

June 2, 2010

MH Ref: 5105311.00

The Owners, Strata BCS 2884 C/o Eric Chua, Property Manager Crosby Property Management Ltd. Suite 600 – 777 Hornby Street Vancouver, BC V6Z 1S4

EChua@crosbypm.com

#### Re: 15 Month Common and 2 Year Warranty Review – " Lotus" 5900 Alderbridge Way & 7371-7373 Westminster Hwy, Richmond, BC

Morrison Hershfield (MH) was retained by the Owners of the Lotus located at the corner of 5900 Alderbridge Way and 7371-7373 Westminster Hwy (Strata Plan BCS 2884) in Richmond, BC to undertake a building envelope warranty review of their building complex. The review was performed to precede the end of the 15 month common area and two-year building envelope warranty. This letter report documents the results of our review. The results reported herein are based on information provided by the property manager, strata and an on-site visual review of accessible areas of the complex.

#### **Building Description and Background**

The complex consists of three 15-storey towers and four 2 storey townhomes. The complex is concrete framed and clad primarily with a window wall system. Some of the exterior walls are cast-in-place exposed concrete that have been coated with an elastomeric coating. There are 3 levels of above grade covered parking. The windows are thermally broken aluminum framed, double-glazed units commonly referred to as window wall. The main building roofs are flat. Most units are provided with balconies and some have accessible roof decks.

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Building Name and Strata Number:	Lotus BCS 2884
Building Addresses:	5900 Alderbridge Way & 7371-7373 Westminster Hwy., Richmond, BC
Number of Stories / Residential Units	3 Towers A, B & C – 15 storeys each,
	4 Townhomes – 2 storeys each
	Number of Units Total: 285
Age of Complex:	1 year plus

The following table provides additional background information of the complex:

Property Manager:	Crosby Property Management
Date of Occupancy:	Tower A - 1 <sup>st</sup> Phase 2009
Warranty Company:	Willis Canada Inc.
(Original) Envelope Consultant:	Morrison Hershfield Limited (MH)
Developer:	Cressey Development Corporation
Architect:	IBI Group
Contractor:	Cressey Developments

MH was the original building envelope consultant for this project therefore we are familiar with the complex and the relevant contract documents. We also provided a Maintenance Manual to the developer for the Strata's use and information.

#### Limitations

Our warranty review is based on a review of available documents, an Owner questionnaire and a visual review of accessible areas. The review also consisted of six Bosun Chair drops on the exteriors of each tower with two drops per building. Our review did not include an exploratory investigation, in terms of removing sections of cladding, drywall, roofing or landscaping for evaluation of the hidden systems beneath.

This report primarily documents a list of observed deficiencies relating to the building envelope including common areas. The deficiency listing does not include all locations with deficiencies nor do they imply all similar locations or items to be deficient.

Any comments or conclusions within this report represent our opinion, which is based upon our field review of physical conditions and our past experience. This review is limited to technical, construction and performance items.

Some of the findings herein are based on a random sampling and others are based on a visual review of the surface conditions. Deficiencies, which may exist but were not observed and recorded in this report, were not apparent given the level of study undertaken.

Owners, prospective purchasers, tenants or others who use or rely on the contents of this report do so with the understanding as to the limitations of the documents reviewed, the general visual inspection undertaken and understand that MH cannot be held liable for damages which may be suffered with respect to the purchase, ownership or use of the subject property.

#### **Survey Questionnaire**

The property manager sent out a Building Envelope Condition Survey from MH to the Owners of the Strata. The purpose of the survey was to have the owners report and or identify any known building envelope warranty related issues or concerns within their suites or the strata complex during the past one year plus. Of the 285 units in the complex, 36 questionnaires were returned to MH. The findings of the questionnaires are summarized in Appendix B. The majority of the items noted by the Owners in the surveys are non-building envelope related and therefore do not fall within the scope of this report. As we did not have access to a number of the suites to review the noted items if and where applicable to the building envelope, we recommend the findings in the surveys be further reviewed by the Strata with the property manager and developer.

#### Interior Suite Review

MH reviewed the interiors of various suites of each of the three towers. As per MH's proposal, MH had requested access be arranged to 5 suites per tower, and one townhome for a total of 16 suites. Suites with known or reported building envelope related issues were recommended to be included in the review. The Caretaker, Jun Liu, was able to arrange access for MH to 11 units. The visual review was for the purposes of reviewing building envelope related warrantable deficiencies only and was limited to accessible areas of the exterior walls, windows, exterior doors, ceilings at exterior walls, the balconies and or roof decks of the reviewed suites. The suites reviewed included A-607, A-506, A-1101, A-1106, A-1707, B-1503, B-1709, C-507, C-902, C-1107 and C-1801. A summary of observed building envelope related items relating to these suite reviews that should be addressed has been summarized in Table 1 ' Summary of Observations '.

In addition to the above, the Property Manager also informed MH of various owner reported leaks over the past year or so and of issues within the parkade. The leaks, some of which the property manager believes may have already been addressed by the developer, were reported in the following units with each unit prefixed by the appropriate tower: A-805, A-1209, A-1708, B-502, B-602, B-1102, B-1705, B-1706, B-1709 and C-1507. Of these suites, MH was provided access to review Units A-1708 and B-1709 and our observations for these can be found in Table 1. Reported issues by the Property Manager within the parkade included leaks at stall numbers 17 and 18 and Stair #8.

We recommend the Strata and Property Manager follow-up with the above noted Owners whose suites were not part of this review to confirm whether the reported item has been rectified (Refer to Table 1 – Item 50).

#### **Field Review Work**

The review was completed by Peter Boskovic of Morrison Hershfield Limited (MH) on April 26, 2010 and on May 3, 2010. Ray Murphy of Retro Specialty Contractors performed the bosun chair drops on May 3, 2010 with Peter Boskovic of MH in attendance. The weather during the review on April 26, 2010 was mainly cloudy with intermittent light rain in the morning and some mainly sunny periods in the afternoon with exterior temperatures ranging from 11°C to 14°C. The weather during the review

on May 3, 2010 varied between intermittent and heavy downpours in the morning to sunny and clear conditions in the afternoon. It was also quite windy for most of this review. The exterior temperatures ranged between 8°C to 13°C.

The building was reviewed from within the parking garage, from the exterior at ground level, at the accessible areas of the Level 3 roof decks along the north, south and west elevations, the Level 5 common courtyard and the main building roof levels of each tower. We also accessed some of the storage, bike and mechanical rooms from within the parkade.

The common areas reviewed included the main lobbies of each tower including the amenity rooms adjacent to the lobbies. The pool and spa area and the fitness room were also reviewed.

#### **Bosun Chair Drops**

The bosun chair (also known as the Boatswain Chair) is a device used to suspend a person from a rope to perform work aloft. It basically consists of a plank on which to sit that is, in this case, tied off at the roof and then the worker gradually lowers themselves over the roof edge and down the outside of the building. A second rope is used as a safety line. These drops were done to facilitate an exterior review of the upper floors.

As noted above in the field review work, bosun chair drops were done on each tower on May 3, 2010. Ray Murphy of Retro Specialty Contractors performed the drops. There were 2 drops done per tower and they were done as follows: (a) Tower A: Drop 1 was done along the south elevation between the '06' and '07' suites. Drop 2 was done along the east elevation between the '05' and '06' suites. (b) Tower B: Drop 3 was done along the east elevation along the '09' suite north of the east balcony. Drop 4 was also done along the east elevation but further north along the '01' suite on the south side of the balconies. (c) Tower C: Drop 5 was done along the south elevation between the '05' balconies. Drop 6 was done along the north elevation between the '09' suites just west of the balconies.

The location of the drops was partly limited due to the weather conditions which was quite windy the day of the review. The chosen locations were sheltered thus allowing the drops to proceed safely but still providing a random selection of various building details for review (e.g. balconies/decks and slab edge exhaust vents).

Overall, general items observed included loose or missing metal flashings, missing or failed sealants as well as some dryer vents that needed cleaning due to lint build-up. In some locations, the traffic coating application at some of the balconies appeared thin and there were areas with traffic coating or concrete splatter observed on the adjacent window system.

We have summarized our observations for the Field Review Work in Table 1 below and the Bosun Chair Drops have been summarized in Table 2. In each table, we have provided recommendations for addressing deficiencies under the "Corrective Action" column. Each item has been categorized according to the type of observation as follows:

- Category D A construction deficiency exists, in our opinion, when the observed conditions in the building complex differ from the intent of the documentation provided for review or from good construction practice. Such deficiencies are warranty items and should be brought to the attention of the appropriate company for correction.
- Category M A maintenance deficiency exists, in our opinion, when the
  observed conditions in the building complex are caused by general wear and tear
  on building components and equipment, or when they concern an item that has
  not received routine service, adjustments and/or cleaning. Such maintenance
  deficiencies should be corrected as part of the maintenance program.
- **Category I** A deficiency exists, in our opinion, where no clear decision can be made as to whether the problem is a design, construction or maintenance deficiency. Repairs to correct the deficiency or further investigation, e.g., test openings or material/component testing, is generally required.

Note that we are not privy to all warranty agreements and hence, some items listed as warranty items may not be included. The suite numbers listed in the report do not represent a total listing of all locations with deficiencies nor do they imply all similar locations or items to be deficient.

We have included in Appendix A, sample photographs taken during our review.

Photo/ item	Sample Location	Deficiency Description	Category	Corrective Action
1	Level P1: Near Parking Stall #54	Water staining at door threshold / base of wall near Telephone / Television Room.	1	Further review required to determine source of moisture and whether it is building envelope related.
2	Level P1: Various locations.	Efflorescence observed along base of walls and slab (e.g. Stall #34, 42). Similar condition observed at various other locations within parkade.	1	Further review required to determine source of moisture and whether it is building envelope related.
3	Stair#8: West Elevation	The caretaker reported moisture and dampness along the base of wall at the interior corridor. Staining and peeling paint was observed along the base of wall near the door threshold. Exterior sidewalk slopes towards door threshold.	D	Sidewalk should slope away from building.

### Table 1: Summary of Observations

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Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
4	Level P1: Near Parking Stalls #15- 18	Moisture pooling along base of walls and columns at back of stalls (East Wall).	I	Further review required to determine source of moisture and whether it is building envelope related.
5	Level P1: Near Parking Stalls #12	Spalling, peeling paint and concrete cracks telegraphing out from bottom corner of spandrel window. Similar observations along same north wall windows at Levels P2 (Stall#105) and P3 (Stall#278).	D	Repair and seal cracks as required.
6	Stair #7 Level P1	Some minor staining and corrosion observed at threshold and jamb transition of exit door.	I	Further review required to determine source of moisture and whether it is building envelope related.
7	Generator Room	Moisture ingress observed at bottom right corner of louvre along west wall of room. Efflorescence also observed along slab and wall interface.	D	Review and seal perimeter of louvre as required.
8	Generator Room	Pooling water along east wall of room below mechanical equipment. Based on location of equipment (i.e. interior wall location) do not believe this is a building envelope item.	I	Review mechanical system.
9	Stair #7 Level P2	Efflorescence and peeling paint at exterior east wall and ceiling interface just south of window where concrete and concrete block transition. Efflorescence may be a sign of moisture ingress.	D	Remove efflorescence, repair and seal cracks as required. Monitor whether efflorescence returns. (Note: Refer to Item 47 which may be related).
10	Level P2	Traffic coating delaminating in drive aisle near Stall # 132/133 and #130. Similar near Stall #144 / 145 and P3 Stall #330, 347.	D	Review and repair traffic coating at all locations as required.

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
11	Level P2	Cracks in suspended slab telegraphing through at various locations of parking levels. Pre- stripping of cracks typically required prior to traffic coating application.	D	Review and repair traffic coating with pre-strip at all locations as required.
12	Stair #8 - Level P2	Cracks and spalling concrete observed along top of north wall to underside of ceiling transition. Caretaker stated that no moisture is observed along this transition. Note. Similar condition observed at other Levels of this stairwell and at Stair#10 East and south walls of intermediate landing of Level P3.	D/I	Further review required to determine reason for cracking and spalling of concrete.
13	Stair #8 – Level P3	We observed cracks routed out along the north and east wall at the landing adjacent to Level P3 and the adjacent roof deck at townhome roofs. Caretaker stated that this is due to repairs of previous moisture ingress observed along these locations.	D	Repair and seal cracks as required. Recoat exterior with elastomeric coating.
13a	Stair#10 – Level P3	Interior cracks telegraphing out from bottom right corner of north punched window location. Also, crack observed at adjacent door head.	D	Repair cracks as required.
14	Level 3 South	Corrosive staining observed on exterior wall from exhaust pipe penetration.	D/M	Re-detail to prevent staining.
15	Level 3 South	The sill cap glazing stop for the window next to the louver is not installed properly. Also, the glazing stop for the adjacent window was not installed but was sitting on the concrete sill.	D	Re-install sill cap glazing stops as required.

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
16	Stair#12 - Level 3 West	We observed on-going repairs to the west and south walls at the bottom of Stair #12 leading from the Level 5 courtyard to the Level 3 townhome roofs. Item related to Item 13 above (Stair#8).	D	Repair and seal cracks as required. Recoat exterior with elastomeric coating.
17	Level 3 – Stair#10 North	We observed extensive peeling of paint on the exterior base flashing at the stair landing.	D	Replace or re-finish metal base flashing.
18	Tower B West Elevation	Top panel of Amenity Room glazing just north of main entry coated with dust.	Μ	Clean glazing regularly as per maintenance manual recommendations.
18a	Tower B – Main Entry Canopy	Corrosion of the structural steel for the canopy was observed. Similar observations at canopies over entries to townhomes and at the canopy above the level 5 sliding patio door at Unit A506.	D/M	Remove corrosive staining and recoat as required with corrosive resistant paint.
19	Tower A - Stair#7 North Elevation @ Level 1	The metal sill flashing at the outside corner of the sill of the stairwell curtain wall was not sealed at the mitred corner and the flashing was negatively sloped.	D	We recommend sealing flashings and flashings should be positively sloped.
20	North Wall Of Parkade – Various Locations	MH observed delaminating elastomeric coating above the easterly most window at Level P2. Similar observations were observed along the east elevation wall and at various building elevations of the Towers at Level 5.	D	Rectify elastomeric coating application as required.
21	Tower B - East Elevation	Evidence of a previous concrete repair to the concrete wall was observed near the south end of the east elevation. Repair was also done to interior side of wall.	D	The caretaker confirmed repairs were due to water ingress. Repair appears to have rectified ingress. Exterior should be re- coated with elastomeric.

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
22	Tower B Main Roof	The roof drain at the east side of the roof appears to be blocked (i.e. standing water observed within drain). Similar observation at Tower C roof drain at north elevation adjacent to B-vent.	M	Clear drain blockage and ensure all drains are reviewed regularly and cleared of debris as per maintenance manual.
23	Tower B Main Roof – Glazed Enclosure	Sealant was missing at the inside corner sill at the transition from the top of the parapet to the window wall enclosure behind the structural HSS column.	D	Apply sealant as required.
24	Tower B Main Roof – Mechanical Penthouse Roof Above HW Tank Room	A negatively sloped scupper pipe was observed at the south side of the Hot Water Tank Room.	D	Scupper pipe should be positively sloped.
25	Tower B Main Roof	Exit light broken and hanging from concrete soffit by wires. (Note: Exit light also broken and dangling from wires at Tower C main roof.)	М	Repair exit light.
25	Tower B Main Roof	Efflorescence was observed at the underside of the concrete eyebrows at various locations(same photo for Item 25). Efflorescence may be a sign of moisture ingress from above due to cracks in concrete. Note: Similar observations at Tower A & Tower C eyebrows at main roofs.	Μ	Remove efflorescence and monitor for reappearance. Review top of concrete eyebrow above location of efflorescence for cracks and repair if and where observed.
26	Tower A Main Roof	A window washing anchor plate was missing at the southwest corner of the glazed rooftop enclosure. Also, the wall mounted window washing anchors are not sealed around the perimeter.	D	Replace missing window washing anchor or rectify metal base flashing (i.e. replace to cover hole in flashing). All wall penetrations should be sealed.



Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
27	Tower C Main Roof	Numerous B-vents have been wrapped in insulation and duct tape. May be due to in-active b- vents.	D	Confirm if b-vents are active. If not active, close off with permanent cap.
28	Tower C Main Roof	Failed sealant was observed at some of the collars at the B- vents. Also observed at some Tower A and B locations.	D	Replace failed sealant as required.
29	Interior Suite Review – A506	No observed or reported issues at this suite. Failed sealant observed at exterior window coupler above this suite along east elevation above patio.	D	Replace sealant as required.
30	Interior Suite Review – A1106	Finish on metal flashing appears to be flaking off. Metal flashing coating issue also observed at Tower C Level 5 north at Unit C509 at patio.	I/D	Review metal flashing finish with supplier / installer.
31	Interior Suite Review – A1708	Owner reported previous water ingress at southeast corner of bedroom ceiling has been rectified. Sealant is missing at underside of concrete soffit above window wall at north and east walls of balcony. Sealant missing at balcony of Units B903, B1003 and B1503.	D	Add sealant to all similar locations as required.
32	Interior Suite Review - B1503	Hairline crack at underside of north eyebrow at exhaust grille telegraphing through to inside of suite at kitchen / dining area. No current evidence or owner reported issues of moisture from this crack at this time.	Μ	Monitor crack for signs of staining and or potential moisture ingress.

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
33	Interior Suite Review - B1709	The owner advised that he had moisture ingress at the base of an interior wall of his bedroom adjacent to the bathroom. Staining on the carpet and baseboard were observed by MH at this time. The location would suggest this is not building envelope related.	1	Strata to review further with developer / mechanical consultant / contractor.
34	Interior Suite Review – C507	Owner reported a small interior crack along the interior side of the bedroom window jamb at the north west corner of the room near the window sill. Crack appears to be related to the interior drywall finish (i.e. does not appear to be envelope related).	I/D	Strata to review with Property Manager / developer
35 (No Photo)	Interior Suite Review – C507	Swing door to patio difficult to open. Similar at Unit A1106.	D	Re-adjust door as required to enhance ease of operation.
36	Tower C – West Exit Door to Level 5 Courtyard	Owner of Unit C507 pointed out daylight visible between left side of exit door and window frame. Daylight was observed by MH.	D	An air and moisture seal should be provided at the window frame to door coupler per typical design.
37	Interior Suite Review – C902	A crack and concrete patch / spalling / delamination of elastomeric coating was observed along the bottom reveal of the concrete fin wall at the north end of the east balcony.	D	Repair concrete and recoat with elastomeric coating.
38	Interior Suite Review – C902	Owner reported staining and delaminating ceiling texture at north wall of bedroom. Appears to be drywall finishing and therefore non-envelope related item.	I	Strata to review further with developer.

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
39	Interior Suite Review – C1107	Owner reported dis-colouration / staining at bedroom ceiling and south wall interface and uneven gypsum wallboard near ceiling in same bedroom. Appears to be drywall finishing and therefore non-envelope related item.	I	Strata to review further with developer.
40	Tower B – Unit B-501 - Glazed Canopy above Sliding Door	The sealant along the back edge of the canopy glazing to window system has failed. Current detail requires regular maintenance of sealant and is not very durable.	D	Re-detail. Consider adding drip flashing above canopy to deflect run-off from window system onto canopy instead of relying on sealant.
41	Tower B Level 5 Exit Door	The door threshold at the north elevation exit door is not properly support.	D	The threshold should be realigned and properly supported.
42	Tower A – Unit A706 East	A metal closure is missing from the window system at the transition from the window spandrel panel to the corner post on both sides of the outside corner post.	D	Provide metal closure to close off vertical transition.
43	Tower A – Unit A906 East	The outside corner post and adjacent metal flashing is dented creating a gap between the flashing and corner post. Similar observation directly below at Unit A806.	D	Metal flashing should be corrected. Gap should be closed off.
44	Tower C – Amenity Room South	An ant hill was observed at the exterior of the bottom right corner of the double doors. Ants were observed on the interior side of the door also.	М	Remove ant hill and provide weather stripping to underside of door.

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
45	Indoor Pool and Spa Amenity Area	Excessive condensation was observed on the windows within the pool and spa areas. Water droplets were observed on the undersides of the window heads and water was pooling along the sills and adjacent interior finishes. A musty chlorinated odour was also present. The indoor temperature in the afternoon was 26.7 degrees with a relative humidity (RH) of 60 %. Prolonged exposure of the interior finishes to excessive condensation may lead to premature deterioration of the interior finishes.	1	The mechanical system should be reviewed by the mechanical consultant to ensure the system is operating as intended to control the indoor temperature and relative humidity levels.
46	Tower B – Level 2 South (Above Water Feature)	Sealant was missing along the window jamb to concrete wall transition just around the corner from the main Tower B entry.	D	Add sealant to jamb location.
47	Level 3 Roof Deck North	The door leading to the Level 3 roof deck at the north elevation did not have any waterproofing membrane along the door threshold (i.e. exposed concrete). Also the concrete upstand along the stair that meets the building wall on the south side of the door does not have any waterproofing or metal flashing saddles. Cracks were observed along the top and sides of the upstand. Note: Based on proximity, this item could potentially be related to Item 10 previously noted.	D	Threshold should be waterproofed and waterproofing membrane and metal flashing saddles should be provided at the concrete upstand to building wall transition. (Note: Refer to Item 9 which may be related).

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
48	Level 3 Roof Deck North	A number of the windows along the north wall of this Parking Level do not have any waterproofing membrane or metal sill flashings. Some sill flashings resting on ground below window.	D	Waterproofing membrane and metal sill flashings should be provided.
49	Level 3 Roof Deck North	There is an exposed square opening in the wall at the east end of this roof level which leads to the underside of Stair#11. This could be a potential safety issue as well as a potential source for water ingress as well as possible nesting location for birds and or rodents.	D/M	The opening should be closed off.
50 (No Photo)	Units with Previous History	The following units were identified to us by the Property Manager as having previously reported issues by the Owners. The property manager advised MH that they are uncertain whether the reported issues are building envelope related and whether they have been addressed. Unit A805, A1209, A1708, B502, B602, B1102, B1705, B1706, B1709 and C1507.	I	We recommend the Strata follow-up with each of the noted unit owners to confirm whether the item has been addressed.

### Table 2: Summary of Bosun Chair Drop Observations

Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
B1	Tower A – Bosun Chair Drop 1 South – Unit 1805	Metal sill flashing loose and negatively sloped. Note: In photo, flashing has been pulled out away from blueskin membrane (i.e. blueskin was not exposed to UV).	D	Flashing should be well secured and positively sloped.



Photo/ Item	Sample Location	Deficiency Description	Category	Corrective Action
B2	Tower A – Bosun Chair Drop 1 South	Footprint visible at balcony traffic coating application exposing concrete substrate. Membrane thickness appears thin.	D	Membrane application should be applied to conceal concrete substrate.
B3	Tower A – Bosun Chair Drop 1 – South	Lint build-up was observed within the exhaust vents. Observed at Levels 8, 10 and 15.	М	Annual cleaning of dryer vents is recommended.
B4	Tower A – Bosun Chair Drop 2 – East	Negatively sloped metal head flashing at upper floor unit.	D	Metal flashings should be positively sloped away from building.
B5	Tower A – Bosun Chair Drop 2 – East Top Floor Unit	Metal vent hood not painted and showing signs of corrosion. Also, sealant is failing along side of vent hood and missing along transition from concrete to window head in background of photo. Also, elastomeric coating delaminating adjacent to vent hood.	D	Vent hood should be painted and sealant should be provided at transition between concrete and window head. Failed sealant should be replaced and elastomeric coating should be rectified.
B6	Tower B – Bosun Chair Drop 3 – East – Top Floor Unit	Metal closure flashing missing at outside corner. Also, observed flashing negatively sloped and lose. Also, sealant is missing along transition from concrete to window head in background of photo.	D	A closure flashing should be provided at inside and outside corners and the metal flashings should be positively sloped away from building and properly secured. Provide sealant between dissimilar materials.
B7	Tower B – Bosun Chair Drop 4 – East –	Poorly fitted closure flashing at outside corner and flashing s negatively sloped.	D	Metal flashings should be positively sloped away from building.
B8	Tower C – Bosun Chair Drop 5 – South	Traffic coating splattered on window frame. Observed at various locations	D/M	Remove splatter from window system.

#### Summary

MH conducted a visual deficiency review for the purposes of the 15-month common area and 2 year building envelope warranty review. We reviewed the building envelope components, where accessible, including wall components, windows, balconies, roof decks, the landscaped Level 5 Courtyard Podium, and the main building roofs of each tower. We also reviewed the pool and spa and fitness room in the amenity area between Towers B and C as well as the building lobbies and adjacent amenity rooms.

In general, the building appears to be performing in accordance with the original design intent, but we have identified a few items that require further investigation, others that should be corrected under warranty and some that require maintenance by the Strata to ensure that the performance of the building is in accordance with the design intent.

- We observed a number of locations around the complex where sealant was either missing and or has failed. We recommend all areas with missing and or failed sealant is rectified where and as required.
- We observed a number of locations where the elastomeric coating is delaminating. The coating application should be rectified.
- In a number of observed locations, metal flashings at the window systems were loosely attached and or negatively sloped or both. Metal flashings should be secure and positively sloped to deflect water away from the building envelope.
- Cracks at the underside of the balcony soffits, especially near the exhaust grilles located at the balcony soffits and at the undersides of the concrete eyebrows was a fairly common observation. Efflorescence was also observed at some of these cracks, primarily at the eyebrow locations. We recommend the efflorescence be cleaned off and the eyebrows be reviewed for cracks along the top surface. If the efflorescence returns, it may suggest that moisture could be entering from cracks along the top surface.
- Amenity Pool and Spa Excessive condensation was observed within the pool and spa area. A mechanical consultant should review the settings and operation of the HVAC system within this area to ensure the system is operating as intended to control the temperature and relative humidity levels.
- The status of some issues which may or may not be building envelope related for a number of units identified by the property manager to MH is unknown. We recommend the property manager and Strata follow-up with the individual owners to confirm whether the reported items have been addressed.
- Maintenance items observed that should be performed by the Strata include such items as cleaning of the parkade deck membrane, cleaning of lint from exhaust ducts and ensuring all roof / deck drains are cleared of debris allowing uninhibited drainage.

MH provided a maintenance manual to the Strata for their use. No updated records were provided to MH for the purposes of this report. We recommend that the strata have and use the maintenance manual regularly to help keep track of maintenance activities and log the activities of the tasks performed. This could be in the form of a logbook identifying the maintenance item, the date it was performed and the name of

the maintenance service provider with contact name and telephone number. These records are useful in the evaluation of the warranties and also provide valuable information at the point the maintenance program will need to be updated and can be used to plan for renewals.

We trust the above meets the Strata requirements for a warranty review. Please do not hesitate to contact the undersigned should you have any questions.

Sincerely,

MORRISON HERSHFIELD LIMITED

Peter Boskovic / Building Envelope Consultant

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D. FOOKES 27562 RITISH GINES

David Fookes, P.Eng. *Project Engineer* 

# APPENDIX A: Photographs







Photo 1



Photo 2





Photo 3

Photo 4





Photo 5





Lotus - 15 Month Common - 2 Year Warranty Review

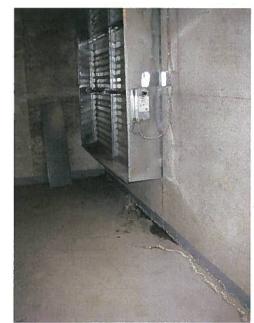


Photo 7



Photo 8



Lotus - 15 Month Common - 2 Year Warranty Review







Photo 10



Photo 12

Lotus - 15 Month Common - 2 Year Warranty Review

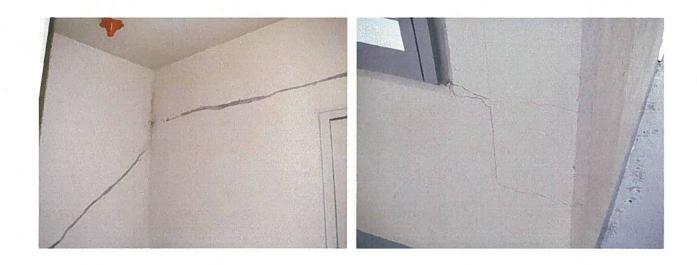


Photo 13a











Lotus - 15 Month Common - 2 Year Warranty Review



Photo 17





Photo 18a







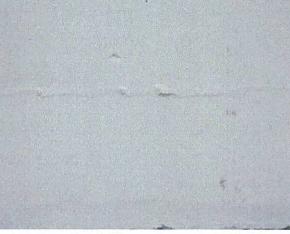


Photo 20





Photo 22



Lotus - 15 Month Common - 2 Year Warranty Review



Photo 23

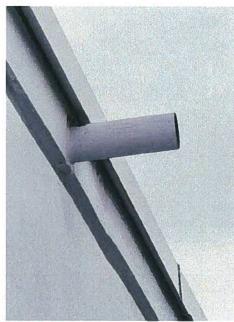


Photo 24



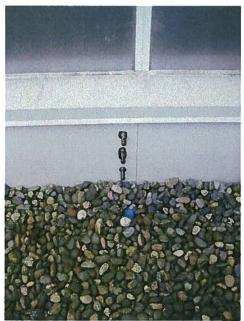


Photo 25

Photo 26



### Lotus - 15 Month Common - 2 Year Warranty Review



Photo 27



Photo 28





Photo 29

Photo 30



Lotus - 15 Month Common - 2 Year Warranty Review





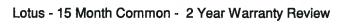
Photo 31

Photo 32











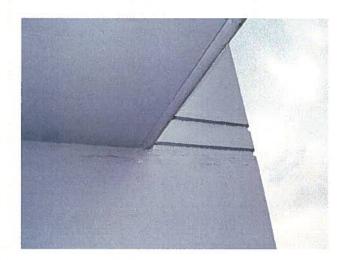


Photo 37

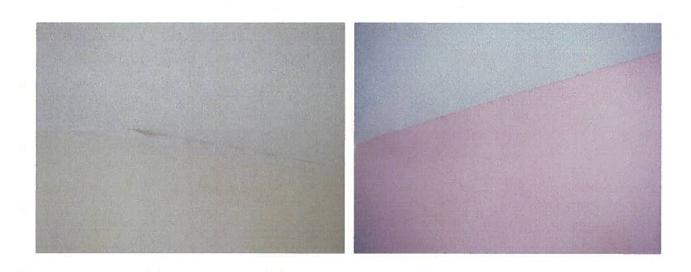


Photo 38

Photo 39



## Lotus - 15 Month Common - 2 Year Warranty Review

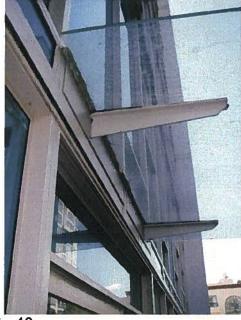


Photo 40



Photo 41



Photo 42





Lotus - 15 Month Common - 2 Year Warranty Review





Photo 45





Photo 46

Photo 47



### Lotus - 15 Month Common - 2 Year Warranty Review





Photo 48

Photo 49



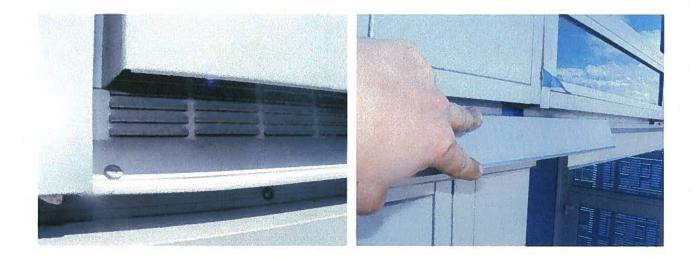


Lotus - 15 Month Common - 2 Year Warranty Review



**B1** 

**B**2



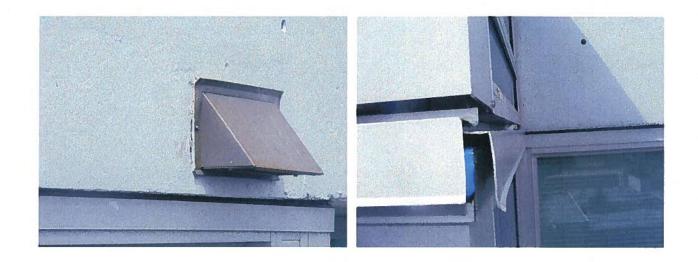
**B**3

**B4** 

June 1 2010 Report Bosun Chair Drop Photos



Lotus - 15 Month Common - 2 Year Warranty Review



**B5** 

**B**6



**B**7

**B8** 

June 1 2010 Report Bosun Chair Drop Photos

# APPENDIX B: Survey Questionnaire Summary

## Water Leakage Location

1201 S 1208 N 603 N 703 N 709 N	W SW NW NW N SE S								
1201 S 1208 N 603 N 703 N 709 N 803 S	SW NW NW NW SE S								
1208 N 603 N 703 N 709 N 803 S	NW NW NW SE S								
603 N 703 N 709 N 803 S	NW NW SE S								
703 N 709 N 803 S	NW N SE S				*   *   t				
709 N 803 S	N SE S								
803 S	SE S N								
	S N								
907 S	N								
					pr. (1973) - 20				
909 N									
A120 V							(		
	SE		-						
A180 N				100 mmm					
A705 E				$\checkmark$			[]		
	SW				A segmentaria				
	NE								
B150 S									
B150 E B160 S								Parenty .	
B505 V									
B609	~~				andre so - M				
B906 S	sw								
	SE								
C100 E									
C110 W									
C110 N	w	(m							
C120 E	E								
C150 W	N								~
C502 E	Ē								
C507 W	N		P resulting						
C603 S	SE								
C701 S	SE								
C708 N	W								
C802 E	Ē								

### Lotus

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Unit E	Exposure	Living Area	Dining	Kitchen	Bthrm Main	Bthrm 1_	Bdrm Mstr	Bed Rm1	Bed Rm2	Den	Solarium	Other
C806 S	sw	$\Box$										
C901 S	SE											
C908 N	NW								and the second	$\Box$		
								•				

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# Leakage by Location

Location of Reported Water Leakage:									
Phase	e Unit	Expo	Walls	Ceilings	Floors	Windows	Sloped Windows	Doors	
HR	1007	w	0	0	0	0	0	0	
HR	1201	SW	0	0	0	0	0	0	
HR	1208	NW	0	0	0	0	0	0	
HR	603	NW	0	0	0	0	0	0	
HR	703	NW	0	0	0	0	0	0	
HR	709	N	0	0	0	0	0	0	
HR	803	SE	0	0	0	0	0	0	
HR	907	S	0	0	0	0	0	0	
HR	909	Ν	0	0	0	0	0	0	
HR	A1209	w	0	0	0	0	0	0	
HR	A1606	SE	0	0	0	0	0	0	
HR	A1802	N	0	0	0	0	0	0	
HR	A705	E	0	1	0	0	0	0	
HR =	A706	SW	0	0	0	0	0	0	
HR	B1101	NE	0	0	0	0	0	0	
HR	B1503	SW	0	0	0	0	0	0	
HR	B1509	Е	0	0	0	0	0	0	
HR	B1608	S	0	0	0	0	0	0	
HR	B505	W	0	0	0	0	0	0	
HR	B609		0	0	0	0	0	0	
HR	B906	SW	0	0	0	0	0	0	
HR	B908	SE	0	0	0	0	0	0	
HR	C1002	E	0	0	0	0	0	0	
HR	C1107	W	1	0	0	0	0	0	
HR	C1108	NW	0	0	0	0	0	0	
HR	C1202	E	0	0	0	0	0	0	
HR	C1507	W	0	1	0	0	0	0	

## Location of Reported Water Leakage:

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hase	Unit	Expo	Walls	Ceilings	Floors	Windows	Sloped Windows	Doors		
R	C502	E	0	0	0	0	0	0		
R	C507	w	0	0	0	0	0	0		
R	C603	SE	0	0	0	0	0	0		
R	C701	SE	0	0	0	0	0	0		
R	C708	NW	0	0	0	0	0	0		
R	C802	Е	0	0	0	0	0	0		
R	C806	SW	0	0	0	0	0	0		
R	C901	SE	0	0	0	0	0	0		
R	C908	NW	0	0	0	0	0	0		
	Sub	total:	1	2	0	0	0	0	=	3
% By	y Loca	tion:	33.33%	66.67%	0. <b>0</b> 0%	0.00%	0.00%	0.00%	=	100%

### Location of Reported Water Leakage:

Total Number of Responses:36Total Number of Units:285Total Occurances of Water Leakage:3

8.33% of All Survey Responses Reported At Least One Instance of Water Leakage



# **Detailed Balcony Report**

Phase	Unit	Exposure	Pooling	Coating Problems	Ceiling Stains	Wall Stains	Comments
łR	1007	W				And and a set	
	1201	SW					
	1208	NW		<u> </u>			
	603	NW					
	703	NW					
	709	N					
	803	SE					
	907	S					
	909	Ν	hearing				
	A1209	W					
	A1606						
	A1802	N					balcony concrete tiles has mildew substance
	A705	E		$\checkmark$			
	A706	SW					
	B1101	NE					
	B1503	SW					
	B1509	E					
	B1608	S					
	B505	W					
	B609						
	B906	SW					
	B908	SE					
	C1002	E					
	C1107	W					
	C1108	NW					
	C1202	E					
	C1507	W					
	C502	E					
	C507	w					
	C603	SE		171			
	C701	SE	and the second se				
	C708	NW				- Fi	
	C802	E					
	C806	SW					
	C901	SE					
	C908	NW		=	-		

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# Summary Of Comments

Phase	Unit	Comments	Mildew	Doors	Windows
HR	B110	grout coming off in places around the pool			4-11-1 1

	Missing sealant of sliding glass (sim @ suite 903, interlaminar at some balconies need			
--	---	--	--	--

B160		Fire doors in the building that are misaligned	

B609	handsink & bath tubsilicone worn out	

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# Parkade Summary

Phase	Unit	Parking_Drips:	Efflorescence	Broken Concrete
HR				- <u> </u>
	1007			
	1201			
	1208			
	603			
	703			
	709			
	803			
	907			
	909			
	A1209			
	A1606			
	A1802			
	A705			
	A706			
	B1101			
	B1503			
	B1509			
	B1608			
	B505			
	B609			
	B906			
	8908			
	C1002			
	C1107			
	C1108			
	C1202			
	C1507			
	C502			
	C507			
	C603			
	C701			
	C708			
	C802			
	C806			

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Phase	Unit	Parking_Drips:	Efflorescence	Broken Concrete
	C901			
	C908			

·



## Window Summary

Water Leakage	0
Air Leakage	1
Condensation	1
Broken Glass	0
Difficulty Using	1
Misaligned Windows	0
Noises	4
Deteriorated Finishes	2
Rusting Screws	0

## Sloped Window Summary

Water Leaks		0
Air Leaks		1
Condensation		0
Broken Glass		0

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