occupant's report of microbial growth, and availability.	Mildew was observed at the southeast corner of the unit (Photo 12). An exploratory opening was made to review the wall construction. Insulation and air/vapour barrier was not observed (Photo 13). This contributes to condensation and air leakage in the wall.
202	Occupant's report of water ingress and condensation, and availability.	Saturated insulation, wood frame, and gypsum board were observed at the Level 3 master bedroom (Photo 33). Highly elevated moisture content of the wood frame was measured.
206	Occupant's report of water ingress, and availability.	Water staining was observed on several Level 3 ceiling areas (Photos 21 and 22). We assume that rainwater enters from the Level 4 and 5 decks.
208	Occupant's report of water ingress, and availability.	Water staining was observed on the Level 3 master bedroom ceiling of Unit #208. The staining was located below the transition between original concrete topping and precast concrete pavers (previous work) in the Level 4 deck above. It is probable that the previous deck re-waterproofing was insufficient.
216	Occupant's report of water ingress, and availability.	Water staining was observed on the Level 3 living room ceiling. We assume that the deck waterproofing above is compromised.

4.0 TESTING

A survey of the moisture content of the exterior sheathing behind the cladding was conducted on September 7 and 19, 2007. The main purpose of a moisture content survey is to determine if there is a systemic problem of wall assemblies and/or decay of the sheathing. The moisture content of the sheathing is relevant because it is the material furthest into the wall assembly from the exterior that cannot accommodate significant moisture without being damaged.

METHODOLOGY

The moisture meter used was a Delmhorst BD-2100 (serial # 16994)

The procedure involves drilling two 6mm (¼-inch) diameter holes, approximately 19mm (3/4-inch) apart, through the cladding to allow insertion of the moisture meter contact pins. The moisture meter measures the electrical resistance between the pins and converts the measurement to sheathing moisture content. Following recording of the moisture content reading, the holes are sealed with caulking selected to match the existing stucco colour as closely as possible.

It is important to remember that each reading is only a measure of the moisture content of the sheathing at a discrete location, at the time the reading is taken. The moisture content can vary dramatically just a few feet away, as water ingress behind the cladding is generally concentrated at certain locations. We typically take moisture readings at locations where, based on our experience, water is prone to enter behind the cladding, where evidence suggests that water may have penetrated the cladding (i.e. staining, moss growth), and/or where occupants report a problem. Included are readings taken at random locations to establish a baseline.

It is possible for decayed wood to have low moisture content. Note however that we have to drill through the cladding to take a moisture content reading of the sheathing, and therefore can often determine if the sheathing behind is decayed from the resistance of the sheathing to the moisture meter pins.

INTERPRETATION

The moisture content readings have been colour and shape coded according to the following criteria:

- *Green (circle) - Wood moisture content reading 19.0% and lower*

  Moisture contents in this range for wood sheathing behind cladding are not elevated. The wood in this case has typically reached moisture equilibrium with its surroundings. Wood is generally considered immune to fungal growth in this moisture content range.

- *Orange (pentagon) - Wood moisture content reading from 19.1% to 27.9%, inclusive*

  At locations with moisture contents in this range, it is probable that water may be entering behind the cladding. Some decay fungi remain active at these moisture levels. These are areas of concern.

- *Red (square) - Wood moisture content reading 28.0% and above*

  At locations with moisture contents in this range, it is likely that water is entering behind the cladding. These are areas of greatest concern, as decay fungi can germinate and propagate.

Moisture content readings are recorded to the first decimal place, as they appear on the moisture meter. Despite poor accuracy, readings over 30.0% are still recorded because they provide a relative idea of moisture content. At moisture content readings greater than 40.0%, the moisture meter will indicate a reading of 40.0%. Such readings are recorded in our drawings as +40.0%.

RESULTS

All moisture content readings are indicated on the building elevations in Appendix D. The following table is a summary of the survey results.

Table 5 - Moisture Content Survey Results (approximate % of total in brackets)

Green	*Yellow*	*Red*	*Total*
57 (76%)	11 (15%)	7 (9%)	75

High levels of moisture content typically occurred at building exterior walls in balconies and decks.

Note that the moisture content survey was conducted in summer clear days; there was no considerable rainfall for 12 days before the survey. It is possible that past water in the sheathing was evaporated during dry summer period. There may be discrete locations of water ingress and wood decay.

EXPLORATORY OPENINGS

One exploratory opening was made on September 7, 2007 to study the causes of microbial growth on the interior finish surface at the southeast corner of Unit No. 108 (Photos #12 and 13). At the opening, insulation and air/ vapour barrier were not observed. This contributes to condensation and air leakage in the wall. In our review of original architectural drawings, this area was indicated as exterior. We assume that the area was enclosed after the original construction and the wall addition construction is improper.

Another exploratory opening was made at the Level 3 master bedroom east wall of Unit No. 202 (Photo #33). Wall framing having elevated moisture contents was observed. Adjacent wall materials (e.g. batt insulation, wood frame, and gypsum board) were saturated.

Please note that the seals placed over the openings are only temporary and the openings must still be repaired permanently. The timing of this repair will depend on the Owners building remediation plans for the near future.

5.0 PLAN OF REMEDIATION AND MAINTENANCE

5.1 RECOMMENDATIONS

As indicated in 3.0 Observations and Recommendations, we present two options for the Strata to consider.

Option 1: Comprehensive Building Envelope Remedial Work

We recommend replacing all wall cladding with new rainscreen non-combustible cladding in accordance with the British Columbia Building Code 2006 and applicable laws.

Replace all aged and compromised windows, doors, flashings, and sealant in conjunction with the replacement of wall cladding system.

Replace waterproofing membrane and concrete topping with new 2-ply SBS membrane system and precast concrete pavers at all patios, walkways, balconies, and decks. Replace deck sheathing in order to accommodate existing structural repair, provide adequate ventilation, and slope the deck floor adequately. Each balcony and deck should have one drain and one overflow.

Replace existing roofing systems at all sloped roofs and low-slope roofs.

Option 2: Targeted Building Envelope Remediation and Maintenance

The only method of achieving long term comprehensive assurance against water ingress would be to Option 1. However, as limited indicatives of the building wall damage were observed during our assessment and there was previous building envelope remedial work to various building envelope components, the Owners have the option of targeted building envelope remediation and maintenance.

TARGETED BUILDING ENVELOPE REMEDATION

EXTERIOR WALLS

a) Replace wall cladding with new rainscreen system where required for the waterproofing membrane replacement at all balconies, and Level 4 and 5 decks.

b) Review interior and exterior walls below the Level 4 deck of Unit No. 202 and conduct structural repairs as necessary.

c) Regarding the Level 4 roof deck enclosure of Unit No. 202, check with the City of Burnaby if this interior space addition was adequately approved with necessary construction documents. If the addition was filed in the City of Burnaby, replace vinyl siding with non-combustible wall cladding.

d) Replace wall cladding with new rainscreen system at the Level 3 north exterior walls of Units No. 303 and 307.

e) Construct continuous vapour retarder and insulation in the southeast wall of Unit No. 108.

WALL PENENTRATIONS

a) Replace all existing windows, doors and vents on the exterior walls of the affected balconies and decks.

b) Provide new cap, diverter, head, and sill flashings on the exterior walls of the affected balconies and decks.

PARKING GARAGE

a) Have the contractor and/ or the engineer (who conducted the previous building envelope remedial work) review the construction of the ground level above Stalls No. 35, 36 and 38.

WALKWAYS, BALCONIES, AND DECKS

Limited building envelope remedial work at all balconies, Level 4 decks and Level 5 decks includes:

a) Removal of existing concrete topping and provision of new pavers.

b) Deck sheathing replacement.

c) Provision of adequate ventilation for the deck structure.

d) Reconstruction of new privacy walls and sloped roof gable walls.

e) Repair of concealed compromised building structure.

f) Have the contractor and/or the engineer (who conducted the previous remedial work) review the walkway construction.

ROOFS

Replace existing roofing systems at all sloped roofs and low-slope roof.

MAINATENANCE

a) Review warranty coverage for the previous building envelope remedial work. We observed signs of water ingress and compromised building materials at several locations of the previous work areas.

b) Have a qualified building envelope specialist set a long-term maintenance plan and conduct a maintenance review every 2 years to ensure the adequate performance of the previous remedial work by others and un-remedied building envelope components (e.g. walls, windows, doors, below-grade parking garage roofs).

c) Keep vigilant to monitor for water ingress. Water ingress must be promptly reported to relevant parties for immediate repairs.

Note that our recommendations do not constitute sufficient documentation to proceed with repairs, because of the need for Owner input regarding various budgetary and design options. Such documentation is described below, under 5.3 Next Phase.

5.2 OPINIONS OF PROBABLE COST

We present Opinions of probable cost (OPC) for Option 1 in Table 6 and Option 2 in Table 7.

Please note the following regarding the OPC:

a) Costs are given in present dollars. Recent construction pricing changes suggest budgeting for a 3% to 5% increase in labour and material costs per quarter.

b) The OPC is primarily based on historic information from our previous projects.

c) The OPC is only intended to demonstrate the magnitude of the remediation to the Strata, since its accuracy is affected by the fact that exact assemblies and details of the remediation have not yet been finalized.

d) The OPC is based on preliminary design decisions without Strata's consultation yet. We look forward to further developing the conceptual design with the Strata's involvement.

e) Only costs for remedial work have been estimated; no costs for maintenance or future building envelope assessments have been included.

f) The Strata must understand that the Consultant has no control over the cost or availability of labour, equipment or materials, over market conditions, and/or the Contractor's method of pricing. The Consultant is not a professional cost estimator or construction contractor, nor should the Consultant rendering opinions of probable cost be considered equivalent to the nature and extent of service a cost estimator or construction contractor would provide. The Consultant makes no warranty, expressed or implied, that the bids or the negotiated cost of the work will not vary from the Consultant's OPC.

   If the Strata wishes to have more accurate, current market pricing, a contractor can be retained to provide a budget estimate for the recommended remedial work. A contractor would typically charge for this service. This option depends on the Strata's tolerance for risk in having to reassess if the budget is expended.

g) The OPC includes contingencies for unknowns. This would include the unpredictability of the competitive tender process, the fact that Project Manual (specifications and drawings) have not yet been finalized, deficiencies in the original construction that may be uncovered during the remedial work, decayed wood replacement, repairs to interior finishes, etc. We have estimated a contingency of 20% for Option 1 and 40% for Option 2, primarily to reflect current volatile construction pricing. This can be adjusted to reflect the Strata's tolerance for risk in having to reassess if the budget is expended.

h) *Code and Structural Consultants* – This will be required at the tender document preparation and the building permit application.

i) *Building Permit* – We assumed $10,000 for the building permit fees for Option 1 and $8,000 for Option 2. The City of Burnaby periodically updates the building permit fee schedules and by-laws.

j) *PST Relief Grant* - The Homeowner Protection Office (HPO) administers the PST Relief Grant Program. This program allows for the recovery of PST for remedial work due to premature envelope failure.

k) *HPO Warranty and Administration Fee* - Since October 1, 2000, building envelope remedial work above a certain dollar value must have third-party warranty insurance. We will liaise with the third-party warranty providers to ensure that this warranty is in place. The premium for the warranty depends on the warranty provider selected by the Strata, and the term of the warranty. We have estimated the fee at 8 % of the construction cost.

Note that the final determination of the budget amount is at the discretion of the Co-op.

Financial aid for premature building envelope failure is available in the form of interest free loans from the HPO's Reconstruction Loan Program. More information is available on the HPO website at www.hpo.bc.ca.

Table 6 - Opinions of Probable Cost
Option 1: Comprehensive Building Envelope Remedial Work

Building Item	Cost	Comments
Exterior walls and penetrations (e.g. windows, doors, and vents)	$1,200,000	Requires a HPO 3rd party warranty.
Patio wall perimeter, walkways, balconies, and decks	$250,000	Recommend having a RCABC 5 year warranty. The below-grade parking garage roof is not included.
Sloped roofs	$110,000	Not include a RCABC warranty.
Low-slope roof	$6,000	Recommend having a RCABC 5 year warranty.
Contingency	$469,800	30% of construction cost for repair of concealed construction deficiencies and structural damage
TOTAL CONSTRUCTION COST	**$2,035,800**	
Engineering - Pre-construction	$30,000	estimate.
Engineering - Construction	$173,043	based on 8.5% of total construction cost.
Allowance for code and Structural consultants	$8,000	estimate.
Allowance for building permit and variance to development permit	$10,000	Assumed, depending on the City of Burnaby's application fee schedules and by-laws.
SUBTOTAL	**$2,256,843**	
GST (6%)	$135,411	based on subtotal
PST Relief Grant (2.8%)	-$57,002	based on total construction cost
HPO Warranty	$162,864	estimated at 8% of total construction cost. .
HPO administration fee	$525	$25 x 21 Suites
TOTAL	**$2,498,640**	

ALL COSTS ARE IN 2007 DOLLARS

Table 7 - Opinions of Probable Cost
Option 2: Limited Building Envelope Remedial Work and Maintenance Plan

Item #	Building Item	Cost	Comments
1	Exterior walls and penetrations (e.g. windows, doors, and vents)	$400,000	Where are affected by the targeted remedial work only. Requires a HPO 3rd party warranty.
2	All balconies, and Level 4 and 5 decks	$165,000	Recommend having a RCABC 5 year warranty.
3	Sloped roofs	$110,000	Not include a RCABC 5 year warranty.
4	Low-slope roof	$6,000	Recommend having a RCABC 5 year warranty.
5	Contingency	$272,400	40% of construction cost for repair of concealed construction deficiencies and structural damage
5	**TOTAL CONSTRUCTION COST**	**$953,400**	
6	Engineering - Pre-construction	$25,000	estimate.
7	Engineering - Construction	$95,340	based on 10% of total construction cost.
8	Allowance for code and Structural consultants	$7,000	estimate.
9	Allowance for building permit and variance to development permit	$8,000	Assumed, depending on the City of Burnaby's application fee schedules and by-laws.
10	**SUBTOTAL**	**$1,088,740**	
11	GST (6%)	$65,324	based on subtotal
12	PST Relief Grant (2.8%)	-$26,695	based on total construction cost
13	HPO Warranty	$76,272	estimated at 8% of total construction cost. .
14	HPO administration fee	$525	$25 x 21 Suites
15	**TOTAL**	**$1,204,166**	

ALL COSTS ARE IN 2007 DOLLARS

5.3 NEXT PHASE

The next phase would be to proceed with the remedial work. This process includes the following:

a) Reviewing of the Strata's file for warranty and guarantee of the previous building envelope remedial work, if any.

b) The Strata selects option 1 or 2 of work to be done.

c) Preparation of a Project Manual required for the work. This includes tender documents, specifications and drawings that clearly outline the scope of the remedial work.

d) Tendering of the work. At least 4 qualified contractors should be invited to submit bids. Following close of the bid period (typically 2 to 4 weeks), the bids must be reviewed and a contractor is selected.

e) Preparation of a contract between the Owner and the selected contractor. This contract is typically based on the Standard Construction Document CCDC #2, 1994 Stipulated Price Contract.

f) Proceeding with the work. The contractor conducts the work and a consultant provides periodic field reviews while the work is being conducted to verify that the construction is proceeding in general conformance with the Construction Documents. Field review reports will be issued to the Owner and the contractor. These reports will typically describe the progress of the work and provide instructions to the contractor as necessary.

   The consultant also administers the construction contract. This includes the preparation of change orders, as required, to the contract and the review of the contactor's invoices for general conformance with the work before forwarding the invoices to the Owner for payment.

An engineering consultant is typically retained to provide the above services to the Owner. Estimated fees for such services have been included in the previous section. We can provide a formal proposal for these services if requested.

6.0 CLOSURE

This report was prepared for the exclusive use of our client, Strata Plan LMS 1301 and their appointed agents, and cannot be used for any other purpose without written consent of Trow Associates Inc.

Appendix E contains our "Interpretation and Use of Study and Report" instructions. These instructions form an integral part of this report and must be included with any copies of this report.

We appreciate this opportunity to be of service to you. If you have any questions regarding the contents of this report, or if we can assist you further on this project, please contact the undersigned.

Yours truly,

Trow Associates Inc.

Jeong-sik Jeong, M.A.Sc., P.Eng.
Project Manager
Building Science Division

PROFESSIONAL ENGINEER
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Reviewed by:

David Wiese
Senior Technologist
Building Science Division

L:\2007\071-03272 JSJ Lexington North, Burnaby\01-Assessments\1.9 Report\BEA Report - Final.doc

Trow 50 YEARS

Appendix C

Photographs

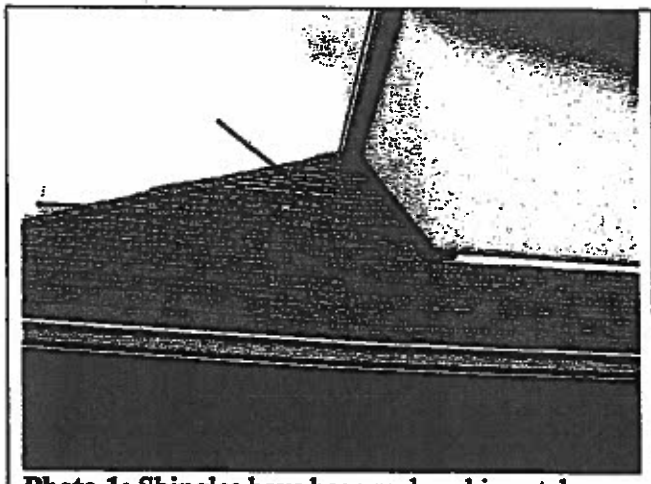

Photo 1: Shingles have been replaced in patches.

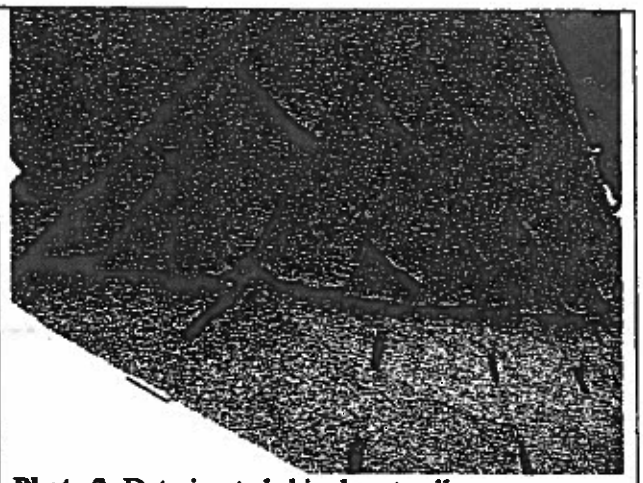

Photo 2: Deteriorated shingles at valley.

Photo 3: Deteriorated shingles at ridge.

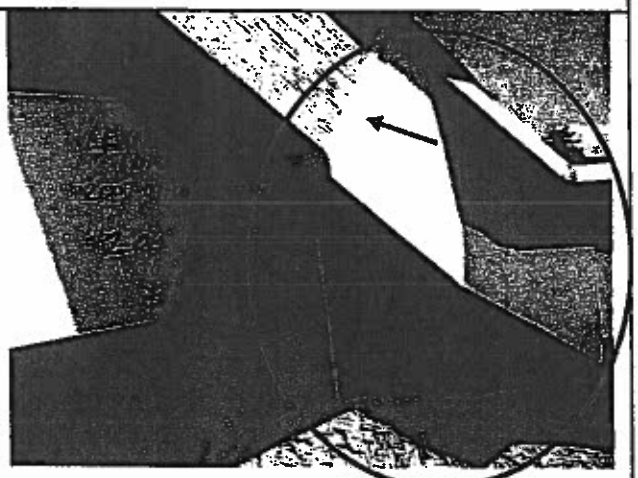

Photo 4: Unit #206 roof deck: note addition of metal flashing. Sealant will be a high priority maintenance item.

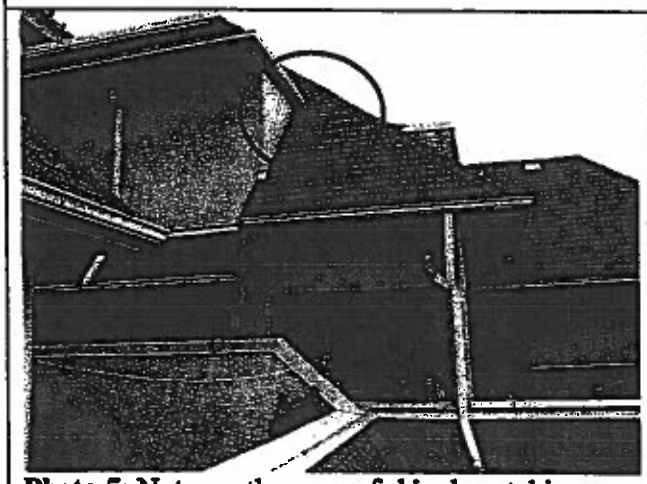

Photo 5: Note another area of shingle patching.

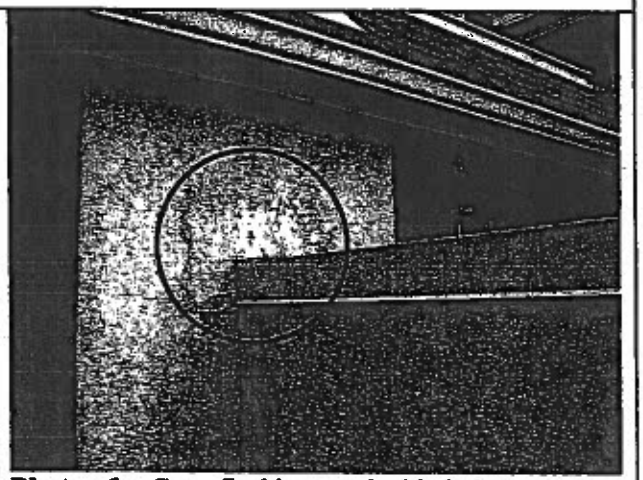

Photo 6: Cap flashing embedded into stucco. Evidence of past repair. Adequate shingling of saddle waterproofing with original building material might not be provided.

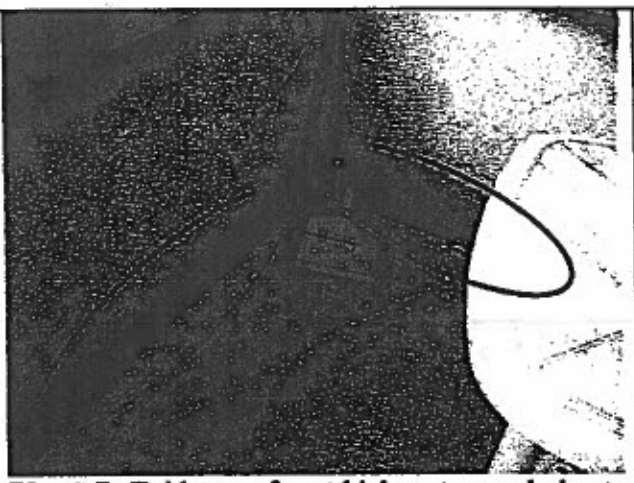

Photo 7: Evidence of past high water mark due to excessive cleaning (or flooding) of deck.

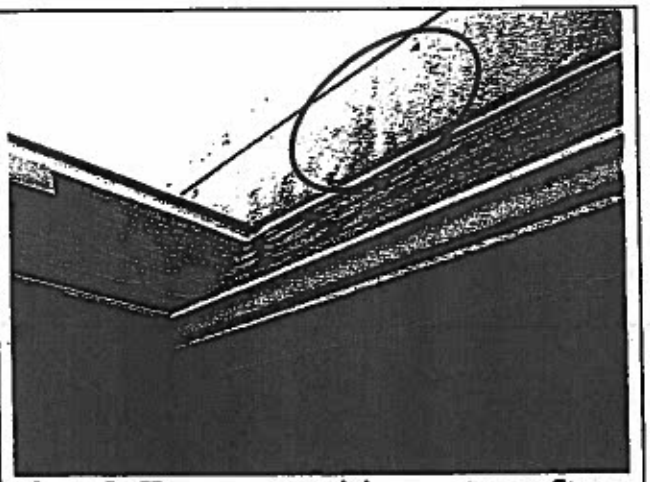

Photo 8: Heavy water staining on stucco. Stucco could be saturated and affect the wall structure behind.

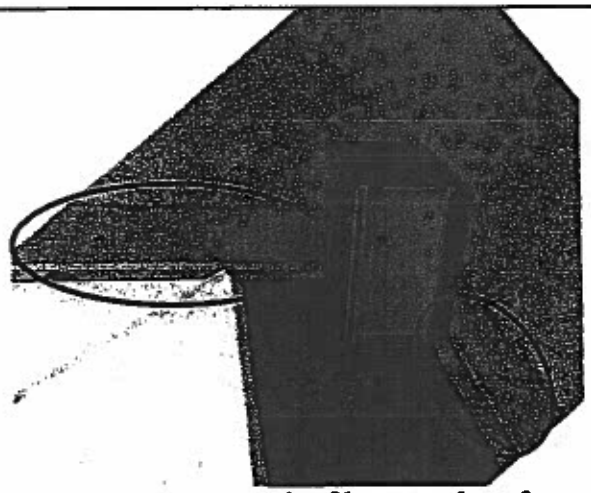

Photo 9: Note past repair of bottom edge of stucco at interior walkway.

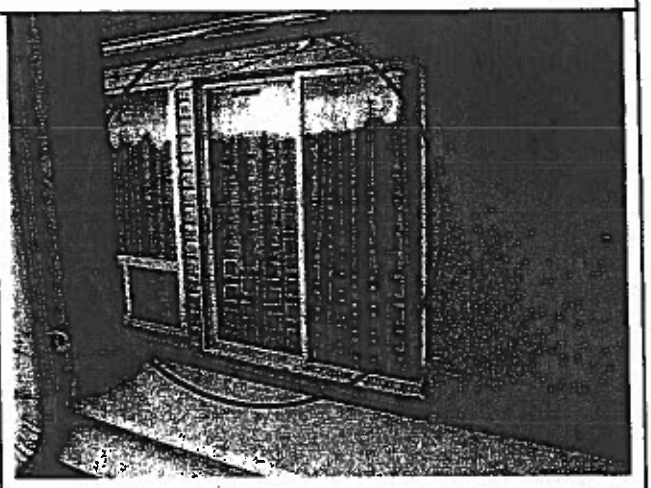

Photo 10: Unit #202 Level 4 roof deck has been enclosed by others. The enclosure construction may not be adequate and the increase of the interior space may not be allowed by the City of Burnaby.

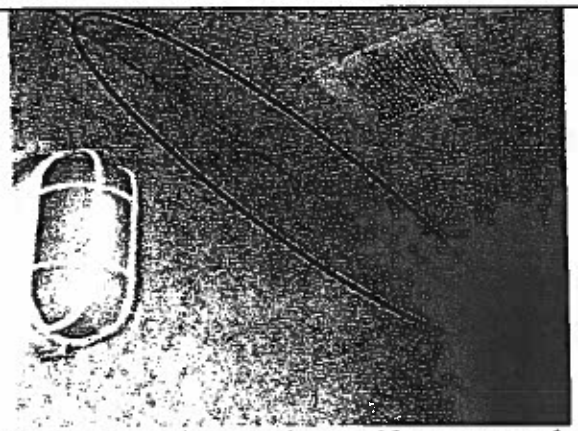

Photo 11: Level 4 exterior corridor: note crack in stucco between wall and soffit, which indicates building movement.

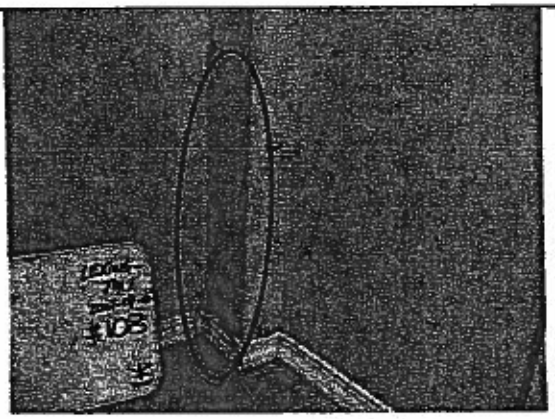

Photo 12: Unit #108 main floor SW corner: note mildew on the interior GWB surface.

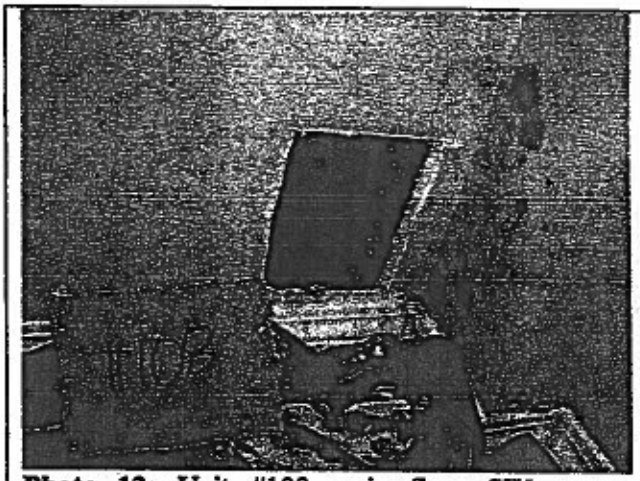

Photo 13: Unit #108 main floor SW corner. Exploratory Opening #1. Note lack of insulation and vapour retarder. This contributes to interior condensation.

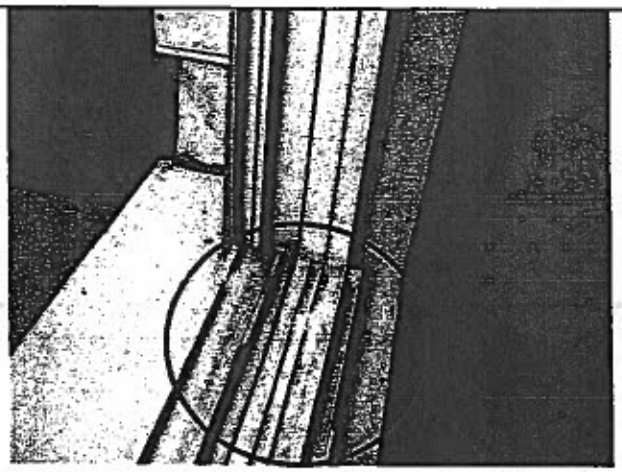

Photo 14: Unit #108 Level 1 patio sliding door showing heavy water staining and lack of drainage at sill track.

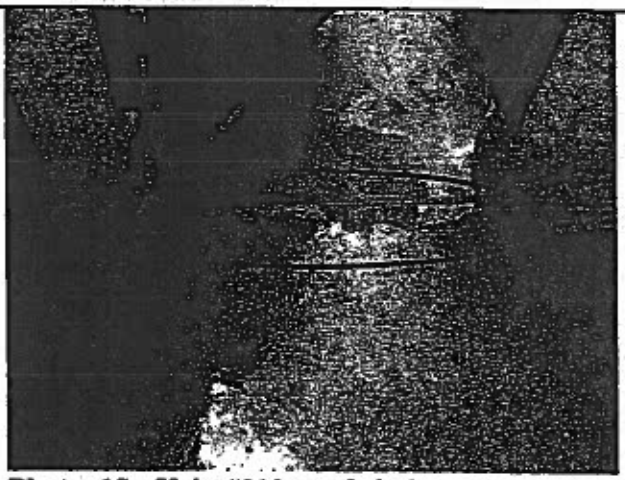

Photo 15: Unit #210 roof deck: note crack in concrete topping allowing water entry. Sufficient sub-waterproofing is required.

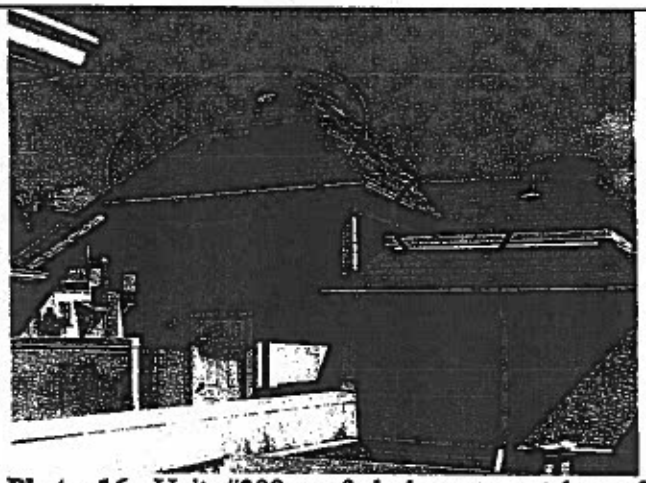

Photo 16: Unit #309 roof deck: note patches of shingles of differing ages.

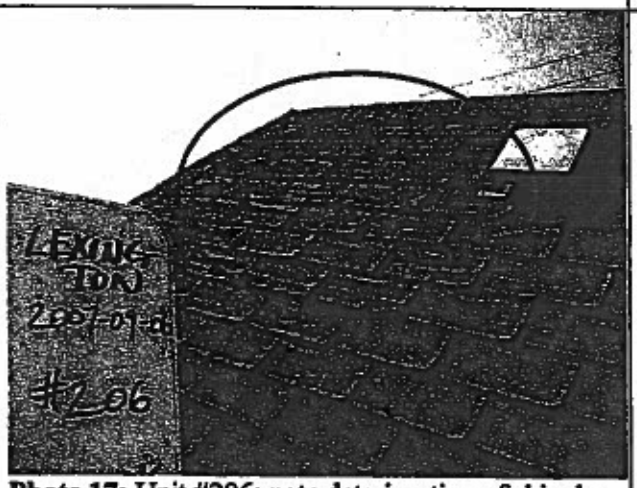

Photo 17: Unit #206: note deterioration of shingles.

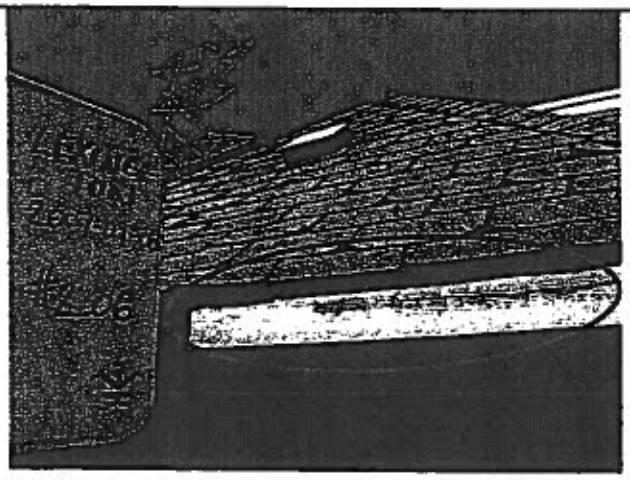

Photo 18: Unit #206: note deterioration of trim board.

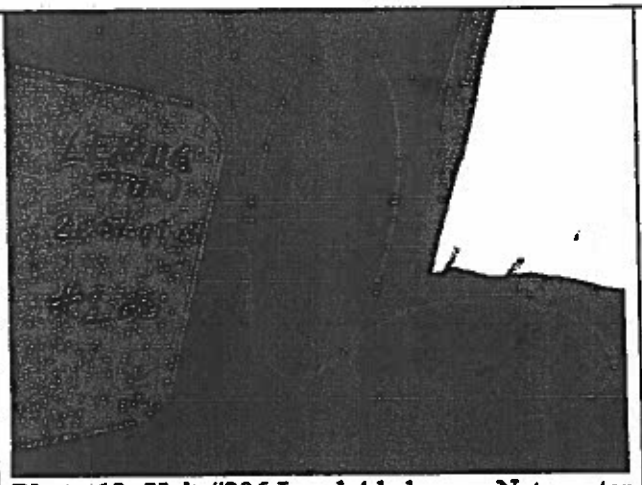

Photo 19: Unit #206 Level 4 balcony: Note water staining on soffit edges. This indicates water is present behind gutter (or gutter joint waterproofing failure).

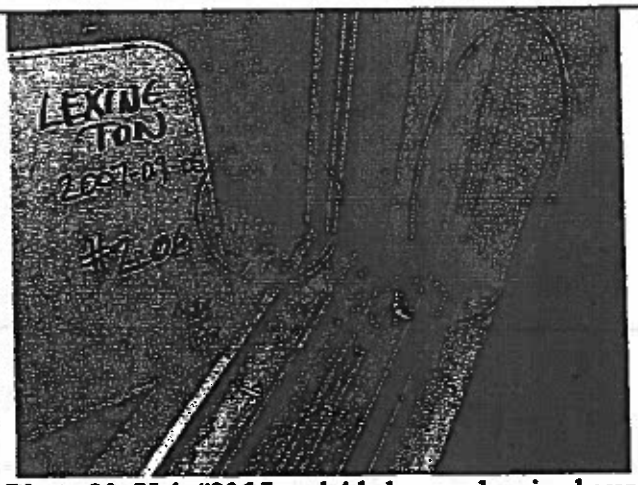

Photo 20: Unit #206 Level 4 balcony: showing heavy water staining and lack of drainage at sill track. Note crack in drywall and moss growth at bottom edge of stucco wall.

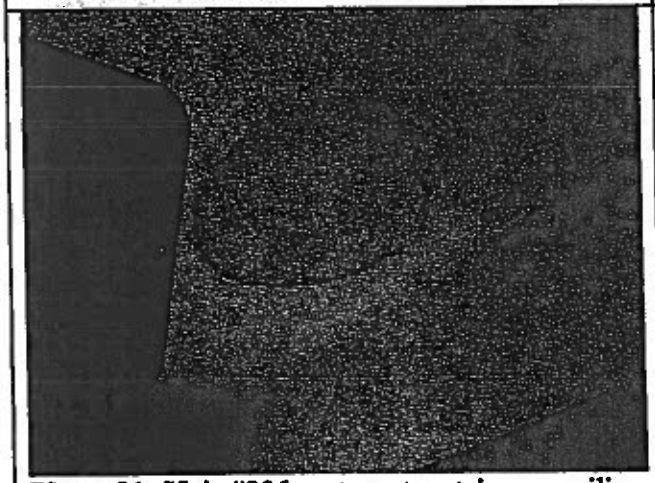

Photo 21: Unit #206: note water stains on ceiling. Evidence of water ingress from above.

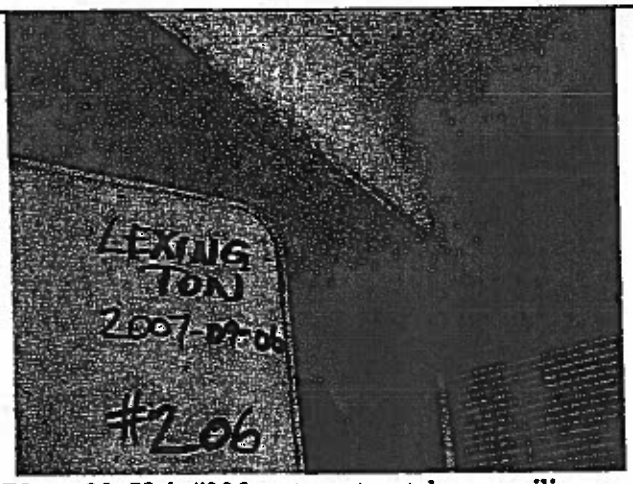

Photo 22: Unit #206: note water stains on ceiling. Evidence of water ingress from above.

Photo 23: Unit #206 Level 3 balcony: note proximity of vent to light fixture. Warm moist air will rust the light fixture.

Photo 24: Unit #206 Level 3 balcony: deteriorated wood trim at sliding glass door.

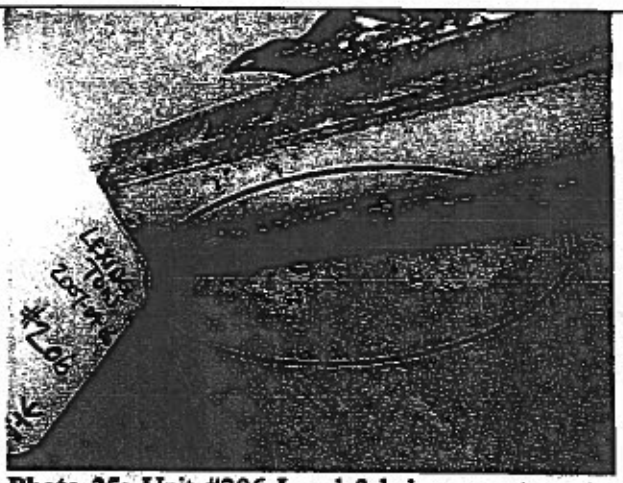

Photo 25: Unit #206 Level 3 balcony: note water staining on soffit behind trim board.

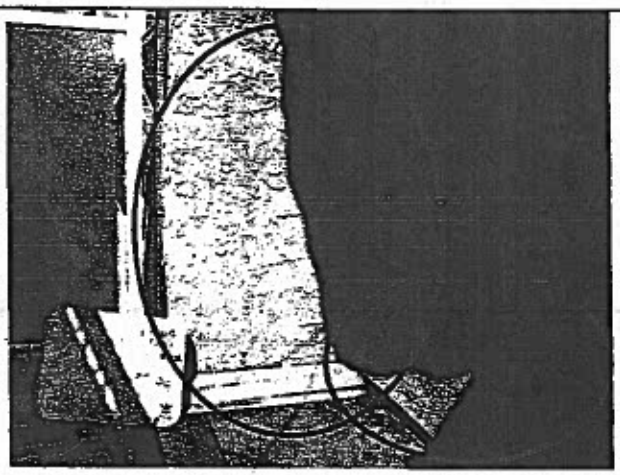

Photo 26: Unit #206 Level 3 balcony: note stucco patch to accommodate change to glass balcony railing. Note also stucco patch at bottom edge of wall.

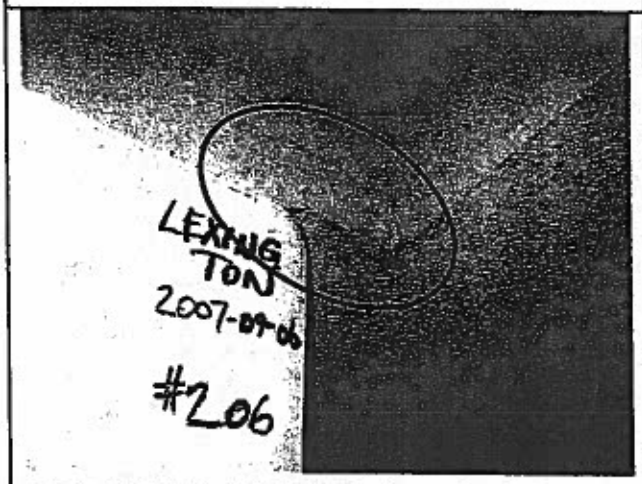

Photo 27: Unit #206 Level 4 at stairs below roof deck: note water staining at corner and at sprinkler head.

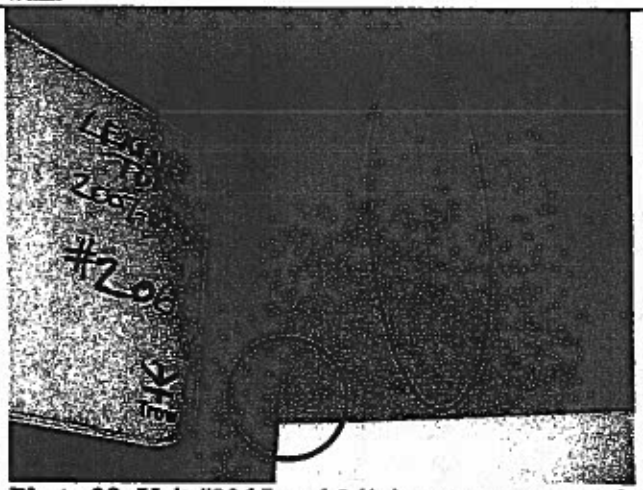

Photo 28: Unit #206 Level 3 living room: note cracks in bay window drywall. This indicates building structure movement.

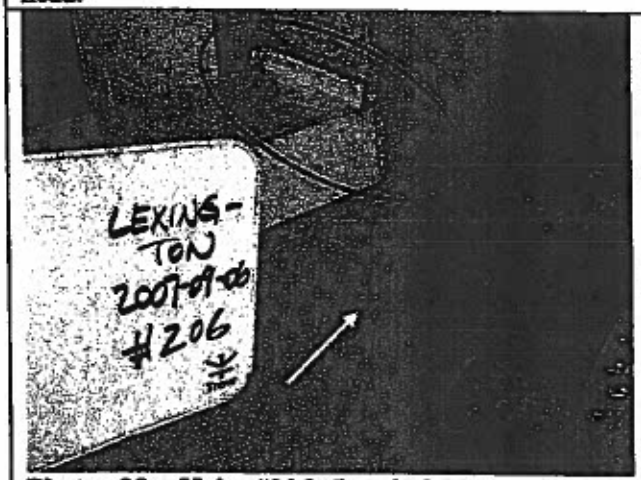

Photo 29: Unit #206 Level 2 entrance: note deterioration of sealant at cap flashing and vertical crack in stucco. Adequate saddle waterproofing and flashing upturn was not provided.

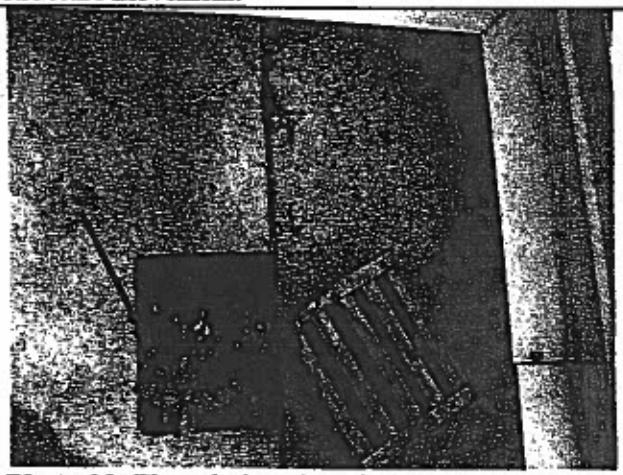

Photo 30: Floor drain at Level 2: note plant growth in drain which will impede water flow.

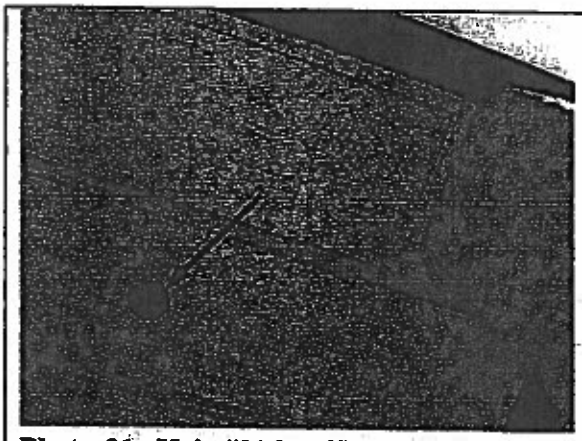

Photo 31: Unit #216 soffit: note unfinished drain through soffit from balcony above.

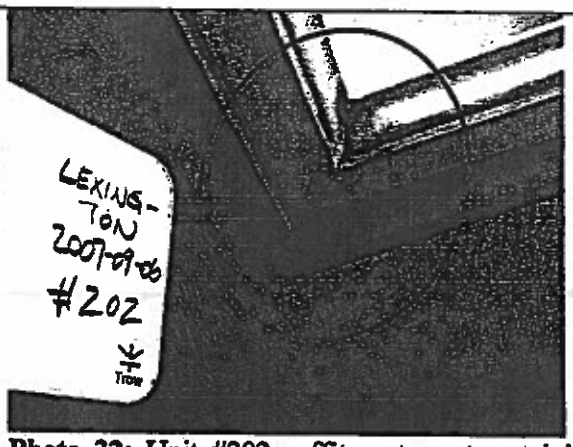

Photo 32: Unit #202 soffit: note water staining on soffit behind trim board indicating gutter joint waterproofing failure.

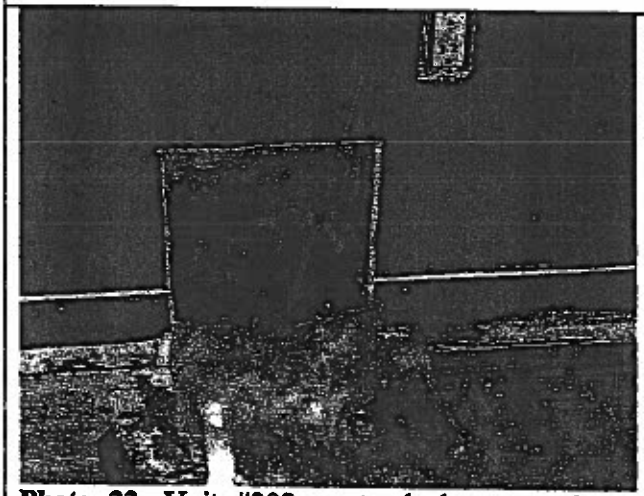

Photo 33: Unit #202 master bedroom: moisture content reading is over 40 indicating wood is saturated.

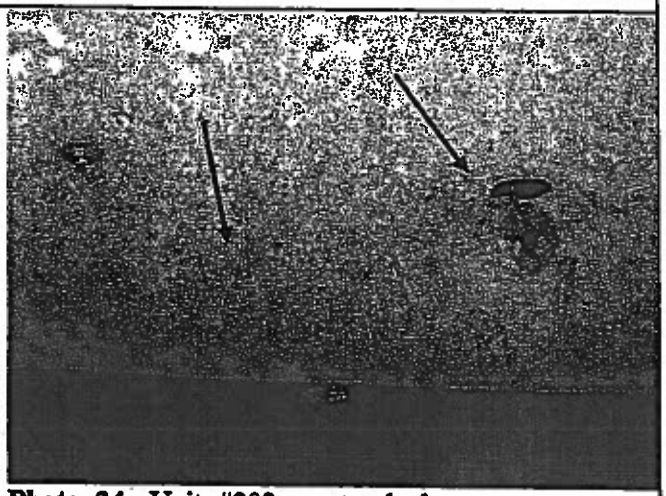

Photo 34: Unit #202 master bedroom: note water stains on ceiling.

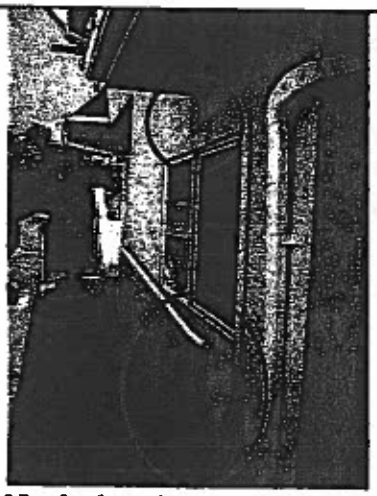

Photo 35: North elevation exterior walkway outside Unit #307: note water staining above and below window.

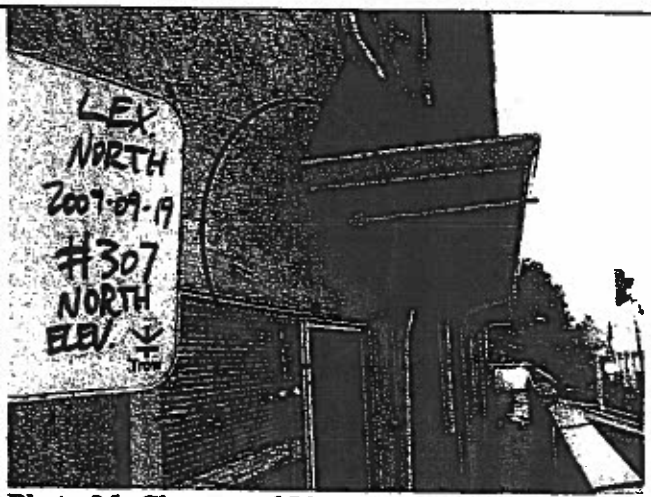

Photo 36: Close-up of Photo 35. Water leaks down the stucco from the end cap of roof gutter. Gutter is sloped towards the building.

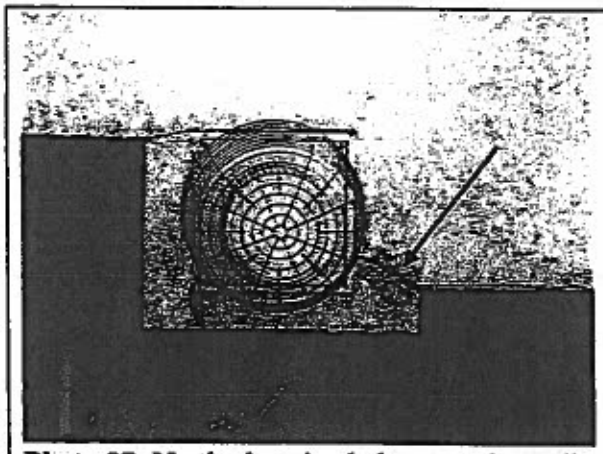

Photo 37: North elevation below exterior walkway between Units #205 and #207: note crack in stucco beside vent.

Photo 38: North elevation exterior walkway outside Unit #307: note water ponding along walkway.

Photo 39: Unit #205 patio ceiling at North elevation, directly under Unit #307.

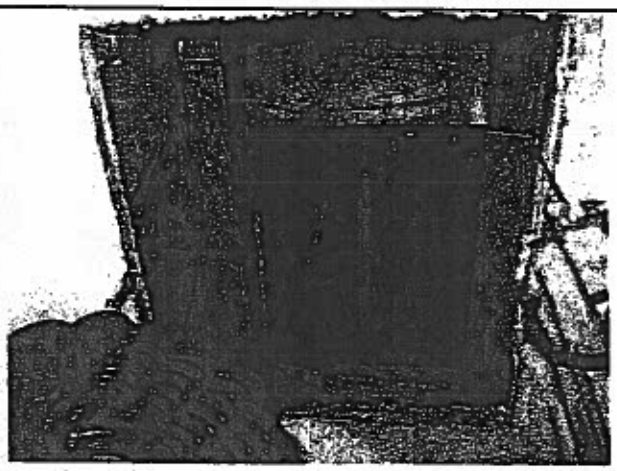

Photo 40: Close-up of Photo 39. Water staining is visible.

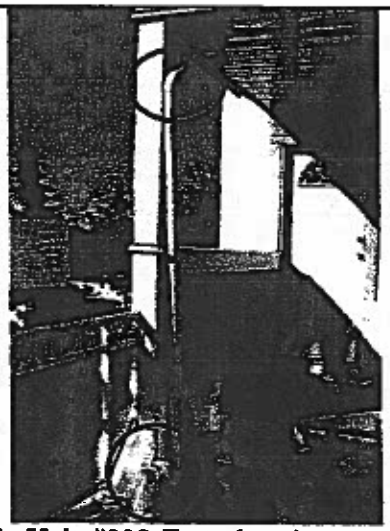

Photo 41: Unit #202 East elevation entrance: rain water leader is not connected at top and bottom.

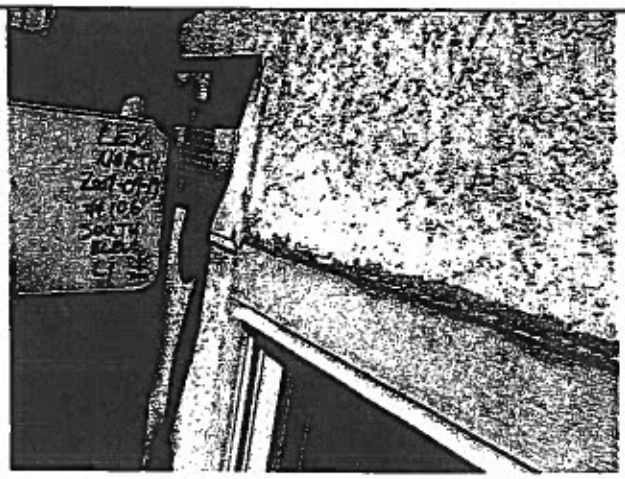

Photo 42: Unit #106 South elevation at the patio sliding glass door: note deterioration of sealant bead between stucco and wood trim. Head flashing is not provided.

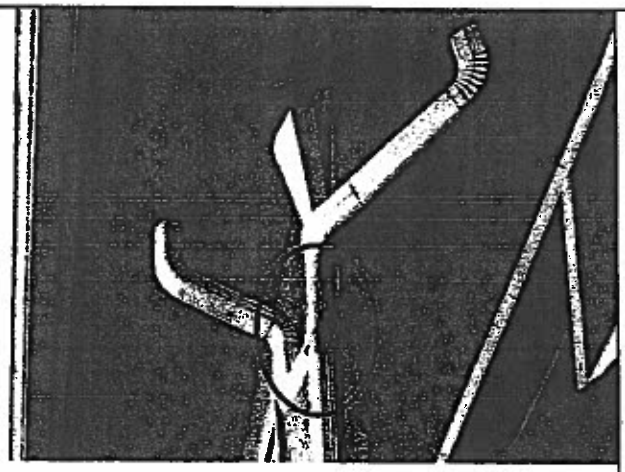

Photo 43: Unit #303 North elevation: note plant growth in convergence of downspouts.

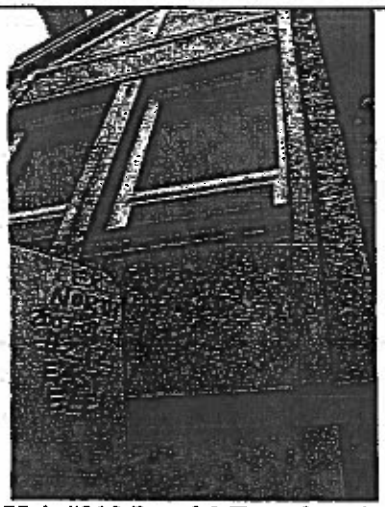

Photo 44: Unit #212 Level 3 East elevation: has been renovated in the past to be a "rain screen" look-alike.

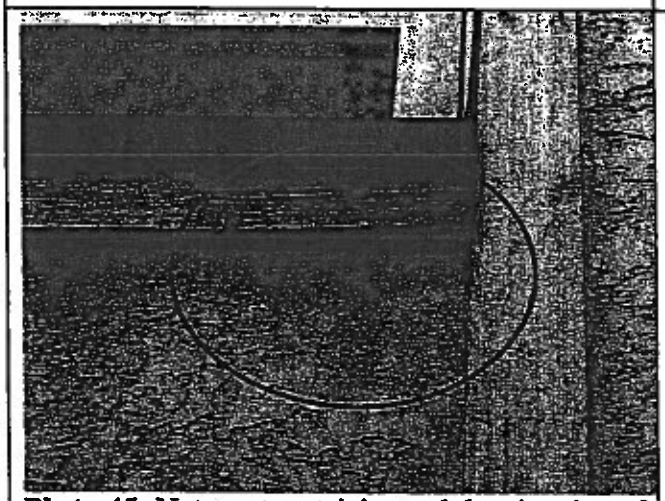

Photo 45: Note water staining and deterioration of wood trim. This indicates rainwater enters behind cladding and window. Window frame may not be water tight.

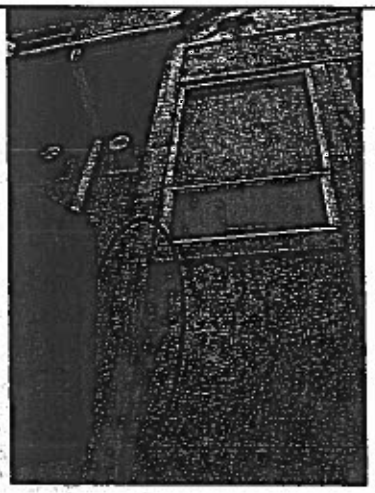

Photo 46: Unit #309 Level 3 East elevation: note water staining at corner of window trim. This indicates rainwater enters behind cladding and window. Window frame may not be water tight.

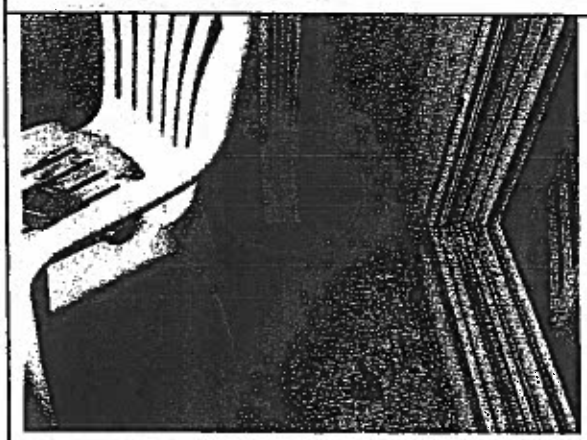

Photo 47: Unit #208 South elevation balcony: note downspout discharging directly onto balcony surface. Note that existing balcony deck finish is paint, but not a waterproofing membrane.

Photo 48: Unit #208 South elevation balcony: note high water mark on stucco wall. This indicates periodic water ponding and capillary saturation of adjoining stucco.

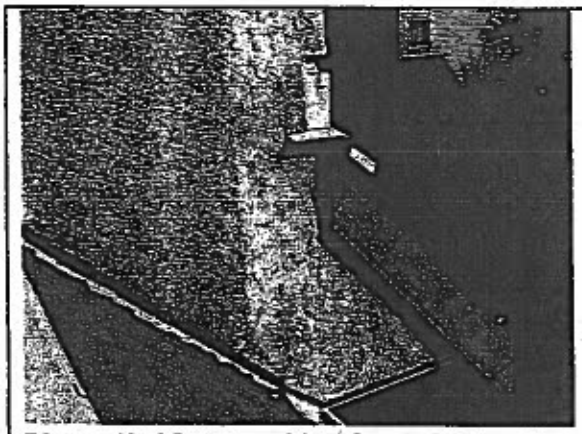

Photo 49: Note transition from new to old stucco. Metal flashing without end dams is embedded into stucco.

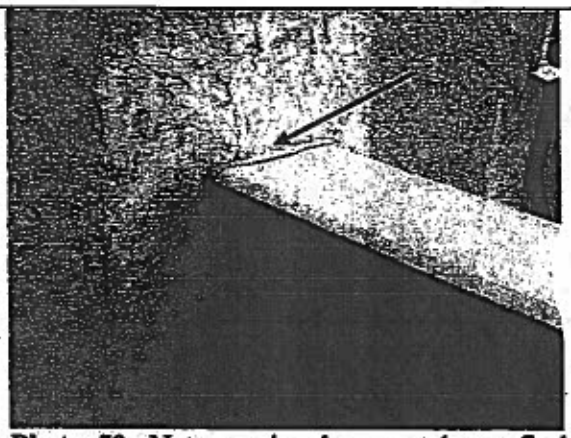

Photo 50: Note repair where metal cap flashing is embedded into stucco. Adequate shingling of saddle waterproofing with original building material might not be provided. Note also sealant bead will be a regular maintenance item.

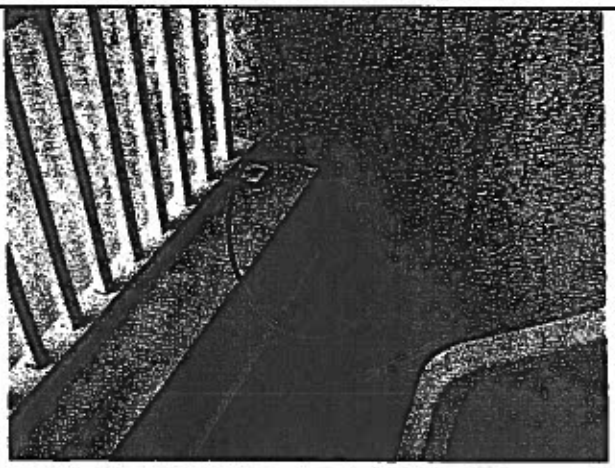

Photo 51: Unit #208 South facing balcony East wall: note lack of end dam on cap flashing and water staining.

Photo 52: Parking garage: Note evidence of water leaking through the spray foam insulation.

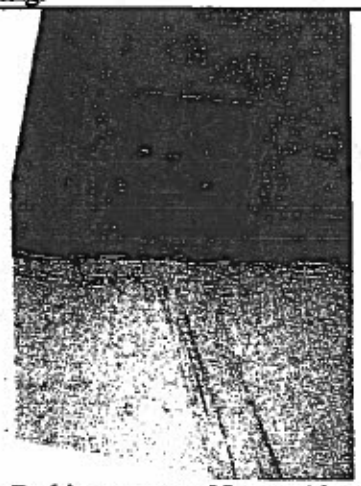

Photo 53: Parking garage: Note evidence of water having leaked through exhaust fan housing.

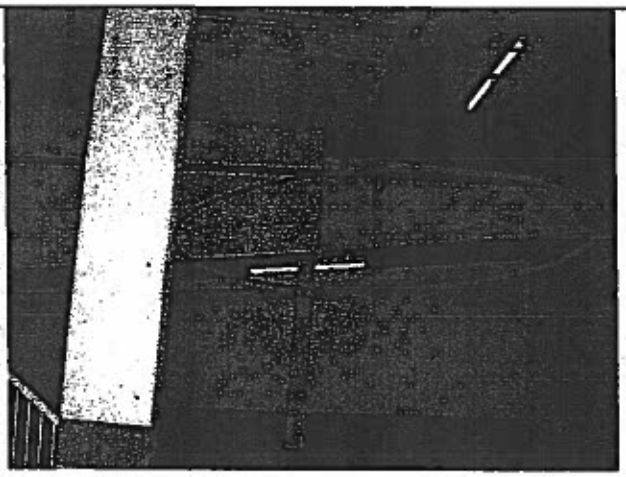

Photo 54: Parking garage: note evidence of water staining at concrete cold joint.

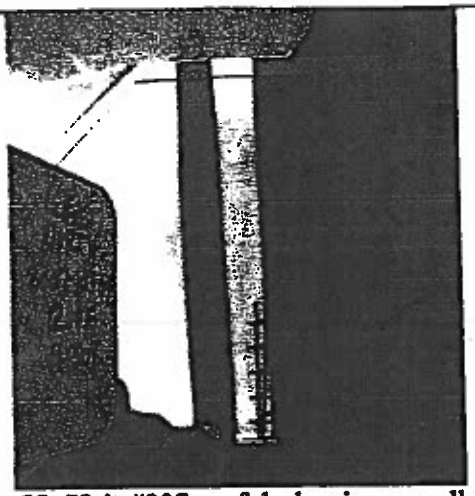

Photo 55: Unit #307 roof deck privacy wall. Note large wet spot.

Photo 56: Unit #307 roof deck privacy wall has been cut off. Asphalt shingles have been applied to act as a weather shield. This is not adequate waterproofing.

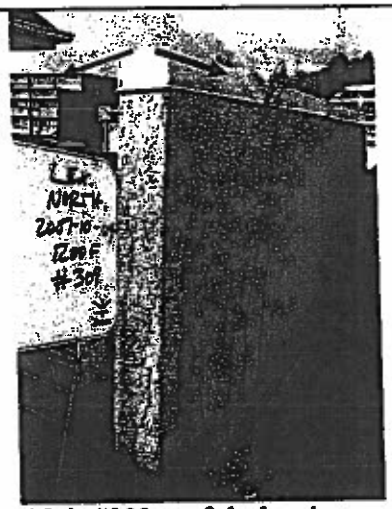

Photo 57: Unit #309 roof deck privacy wall is not adequately secured. It moves when little pressure is applied to top (see arrows).

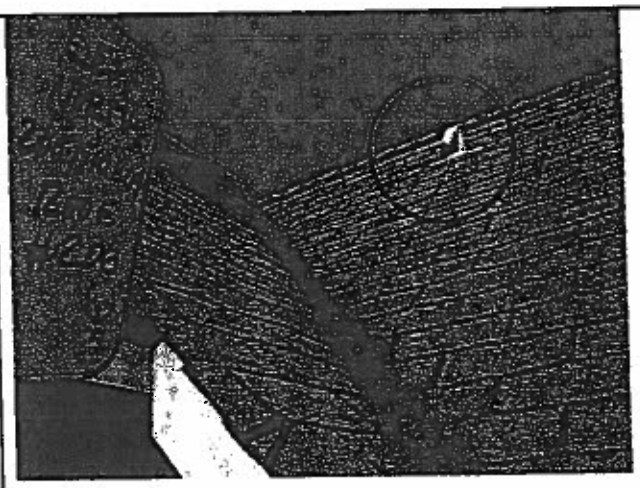

Photo 58: Unit #206 roof vent is folded over, severely restricting its function. Also note moss accumulation in valley of roof.

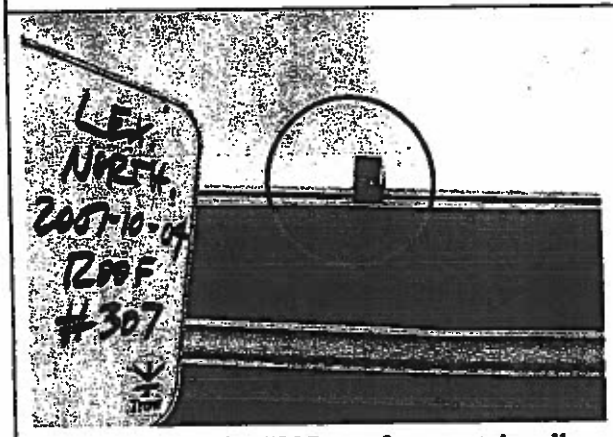

Photo 59: Unit #307 roof top stairwell: note missing rain water leader.

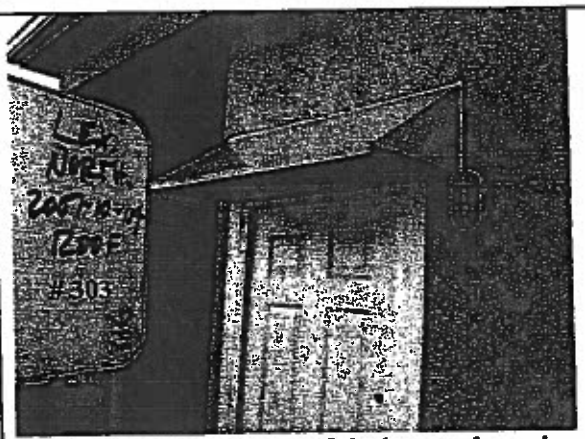

Photo 60: Unit #303 roof deck: metal awning added over roof deck door. Sealant will be a high maintenance item. Also occurs at #301 and #309.

Appendix D

Moisture Content Survey

Trow 50 YEARS

Trow 50 YEARS

Project No.: 071-03272
Project Name: Lexington North
Project Location: 3709 Pender Street, Burnaby, B.C.

Surveyed By: D.Wiese/J.Jeong/F. Torres
Date: Sept. 7 & 19, 2007

MOISTURE CONTENT RESULTS

BY PROBE NUMBERS

Probe No.	Colour Code	Suite	Elevation	Moisture Content %	Cladding Type	DESCRIPTION	BUILDING FEATURE
1		#208	Interior	9.2	GWB	L3 - 2nd floor of suite, water stain on bedroom ceiling	
2		#208	South	10.5	Stucco	L3 - West wall	2nd floor balcony
3		#208	South	7.3	Stucco	L3 - 2nd floor balcony	Bottom left corner of sliding door
4		#208	South	10.6	Stucco	L3 - 2nd floor balcony	Front 1/2 wall at West end
5		#208	South	14.0	Stucco	L4 - Lower roof deck	North East corner of privacy wall
6		#208	South	8.1	Stucco	L4 - Lower roof deck	Front 1/2 wall at Ast end
7		#208	South	8.5	Stucco	L4 - Lower roof deck	East wall of deck
8		#208	South	13.5	Stucco	L4 - Lower roof deck	East wall
9		#208	South	22.7	Stucco	L4 - Lower roof deck	South 1/2 wall at West end
10		#208	South	22.1	Stucco	L4 - Lower roof deck	South 1/2 wall at West end, further East
11		#208	South	12.3	Stucco	L4 - Lower roof deck	West wall midway along
12		#208	South	40+	Stucco	L4 - Lower roof deck	Privacy wall between central corridor and roof deck
13		Exterior corridor	South	19.0	Stucco	L4 - Lower roof deck	Outside the gate to roof deck, in corridor
14		Exterior corridor	South	19.9	Stucco	L4 - Lower roof deck	Outside the gate to roof deck, in corridor, 16' East of previous reading
15		Exterior corridor	South	40+	Stucco	L4 - Lower roof deck central corridor	Bottom left corner of door to exit stairs
16		Exterior corridor	South	15.2	Stucco	L4 - Lower roof deck central corridor	Bottom left corner of North wall
17		#108	South	12.7	Stucco	L1 - suite entrance door	Lower right corner
18		#210	South	20.6	Stucco	L4 - roof deck divider wall	Exterior corridor
19		#210	East	11.7	Stucco	L4 - roof deck divider wall	Exterior corridor
20		#210	South	32.4	Stucco	L4 - Deck parapet Wall	South
21		#210	East	17.3	Stucco	L4 - Deck parapet Wall	South
22		#210	South	24.9	Stucco	L4 - Deck parapet Wall	South
23		#210	West	24.4	Stucco	L4 - Deck parapet Wall	West
24		#210	South	31.7	Stucco	L4 - Deck building wall	South
25		#216	West	14.0	Stucco	L4 - Roof deck	Deck guardwall
26		#216	South	40+	Stucco	L4 - Roof deck	Building wall
27		#216	West	40+	Stucco	L4 - Roof deck	Guardwall
28		#216	South	13.2	Stucco	L4 - Roof deck	Building wall
29		#216	South	27.8	Stucco	L4 - Roof deck	South exterior wall near floor
30		#216	South	12.3	Stucco	L4 - Roof deck	Building wall
31		#216	East	18.1	Stucco	L4 - Roof deck	East parapet wall
32		#216	South	26.2	Stucco	L4 - Roof deck	NE corner
33		#216	East	27.5	Stucco	L4 - Roof deck	East parapet wall
34		#216	East	9.8	Stucco	L3 - East balcony	Boxed-in chimney
35		#216	East	12.3	Stucco	L3 - East balcony	Boxed-in chimney
36		#216	West	8.4	Stucco	L3 - West balcony	South facing sliding door
37		#216	West	10.4	Stucco	L3 - West balcony	Bottom left corner of window
38		#206	South	7.4	Stucco	L5 - roof deck	Parapet wall
39		#206	West	9.4	Stucco	L5 - roof deck	West wall

Trow 50 YEARS

Project No.: 071-03272
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Surveyed By: D.Wiese/J.Jeong/F. Torres
Date: Sept. 7 & 19, 2007

MOISTURE CONTENT RESULTS
BY PROBE NUMBERS

Probe No.	Colour Code	Suite	Elevation	Moisture Content %	Cladding Type	DESCRIPTION	BUILDING FEATURE
40		#206	West	15.0	Stucco	L4 - roof deck	West parapet wall
41		#206	South	9.4	Stucco	L4 - roof deck	South parapet wall
~~42~~		~~#202~~	~~West~~	~~9.3~~	~~Stucco~~	~~L3 - West balcony~~	~~Boxed-in chimney~~
43		#202	West	8.1	Stucco	L3 - West balcony	Boxed-in chimney, farther South
44		#202	East	7.3	Stucco	L3 - East balcony	Lower left corner of window
45		#202	East	40+	GWB	L3 - master bedroom	Sill plate @ drywall cut-out on East wall.
46		#202	East	10.0	Stucco	L4 - roof deck	West parapet wall
47		#208	South	11.5	Stucco	L3 - South balcony	Exterior face of balcony guardwall
48		#208	South	11.7	Stucco	L3 - bedroom bay window	Lower right corner of window
49		#210	South	12.6	Stucco	L3 - bedroom bay window	Lower right corner of window
50		#210	South	14.0	Stucco	L3 - South balcony	Exterior face of balcony guardwall
51		#216	West	18.5	Stucco	L3 - West balcony	Lower left corner of window
52		#202	East	13.0	Stucco	L3 - East balcony	Lower left corner of window
53		#208	South	10.4	Stucco	L2 - kitchen window	Lower left corner of window
54		#202	East	13.5	Stucco	L2 - entrance door	Post at entrance door
55		#204	South	12.6	Stucco	L2 - living room bay window	Lower right corner of window
56		#214	South	10.8	Stucco	L2 - living room bay window	Lower right corner of window
57		#106	South	7.0	Stucco	L1 - entrance door	Top right corner of door over vents
58		#106	South	17.0	Stucco	L1 - sliding glass door	Lower right corner
~~59~~		~~#207~~	~~North~~		~~Stucco~~	~~L2 - below exterior walkway~~	~~Fireplace vent~~
60		#207	North	11.1	Stucco	L3 - below exterior walkway	Left of fireplace vent
61		Exterior corridor	North	24.0	Stucco	L2 - corridor from exit	Bottom of stucco column
62		#203	North	12.6	Stucco	L3 - below exterior walkway	At base of wall
63		#203	North	14.3	Stucco	L3 - post (stucco -clad)	Post supporting exterior walkway
64		#201	North	12.6	Stucco	L2 - patio sliding door	Top right corner @ light box crack
65		#201	North	16.1	Stucco	L3 - North face of exterior walkway	At base of wall
66		#303	North	10.8	Stucco	L3 - Window	Lower right corner
67		#305	North	12.4	Stucco	L3 - Window	Lower left corner
68		#307	North	10.1	Stucco	L3 - Window	Lower left corner
69		#307	North	15.0	Stucco	L3 - Window	Lower right corner
70		#307	North	9.1	Stucco	L3 - top of window	Below sloped roof/ building wall intersection
71a		#309	East	no reading	Stucco	L3 - lower right corner of window	Appears to be no sheathing under stucco
71b		#309	East	9.5	Stucco	L3 - lower right corner of window	2' below reading 71a
E.O. #2		#309	East	——	Stucco	L3 - lower right corner of window	Revealed normal conditions. Refer to photo.
72		#212	East	10.4	Stucco	L3 - bay window	Lower right corner
73		#212	East	11.4	Stucco	L3 - vent	Lower right corner of vent
74		#212	East	12.0	Stucco	L3 - balcony flashing joint	Lower right corner of balcony guardwall
75		#216	East	13.1	Stucco	L3 - window	Lower right corner
~~76~~		~~#204~~	~~South~~		~~Stucco~~	~~L2 - living room bay window~~	~~16" below reading No. 55~~

Trow 50 YEARS

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Surveyed By: D.Wiese/J.Jeong/F. Torres
Date: Sept. 7 & 19, 2007

MOISTURE CONTENT RESULTS
BY PROBE NUMBERS

Probe No.	Colour Code	Suite	Elevation	Moisture Content %	Cladding Type	DESCRIPTION	BUILDING FEATURE
77		#214	South	14.6	Stucco	L2 - living room bay window	2' below reading No. 56, exposed building wall
78		#106	South	20.0	Stucco	L1 - patio door	Top lrft corner under fireplace vent

Trow 50 YEARS

Project No.: 071-03272
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Surveyed By: D.Wiese/J.Jeong/F. Torres
Date: Sept. 7 & 19, 2007

MOISTURE CONTENT RESULTS
BY ELEVATED READINGS

Probe No.	Colour Code	Suite	Elevation	Moisture Content %	Cladding Type	DESCRIPTION	BUILDING FEATURE
12		#206	South	40+	Stucco	L4 - Lower roof deck	Privacy wall between central corridor and roof deck
15		Exterior corridor	South	40+	Stucco	L4 - Lower roof deck central corridor	Bottom left corner of door to exit stairs
26		#216	South	40+	Stucco	L4 - Roof deck	Building wall
27		#216	West	40+	Stucco	L4 - Roof deck	Guardwall
45		#202	East	40+	GWB	L3 - master bedroom	Sill plate @ drywall cut-out on East wall.
20		#210	South	32.4	Stucco	L4 - Deck parapet Wall	South
24		#210	South	31.7	Stucco	L4 - Deck building wall	South
29		#216	South	27.8	Stucco	L4 - Roof deck	South exterior wall near floor
33		#216	East	27.5	Stucco	L4 - Roof deck	East parapet wall
32		#216	South	26.2	Stucco	L4 - Roof deck	NE corner
22		#210	South	24.9	Stucco	L4 - Deck parapet Wall	South
23		#210	West	24.4	Stucco	L4 - Deck parapet Wall	West
61		Exterior corridor	North	24.0	Stucco	L2 - corridor from exit	Bottom of stucco column
9		#208	South	22.7	Stucco	L4 - Lower roof deck	South 1/2 wall at West end
10		#208	South	22.1	Stucco	L4 - Lower roof deck	South 1/2 wall at West end, further East
18		#210	South	20.6	Stucco	L4 - roof deck divider wall	Exterior corridor
78		#106	South	20.0	Stucco	L1 - patio door	Top left corner under fireplace vent
14		Exterior corridor	South	19.9	Stucco	L4 - Lower roof deck	Outside the gate to roof deck, in corridor, 16' East of previous reading
13		Exterior corridor	South	19.0	Stucco	L4 - Lower roof deck	Outside the gate to roof deck, in corridor
51		#216	West	18.5	Stucco	L3 - West balcony	Lower left corner of window
31		#216	East	18.1	Stucco	L4 - Roof deck	East parapet wall
21		#210	East	17.3	Stucco	L4 - Deck parapet Wall	South
58		#106	South	17.0	Stucco	L1 - sliding glass door	Lower right corner
65		#201	North	16.1	Stucco	L3 - North face of exterior walkway	At base of wall
16		Exterior corridor	South	15.2	Stucco	L4 - Lower roof deck central corridor	Bottom left corner of North wall
40		#206	West	15.0	Stucco	L4 - roof deck	West parapet wall
69		#307	North	15.0	Stucco	L3 - Window	Lower right corner
77		#214	South	14.6	Stucco	L2 - living room bay window	2' below reading No. 56, exposed building wall
63		#203	North	14.3	Stucco	L3 - post (stucco -clad)	Post supporting exterior walkway
5		#208	South	14.0	Stucco	L4 - Lower roof deck	North East corner of privacy wall
25		#216	West	14.0	Stucco	L4 - Roof deck	Deck guardwall
50		#210	South	14.0	Stucco	L3 - South balcony	Exterior face of balcony guardwall
8		#208	South	13.5	Stucco	L4 - Lower roof deck	East wall
54		#202	East	13.5	Stucco	L2 - entrance door	Post at entrance door
28		#216	South	13.2	Stucco	L4 - Roof deck	Building wall
75		#216	East	13.1	Stucco	L3 - window	Lower right corner
52		#202	East	13.0	Stucco	L3 - East balcony	Lower left corner of window
17		#108	South	12.7	Stucco	L1 - suite entrance door	Lower right corner
49		#210	South	12.6	Stucco	L3 - bedroom bay window	Lower right corner of window

Trow 50 YEARS

Project No.: 071-03272
Project Name: Lexington North
Project Location: 3709 Pender Street, Burnaby, B.C.

Surveyed By: D.Wiese/J.Jeong/F. Torres
Date: Sept. 7 & 19, 2007

MOISTURE CONTENT RESULTS
BY ELEVATED READINGS

Probe No.	Colour Code	Suite	Elevation	Moisture Content %	Cladding Type	DESCRIPTION	BUILDING FEATURE
55		#204	South	12.6	Stucco	L2 - living room bay window	Lower right corner of window
62		#203	North	12.6	Stucco	L3 - below exterior walkway	At base of wall
~~64~~		~~#201~~	~~North~~	~~12.6~~	~~Stucco~~	~~L2 - patio sliding door~~	~~Top right corner @ light box crack~~
67		#305	North	12.4	Stucco	L3 - Window	Lower left corner
11		#208	South	12.3	Stucco	L4 - Lower roof deck	West wall midway along
30		#216	South	12.3	Stucco	L4 - Roof deck	Building wall
35		#216	East	12.3	Stucco	L3 - East balcony	Boxed-in chimney
74		#212	East	12.0	Stucco	L3 - balcony flashing joint	Lower right corner of balcony guardwall
19		#210	East	11.7	Stucco	L4 - roof deck divider wall	Exterior corridor
48		#208	South	11.7	Stucco	L3 - bedroom bay window	Lower right corner of window
47		#208	South	11.5	Stucco	L3 - South balcony	Exterior face of balcony guardwall
73		#212	East	11.4	Stucco	L3 - vent	Lower right corner of vent
60		#207	North	11.1	Stucco	L3 - below exterior walkway	Left of fireplace vent
56		#214	South	10.8	Stucco	L2 - living room bay window	Lower right corner of window
66		#303	North	10.8	Stucco	L3 - Window	Lower right corner
4		#208	South	10.6	Stucco	L3 - 2nd floor balcony	Front 1/2 wall at West end
2		#208	South	10.5	Stucco	L3 - West wall	2nd floor balcony
37		#216	West	10.4	Stucco	L3 - West balcony	Bottom left corner of window
53		#208	South	10.4	Stucco	L2 - kitchen window	Lower left corner of window
72		#212	East	10.4	Stucco	L3 - bay window	Lower right corner
68		#307	North	10.1	Stucco	L3 - Window	Lower left corner
46		#202	East	10.0	Stucco	L4 - roof deck	West parapet wall
34		#216	East	9.8	Stucco	L3 - East balcony	Boxed-in chimney
71b		#309	East	9.5	Stucco	L3 - lower right corner of window	2' below reading 71a
39		#206	West	9.4	Stucco	L5 - roof deck	West wall
41		#206	South	9.4	Stucco	L4 - roof deck	South parapet wall
42		#202	West	9.3	Stucco	L3 - West balcony	Boxed-in chimney
1		#208	Interior	9.2	GWB	L3 - 2nd floor of suite, water stain on bedroom ceiling	
7		#208	South	8.5	Stucco	L4 - Lower roof deck	East wall of deck
36		#216	West	8.4	Stucco	L3 - West balcony	South facing sliding door
6		#208	South	8.1	Stucco	L4 - Lower roof deck	Front 1/2 wall at Ast end
43		#202	West	8.1	Stucco	L3 - West balcony	Boxed-in chimney, farther South
70		#307	North	8.1	Stucco	L3 - top of window	Below sloped roof/ building wall intersection
38		#206	South	7.4	Stucco	L5 - roof deck	Parapet wall
3		#208	South	7.3	Stucco	L3 - 2nd floor balcony	Bottom left corner of sliding door
44		#202	East	7.3	Stucco	L3 - East balcony	Lower left corner of window
57		#106	South	7.0	Stucco	L1 - entrance door	Top right corner of door over vents
71a		#309	East		Stucco	L3 - lower right corner of window	Appears to be no sheathing under stucco, no reading.
E.O. #2		#309	East		Stucco	L3 - lower right corner of window	No reading.

Trow 50 YEARS

Project No.: 071-03272
Project Name: Lexington North
Project Location: 3709 Pender Street, Burnaby, B.C.

Surveyed By: D.Wiese/J.Jeong/F. Torres
Date: Sept. 7 & 19, 2007

MOISTURE CONTENT RESULTS
BY ELEVATED READINGS

Probe No.	Colour Code	Suite	Elevation	Moisture Content %	Cladding Type	DESCRIPTION	BUILDING FEATURE
59		#207	North		Stucco	L2 - below exterior walkway	Fireplace vent
76		#204	South		Stucco	L2 - living room bay window	16" below reading No. 55

LEGEND: WOOD MOISTURE PROBE READINGS

——— LEADER DENOTES LOCATION OF MOISTURE PROBE READING ON WALL AS SHOWN.

EO# EO# DENOTES EXTERIOR OPENING LOCATIONS

- GREEN CIRCLE INDICATES A WOOD MOISTURE CONTENT READING 19.0% AND LOWER.

- ORANGE PENTAGON INDICATES A WOOD MOISTURE CONTENT READING FROM 19.1% TO 27.9% INCLUSIVE.

- RED SQUARE INDICATES A WOOD MOISTURE CONTENT READING OF 28.0% OR GREATER AND/OR LOCATION WITH SIGNIFICANT DECAY/DETERIORATION.

1 - WEST ELEVATION
SCALE: NTS

2 - EAST ELEVATION
SCALE: NTS

FROM DRAWINGS
LO ARCHITECT INC.
R 7, 1993

TROW ASSOCIATES INC.
7025 Greenwood Street, Burnaby,
British Columbia, V5A 1X7
Telephone: 604-874-1245
Fax: 604-874-2358

REVISIONS

No.	DESCRIPTION	DATE

PROJECT: 3709 PENDER STREET
BURNABY, BC

PROJECT NO.: 071-03272 | DRN: JT | DES: DW | CHK: JSJ

DATE: OCTOBER 12, 2007

TITLE: WEST & EAST ELEVATIONS

SCALE: NTS

DWG NO.: R 3.01

LEGEND: WOOD MOISTURE PROBE READINGS

——— LEADER DENOTES LOCATION OF MOISTURE PROBE READING ON WALL AS SHOWN.

EO# EO# DENOTES EXTERIOR OPENING LOCATIONS

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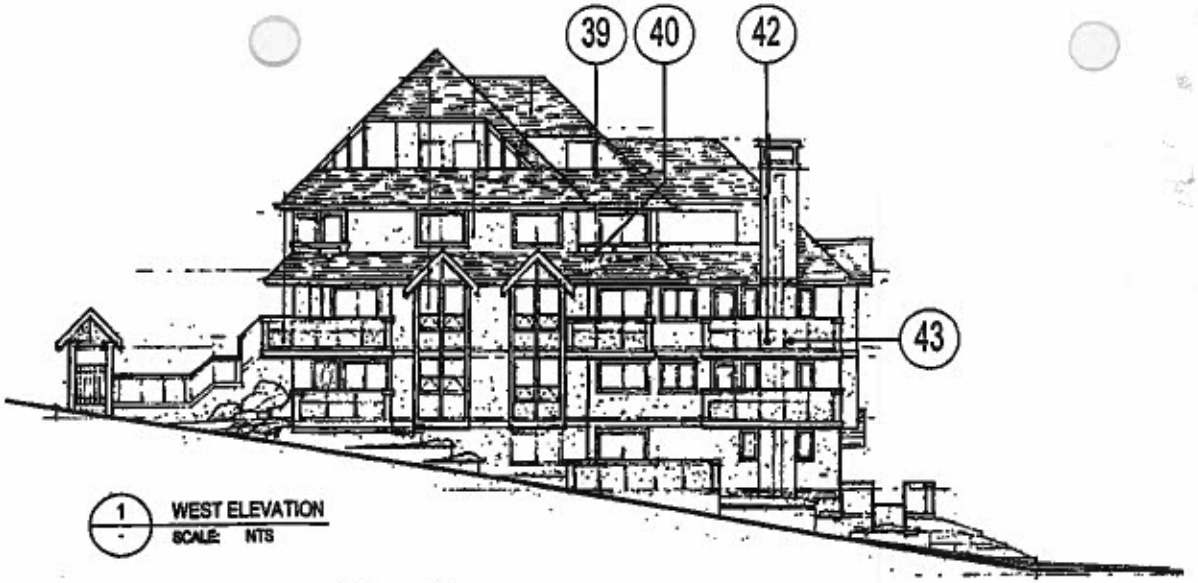
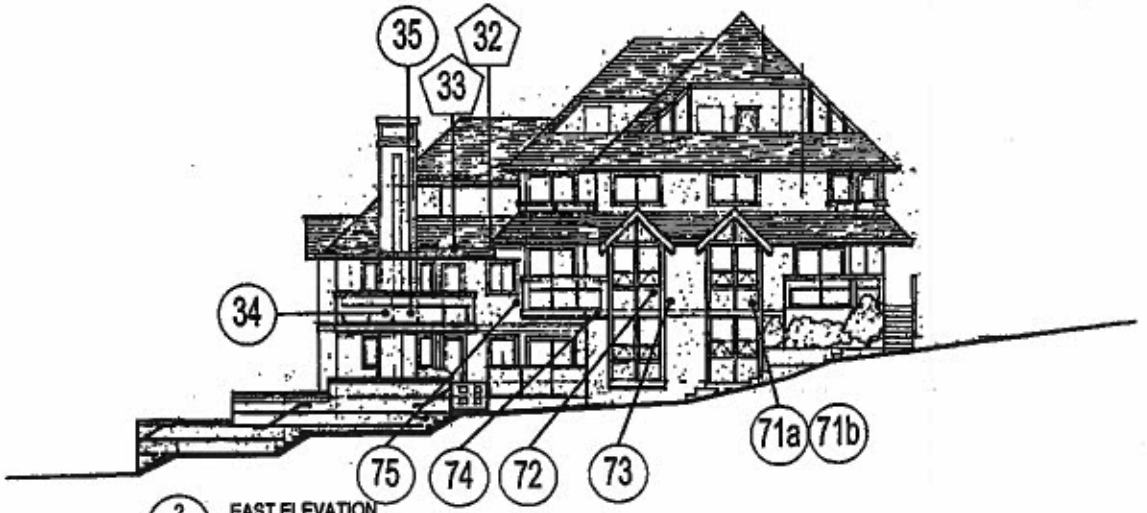


1 / - WEST ELEVATION
SCALE: NTS



2 / - EAST ELEVATION
SCALE: NTS

REPRODUCED FROM DRAWINGS BY KINGSLEY K. LO ARCHITECT INC. DATED OCTOBER 7, 1993

Trow
TROW ASSOCIATES INC.
7025 Greenwood Street, Burnaby,
British Columbia, V5A 1X7
Telephone: 604-874-1245
Fax: 604-874-2358

REVISIONS		
No.	DESCRIPTION	DATE

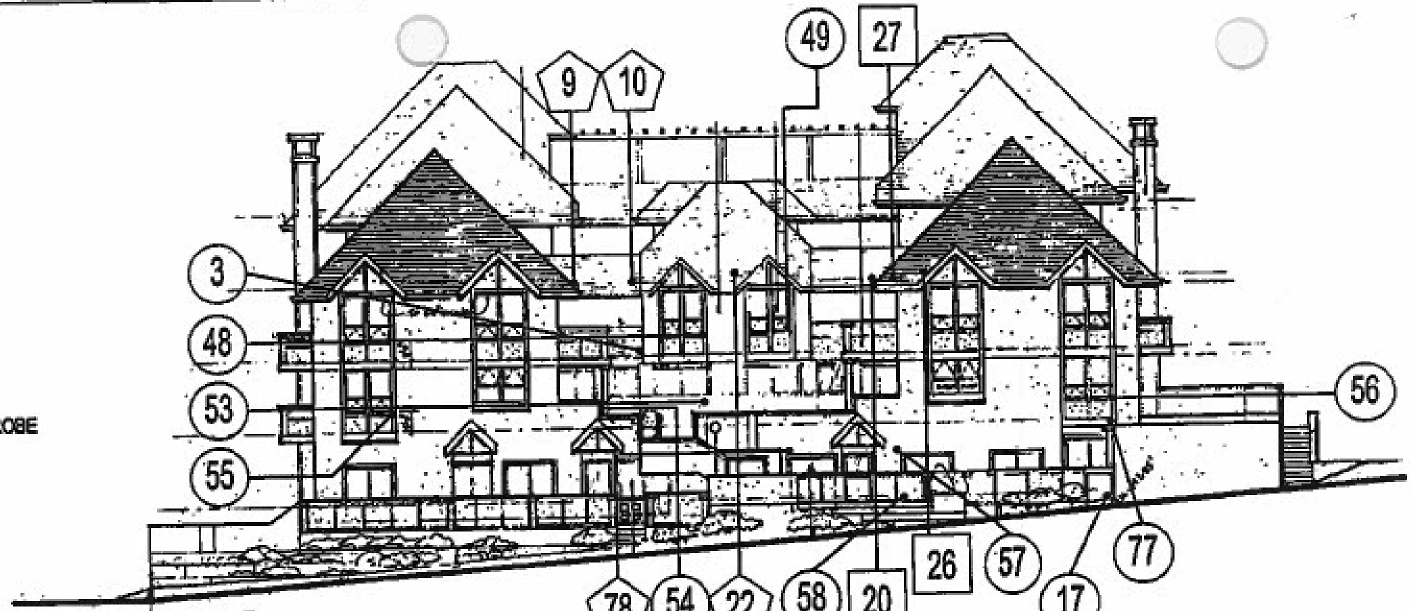
PROJECT: 3709 PENDER STREET BURNABY, BC

TITLE: WEST & EAST ELEVATIONS

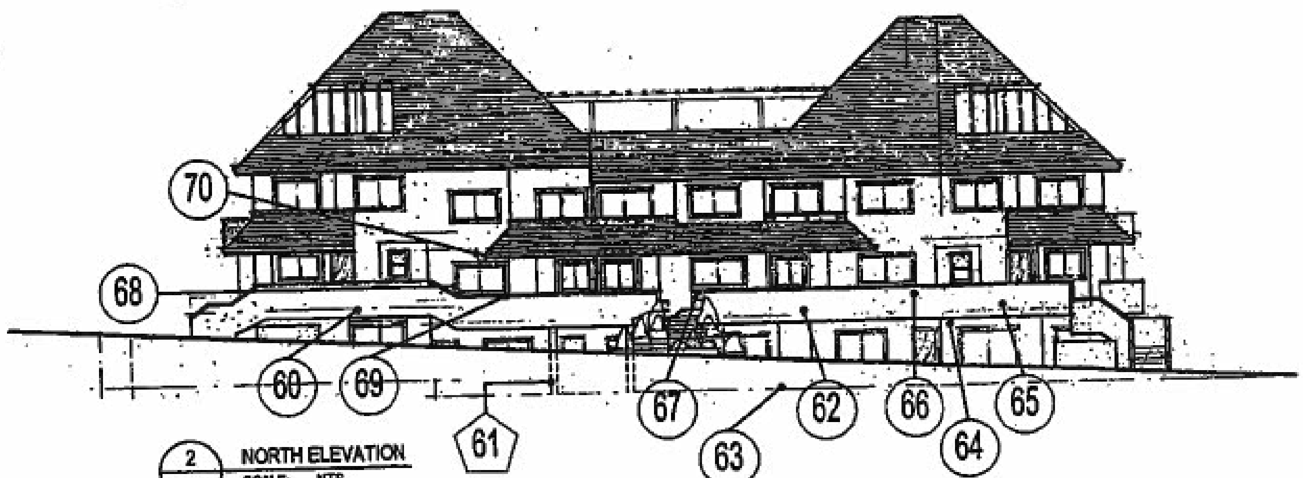
PROJECT NO.	DRWN.	DSGN.	CHK.	DATE	SCALE	DWG NO.
071-03272	JT	DW	JSJ	OCTOBER 12, 2007	NTS	B-3.01

LEGEND: WOOD MOISTURE PROBE READINGS

- ——— LEADER DENOTES LOCATION OF MOISTURE PROBE READING ON WALL AS SHOWN.
- (EO#) [EO#] DENOTES EXTERIOR OPENING LOCATIONS
- (·) GREEN CIRCLE INDICATES A WOOD MOISTURE CONTENT READING 19.0% AND LOWER.
- ⬠ ORANGE PENTAGON INDICATES A WOOD MOISTURE CONTENT READING FROM 19.1% TO 27.9% INCLUSIVE.
- [·] RED SQUARE INDICATES A WOOD MOISTURE CONTENT READING OF 28.0% OR GREATER AND/OR LOCATION WITH SIGNIFICANT DECAY/DETERIORATION.



1 SOUTH ELEVATION
SCALE: NTS



2 NORTH ELEVATION
SCALE: NTS

REPRODUCED FROM DRAWINGS BY BAKER MCGARVA HART DATED OCTOBER 7, 1993

Trow

TROW ASSOCIATES INC.
7025 Greenwood Street, Burnaby, British Columbia, V5A 1X7
Telephone: 604-874-1245
Fax: 604-874-2358

REVISIONS		
No.	DESCRIPTION	DATE

PROJECT					TITLE		
3709 PENDER STREET BURNABY, BC					SOUTH & NORTH ELEVATIONS		
PROJECT No. 071-03272	DFTN. JT	DSGN. DW	CHK. JSJ		DATE OCTOBER 12, 2007	SCALE NTS	DWG No. B-3.02

File: L:\2007\071-03272 ...

LEGEND: WOOD MOISTURE PROBE READINGS

——— LEADER DENOTES LOCATION OF MOISTURE PROBE READING ON WALL AS SHOWN.

EO# EO# DENOTES EXTERIOR OPENING LOCATIONS

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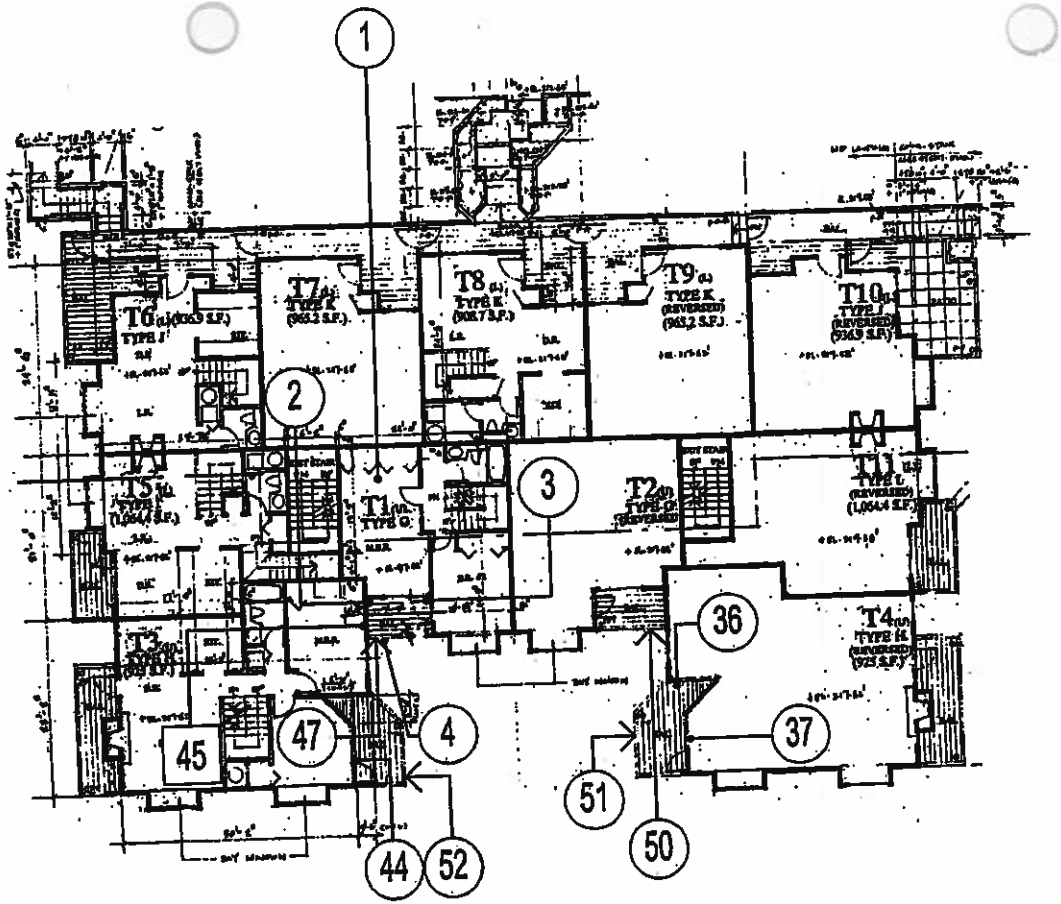

1/- LEVEL 3 PLAN
SCALE: 1/8" = 1'-0"

REPRODUCED FROM DRAWINGS BY BAKER MCGARVA HART DATED OCTOBER 7, 1993

TROW ASSOCIATES INC.
7025 Greenwood Street, Burnaby,
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Telephone: 604-874-1245
Fax: 604-874-2358

REVISIONS		
No.	DESCRIPTION	DATE

PROJECT: 3709 PENDER STREET BURNABY, BC

TITLE: LEVEL 3 PLAN

PROJECT NO.	DRWN.	DSGN.	CHK.	DATE	SCALE:	DRG NO.
071-03272	JT	DW	JSJ	OCTOBER 12, 2007	NTS	B-3.03

LEGEND: WOOD MOISTURE PROBE READINGS

——— LEADER DENOTES LOCATION OF MOISTURE PROBE READING ON WALL AS SHOWN.

EO# EO# DENOTES EXTERIOR OPENING LOCATIONS

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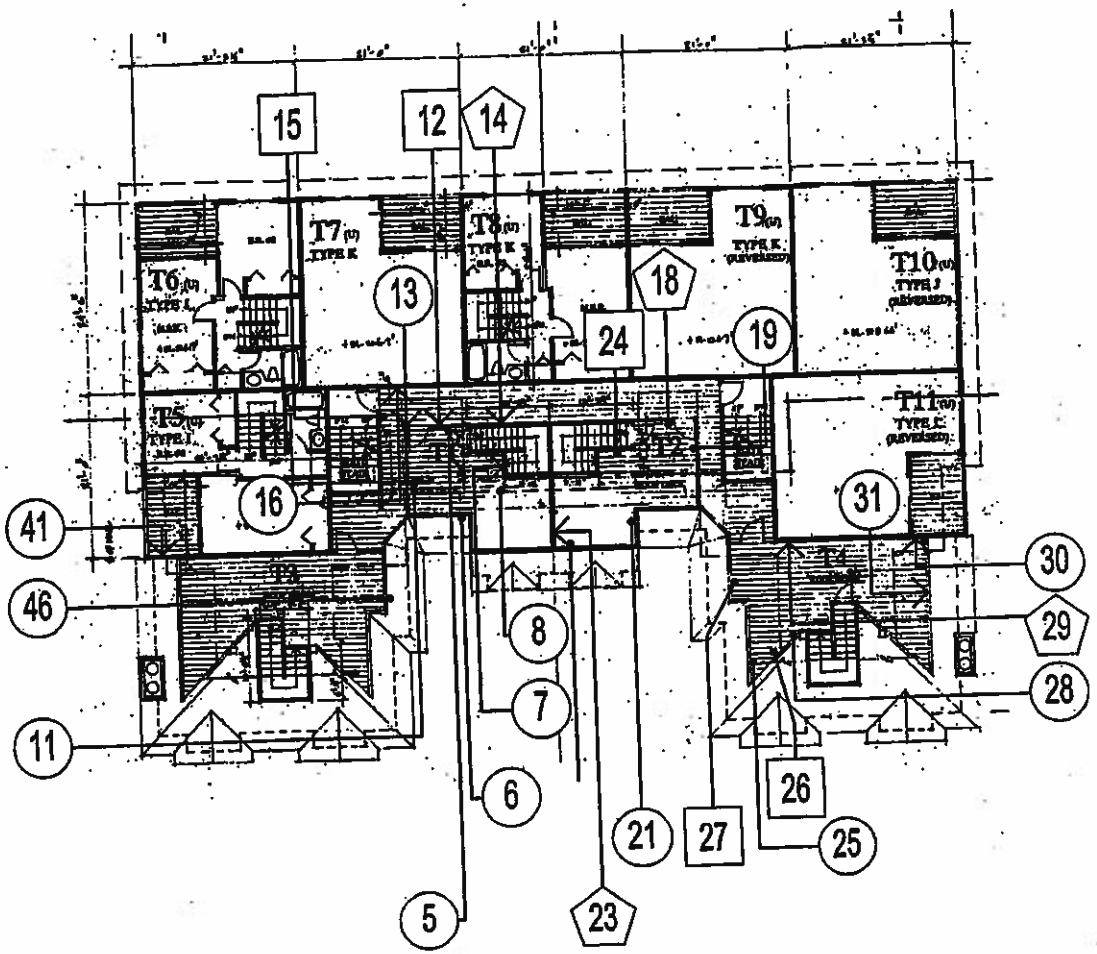

1 / - LEVEL 4 LOWER ROOF DECK PLAN
SCALE: 1/8" = 1'-0"

REPRODUCED FROM DRAWINGS BY BAKER MCGARVA HART DATED OCTOBER 7, 1993

TROW ASSOCIATES INC.
7025 Greenwood Street, Burnaby, British Columbia, V5A 1X7
Telephone: 604-874-1245
Fax: 604-874-2358

REVISIONS		
No.	DESCRIPTION	DATE

PROJECT: 3709 PENDER STREET, BURNABY, BC

TITLE: LEVEL 4 LOWER ROOF DECK PLAN

PROJECT NO.	DFTR.	DSGN.	CHK.	DATE	SCALE:	DWG NO.
071-03272	JT	DW	JSJ	OCTOBER 12, 2007	NTS	B-3.04

LEGEND: WOOD MOISTURE PROBE READINGS

——— LEADER DENOTES LOCATION OF MOISTURE PROBE READING ON WALL AS SHOWN.

EO# EO# DENOTES EXTERIOR OPENING LOCATIONS

- GREEN CIRCLE INDICATES A WOOD MOISTURE CONTENT READING 19.0% AND LOWER.

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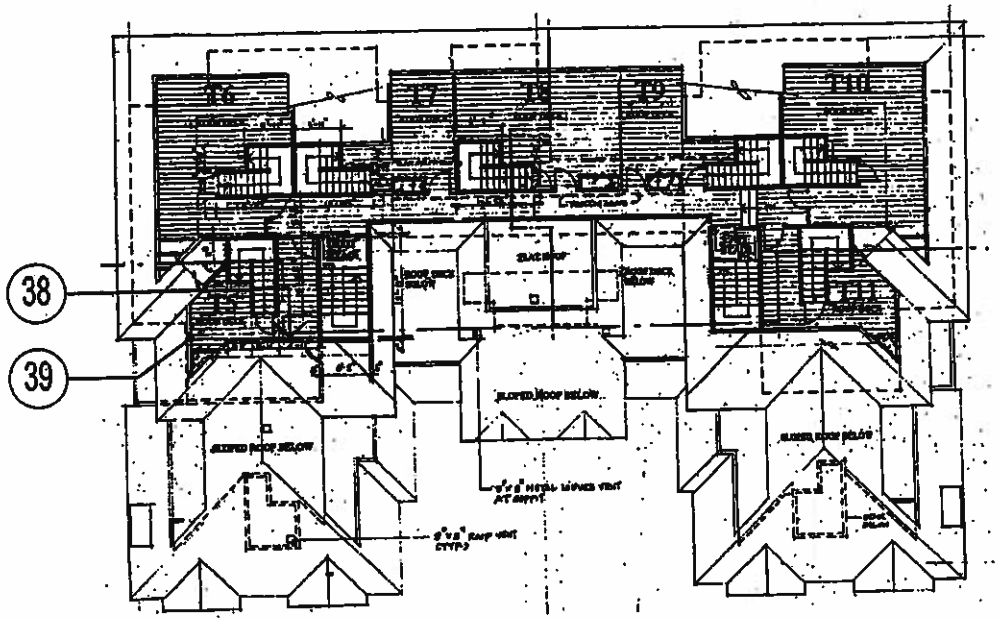

1 / - LEVEL 5 UPPER ROOF DECK PLAN
SCALE: 1/8" = 1'-0"

REPRODUCED FROM DRAWINGS BY BAKER MCGARVA HART DATED OCTOBER 7, 1993

Trow
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7025 Greenwood Street, Burnaby, British Columbia, V5A 1X7
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REVISIONS		
No.	DESCRIPTION	DATE

PROJECT: 3709 PENDER STREET BURNABY, BC

PROJECT NO.	DRN.	DSGN.	CHK.
071-03272	JT	DW	JSJ

TITLE: LEVEL 5 UPPER ROOF DECK PLAN

DATE	SCALE	DWG NO.
OCTOBER 12, 2007	NTS	B-3.05

Appendix E

Interpretation and Use of Study and Report

Trow 50 YEARS

Trow 50 YEARS

INTERPRETATION & USE OF STUDY AND REPORT

1. STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering consulting practices in this area. No other warranty, expressed or implied, is made. Engineering studies and reports do not include environmental consulting unless specifically stated in the engineering report.

2. COMPLETE REPORT

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between us and the Client, and to any other reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF THE REPORT

The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document are only valid to the extent that there has been no material alteration to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming the Report, are for the sole benefit of the Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT. WE WILL CONSENT TO ANY REASONABLE REQUEST BY THE CLIENT TO APPROVE THE USE OF THIS REPORT BY OTHER PARTIES AS "APPROVED USERS". The contents of the Report remain our copyright property and we authorise only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of the Report by those parties. The Client and Approved Users may not give, lend, sell or otherwise make the Report, or any portion thereof, available to any party without our written permission. Any use which a third party makes of the Report, or any portion of the Report, are the sole responsibility of such third parties. We accept no responsibility for damages suffered by any third party resulting from unauthorised use of the Report.

5. INTERPRETATION OF THE REPORT

a. Nature and Exactness of Descriptions: Classification and identification of soils, rocks, geological units, contaminant materials, building envelopment assessments, and engineering estimates have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature and even comprehensive sampling and testing programs, implemented with the appropriate equipment by experienced personnel, may fail to locate some conditions. All investigations, or building envelope descriptions, utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarising such investigations will be based on assumptions of what exists between the actual points sampled. Actual conditions may vary significantly between the points investigated and all persons making use of such documents or records should be aware of, and accept, this risk. Some conditions are subject to change over time and those making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose them so that additional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

b. Reliance on Provided Information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the report as a result of misstatements, omissions, misrepresentations or fraudulent acts of persons providing information.

c. To avoid misunderstandings, Trow Associates Inc. (Trow) should be retained to work with the other design professionals to explain relevant engineering findings and to review their plans, drawings, and specifications relative to engineering issues pertaining to consulting services provided by Trow. Further, Trow should be retained to provide field reviews during the construction, consistent with building codes guidelines and generally accepted practices. Where applicable, the field services recommended for the project are the minimum necessary to ascertain that the Contractor's work is being carried out in general conformity with Trow's recommendations. Any reduction from the level of services normally recommended will result in Trow providing qualified opinions regarding adequacy of the work.

6.0 ALTERNATE REPORT FORMAT

When Trow submits both electronic file and hard copies of reports, drawings and other documents and deliverables (Trow's instruments of professional service), the Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by Trow shall be the original documents for record and working purposes, and, in the event of a dispute or discrepancy, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute that the original hard copy signed version archived by Trow shall be deemed to be the overall original for the Project.

The Client agrees that both electronic file and hard copy versions of Trow's instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except Trow. The Client warrants that Trow's instruments of professional service will be used only and exactly as submitted by Trow.

The Client recognizes and agrees that electronic files submitted by Trow have been prepared and submitted using specific software and hardware systems. Trow makes no representation about the compatibility of these files with the Client's current or future software and hardware systems.