

In the Matter Of:
ELLIOT LAKE COMMISSION OF INQUIRY

DAY 23
April 09, 2013



Neeson & Associates
COURT REPORTING AND CAPTIONING INC.

141 Adelaide Street West | Suite 1108
Toronto, Ontario M5H 3L5
1.888.525.6666 | Fax: 416.413.0230

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

ELLIOT LAKE COMMISSION OF INQUIRY

--- This is Day 23 in the Inquiry proceedings held before the Honourable Justice P.R. Belangér, Commissioner, at the White Mountain Academy of the Arts, 99 Spine Road, Elliot Lake, Ontario, on the 9th day of April, 2013 commencing at 9:00 a.m.

REPORTED BY: Helen Martineau
Certified Shorthand Reporter

1 A P P E A R A N C E S:

2 NADIA AUTHIER, Ms.,

3 BRUCE CARR-HARRIS, Esq., Commission Counsel

4

5 ALEXANDRA CARR, Ms., ELMAC/SAGE

6

7 DOUGLAS KEARNS, Esq., Elliot Lake Retirement

8 Living and NorDev

9

10 MICHAEL SHOEMAKER, Esq., City of Elliot Lake

11

12 JOSEPH BISCEGLIA, Esq., Greg Saunders

13

14 ROBERT MACRAE, Esq., Robert Wood

15

16

17 Also present:

18 NEIL PERRIER, Esq., for Jeff Truman

19 JOHN PICONE, Esq.,

20 JAMES HODGSON, Esq.,

21

22

23

24

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I N D E X

WITNESS	PAGE
JEFF TRUMAN, affirmed	
EXAMINATION-IN-CHIEF BY MS. AUTHIER.....	4512-4647
CROSS-EXAMINATION BY MR. KEARNS.....	4648-4679
CROSS-EXAMINATION BY MR. SHOEMAKER.....	4679-4684
CROSS-EXAMINATION BY MR. MACRAE.....	4684-4690
CROSS-EXAMINATION BY MR. BISCEGLIA.....	4690-4695
RE-EXAMINATION BY MR. PERRIER.....	4696-4709
RE-EXAMINATION BY MS. AUTHIER.....	4709-4714

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

INDEX OF EXHIBITS

NO.	DESCRIPTION	PAGE
No. 2327	Drawing S4 from Exhibit No. 1976 depicting where topside holes as per Jeff Truman.	4544

1 --- Upon commencing at 9:00 a.m. on
2 Tuesday, April 9, 2013.

3 THE COMMISSIONER: Morning everybody.
4 Good morning, sir.

5 MS. AUTHIER: Morning, Mr. Commissioner.
6 This morning commission counsel will be calling
7 Mr. Jeff Truman. And to my right Mr. Truman's
8 counsel is seated here, Mr. Neil Perrier.

9 THE COMMISSIONER: Mr. Perrier, good
10 morning.

11 MR. PERRIER: Good morning, sir.

12 JEFFREY TRUMAN, affirmed

13 EXAMINATION-IN-CHIEF BY MS. AUTHIER:

14 Q. Good morning, Mr. Truman. Thank you
15 for coming here today. I am going to start out by
16 going through a bit of your background and I'd ask
17 you to confirm or provide further details as we go
18 through. You are a structural engineer.

19 A. Civil engineer.

20 Q. Civil engineer. And you actually
21 lived in Elliot Lake from the time you were a year
22 old until the time you left for university?

23 A. Correct.

24 Q. And as an engineer you started
25 working at Halsall in 1996?

1 A. Yes, I worked a summer there in
2 1995.

3 Q. As a student?

4 A. As a student.

5 Q. And was Halsall your first place of
6 employment after graduation?

7 A. Yes.

8 Q. And what university did you go to?

9 A. Waterloo.

10 Q. And your degree?

11 A. Civil Engineering.

12 Q. Did you have a specialty or
13 specialization?

14 A. They call it Structural Engineer.

15 Q. And you obtained your P.Eng. in
16 1998?

17 A. Yes.

18 Q. And is it correct that you remained
19 at Halsall until June of 1999?

20 A. That's right.

21 Q. And you were the one that attended
22 at and inspected the Algo Mall and prepared the
23 report dated May 1999?

24 A. Yes.

25 Q. And then after that you left about a

1 month or two -- you left your employment with
2 Halsall to go elsewhere?

3 A. That's correct.

4 Q. And where did you go after Halsall?

5 A. I went to do some private consulting
6 work with a company called Gergis and about a year
7 later I moved to BC.

8 Q. And what are you doing currently?

9 A. Currently self-employed. I own a
10 small consulting practice in Toronto.

11 Q. When you were with Halsall what type
12 of work were you performing?

13 A. Mostly building restoration,
14 concrete restoration and building assessments.

15 Q. And prior to attending at the Algo
16 Mall had you ever inspected any parking garages?

17 A. Several, yes.

18 Q. And what about buildings with a
19 similar construction to the Algo Mall where you
20 had a rooftop parking with commercial space?

21 A. I don't think I'd ever seen
22 something like that before, a rooftop parking over
23 commercial spaces.

24 Q. So it's fair to say that the Algo
25 Mall was likely the first time you'd seen that

1 type of construction?

2 A. Well, the -- when you say "type of
3 construction" to an engineer that to me means
4 steel beams with the precast deck. I had seen
5 many structures like that just not one with a
6 parking structure over top of the mall.

7 Q. Okay, thank you. Prior to
8 attending -- and sorry, for the 1999 report do you
9 recall when you attended at the Algo Mall?

10 A. I didn't until I reviewed my notes
11 but it was early April that year.

12 Q. Prior to attending at the Algo Mall
13 in early April of 1999 had you reviewed the 1998
14 report prepared by Mr. Celli?

15 A. I believe I did. I don't recall
16 reviewing it specifically.

17 Q. And what about the portion of the
18 report that had been drafted by Nicholls Yallowega
19 Bélanger?

20 A. You mean the entirety of the
21 prepurchase inspection report?

22 Q. Yes.

23 A. I don't recall if I read that or
24 not.

25 Q. Okay. Do you recall if you reviewed

1 any of Mr. Celli's notes or the photos he had
2 taken?

3 A. I don't recall that, no.

4 Q. Okay. And did you have any
5 discussions with Mr. Celli?

6 A. I must have, I don't recall a
7 specific conversation but that would have been
8 done as a matter of course, a matter of
9 transmitting the knowledge that he had obtained to
10 me so I'm sure we had that conversation.

11 Q. So you don't recall specifics?

12 A. No.

13 Q. But you believe you spoke to him?

14 A. Yes.

15 Q. Were you in the same office at that
16 time?

17 A. I think Albert was already in
18 Sudbury starting to run the Sudbury office I
19 think. I think he had done that within the year
20 prior, so no.

21 Q. All right. And I understand that
22 Mr. Buckley was the project principal?

23 A. Correct.

24 Q. And did you have any discussions
25 with Mr. Buckley prior to attending?

1 A. Once I was notified of the project I
2 had a discussion with the VP and the restoration
3 group regarding the actual concrete work
4 inspection we'd be doing. And then I met with
5 Mike Buckley to review the scope of my work and
6 what we were going to be reviewing.

7 Q. Okay. And if you can turn to -- you
8 have a book of documents in front of you. At tab
9 1 is Exhibit No. 66 and you'll there's a document
10 I.D. number. And sometimes that doc ID number is
11 at the top and sometimes at the bottom. You'll
12 see if you turn a couple of pages in there are
13 page numbers so it'll have the doc ID dot page
14 number.

15 A. Yes.

16 Q. If I can get you to turn to page 36.
17 It's at the top left hand corner.

18 A. Okay.

19 Q. And this is the report that was
20 prepared by Mr. Celli, correct? If you just flip
21 a couple of pages forward.

22 A. A couple of pages forward yeah.

23 Q. Yeah.

24 A. I'm look at page 36 it has "2.1
25 Further Studies".

1 Q. Yes, but if you go to page 34?

2 A. Oh backwards.

3 Q. Yes. Do you recognize this as Mr.
4 Celli's report?

5 A. Yes, it is.

6 Q. And if you go back to page 36 to
7 2.1.

8 A. Hmm hmm.

9 Q. Where it says "Further Studies."
10 The list of six bullets there, was that part of
11 the scope you were to undertake --

12 A. Correct.

13 Q. -- in Elliot Lake?

14 A. It is.

15 Q. Okay. And the second last bullet
16 there, where it says, "inspect condition of the
17 supporting structural steel beam lateral restraint
18 connections to the precast slab".

19 A. Hmm hmm.

20 Q. What did you understand would be
21 included in that part of the inspection?

22 A. Well after discussions with Mike we
23 determined that we would need to excavate --
24 perform openings in the concrete slabs, the
25 toppings and the precast, in order to get down to

1 the tops and expose the tops of the steel beams.
2 On our way there we'd be able to review the ties
3 that tied the ends of the precast together as well
4 as the restraint tabs.

5 THE COMMISSIONER: I'm sorry, Mike?

6 THE WITNESS: Mr. Buckley.

7 THE COMMISSIONER: Okay.

8 BY MS. AUTHIER:

9 Q. And then the last bullet that says,
10 "Inspect condition of beam and bracing
11 connections." What did you understand would be
12 included in that portion?

13 A. Well, we inspected -- we reviewed
14 the underside of the structure aligned with the
15 openings that we made in the top side. Once we
16 were up in the ceiling space our review was to
17 inspect any of the structure that was kind of
18 within our field of vision, as it were. And if --
19 it included every aspect of the structure within
20 our field of vision. So beams, columns,
21 connections, braces, et cetera.

22 Q. And do you agree that the inclusion
23 of those last two bullets would have been driven
24 by the corrosion that would have been noted by Mr.
25 Celli during his review?

1 A. No.

2 Q. No?

3 A. I think as a structural engineer
4 that's just the way he thinks. And so when he
5 describes -- and let me describe Albert as a
6 structural engineer. We're both structurally
7 trained in analysis, but Albert has a lot more
8 extensive experience as is a designer. I didn't.
9 And so just the way he thinks about structures --
10 when he thinks of a structure he thinks of all
11 those individual components, that's -- I believe
12 that's why it's written that way.

13 Q. Okay. So was it your interpretation
14 that Mr. Celli felt that the bolts and welds
15 should be looked at?

16 A. No. There wasn't a specific
17 concern.

18 Q. Okay. But if you were to look at
19 the bolts and welds would you have to remove any
20 of the fireproofing?

21 A. Not necessarily. What we found was
22 that in areas where there were leaks a lot of the
23 fireproofing had come off.

24 I was able to review a lot of steel
25 structure without having to remove specifically

1 fireproofing. Once you end up with some corrosion
2 on the surface of the steel the fireproofing often
3 falls away. And it quickly became apparent,
4 through my review, that wherever we did see
5 moisture penetration the roof deck it ended up
6 causing fireproofing to fall apart, and if there
7 was corrosion it was exposed fairly rapidly. So
8 it was fairly easy to see the extent of the
9 issues.

10 Q. And we will get to the observations
11 you made in a moment. I just want to start from
12 the beginning with you. So based on what you had
13 seen, and the discussions that you had with Mr.
14 Buckley and sorry, the other individual that you
15 mentioned and had spoken to before?

16 A. I said Mike, but that was Mike
17 Buckley.

18 Q. But there was someone else that you
19 spoke to in terms of the concrete?

20 A. The VP of the building science
21 group, Ed Welch was his name.

22 Q. So after speaking to Mr. Welch and
23 Mr. Buckley, what did you understand would be the
24 primary focus of your inspection?

25 A. To determine the impact of moisture

1 penetration on the structure.

2 Q. And that would include the
3 connections? The impact on the connections?

4 A. Yes, in my language structure does
5 include connections.

6 Q. Staying at tab 1, which is Exhibit
7 No. 66, if you just move forward to page 56. This
8 is a letter that -- you should have a letter
9 before you from Mr. Buckley to Blaine Nicholls at
10 Nicholls Yallowega Bélanger, and they were your
11 client for this inspection in 1999?

12 A. Yes.

13 Q. And you'll agree with he that those
14 same six bullets from the "Further Studies" are in
15 this letter?

16 A. They are.

17 Q. And had you seen a copy of this
18 letter?

19 A. No.

20 Q. Would a copy have been placed in the
21 file?

22 A. It certainly is in there now, yes.

23 Q. But your recollection is that you
24 didn't see it at the time?

25 A. Fourteen years ago? No.

1 Q. All right. I'm going to take you to
2 Exhibit No. 21 which is your tab 5, it's the last
3 tab in the book. And if you go to page 99 --
4 Exhibit No. 121, sorry.

5 A. Sorry, page 121.

6 Q. No your tab 5, page 99. Are these
7 your notes?

8 A. Yes.

9 Q. And do you recall when these notes
10 would have been made?

11 A. On the days that I was here
12 performing my review.

13 Q. So these were made during the
14 inspections?

15 A. Yes.

16 Q. All right. And if you look at the
17 top you have the third bullet which says, "section
18 loss of structural steel, top flange of girders
19 over canopy walkways." Was this note in respect
20 to the fact that you had found some structural
21 steel that had a loss of section?

22 A. Great question. I'm sorry, I'm just
23 looking for the other pages of my notes.

24 Q. You have some further notes, just
25 for your assistance at page 277.

1 A. I'm sorry I can't tell you because
2 if the notes aren't in consequence I don't know
3 really what they refer to.

4 Q. And we may come to something later
5 that will help you refresh your memory on that?

6 A. Sure.

7 Q. Am I correct, though that if there
8 is a loss of section and I appreciate that there
9 are varying degrees of section loss. But if there
10 is a loss of section it could point to a potential
11 loss of structural integrity?

12 A. It really does depend on the extent
13 and location. So same section loss in and of
14 itself might be meaningless. So, for example, I
15 see where it says "top flange of the girder." If
16 that was at the end of the girder it would really
17 be irrelevant to the performance of the member.

18 Q. Okay. And do you recall -- did you
19 review your report, your 1999 report before coming
20 today?

21 A. Yes.

22 Q. And do you recall if your report
23 makes reference to section loss?

24 A. I believe it does. It speaks to the
25 corrosion on the beams.

1 Q. And if we go down the page -- so I
2 take it this entire page prepared while you were
3 up in Elliot Lake.

4 A. Yes, well let me see-- this almost
5 looks like a -- sorry, when I look down at
6 locations it looks very much like these are notes
7 I would have made in preparation to go. So this
8 might be a scope of work -- yeah, in fact I
9 believe that's what this is. And it's difficult
10 to tell because it's out of context. But are
11 there any of my other notes in this document brief
12 here?

13 Q. Yes, if you turn to page 277 of that
14 tab you'll see some in there, if that helps you
15 refresh your memory.

16 A. I'm just looking to see. Now this
17 looks like -- because I'm seeing down here
18 locations it says, "Check expansion joint from
19 below, expose the post-tension cables from below,
20 beams and connections, take core's powder at
21 leaking joints, here's the locations." So these
22 are not notes from my site review. These are
23 notes from my meeting with Mike Buckley I believe.

24 Q. And to be honest that's how I had
25 interpreted them?

1 A. Yeah.

2 Q. But I wanted to get confirmation
3 from you on that?

4 A. Sorry, I didn't know there's
5 different sets of notes in there.

6 Q. Okay. And so when we look at --
7 there's a -- you've got a line across the bottom
8 and it says "locations"?

9 A. Yes.

10 Q. And then you have an arrow pointing
11 to "also check beams and connections". You
12 believe that's from --

13 A. Arrow?

14 Q. You've got "locations", two bullets
15 and then --

16 A. Two bullets, yes. Yes.

17 Q. It says, "also check beams and
18 connections."

19 A. Yes.

20 Q. So based on your recollection these
21 would have been notes of discussions with Mr.
22 Buckley?

23 A. Yes.

24 Q. And he was advising you to also
25 check the beams and connections?

1 A. That's correct.

2 Q. And we also see where it says,
3 "locations over columns at repaired areas
4 mid-span." Would these have been instruction from
5 Mr. Buckley?

6 A. Possibly a discussion where we were
7 saying these would be the areas where we would try
8 and locate our inspections.

9 Q. And do you know if at the time
10 Halsall still had in its possession the structural
11 drawings from the mall?

12 A. I thought I had picked them up when
13 I came here.

14 Q. Okay.

15 A. Because I wasn't aware of the
16 structure. And I recall -- at least I think -- I
17 think that my knowledge about the location of the
18 expansion joints came from a drawing I was given
19 when I came here.

20 Q. And so based on your recollection
21 you didn't sit down with Mr. Buckley with the
22 drawings prior to coming to the Algo Mall?

23 A. I don't believe so.

24 Q. And did you have any discussions
25 with Mr. Buckley in terms of quantity of

1 locations?

2 A. Absolutely. That in fact was the
3 bulk of our discussions, trying to sort out how
4 many locations we could open within the budget and
5 still make them of a size that would capture the
6 information we were looking for.

7 Q. Okay. So the number of locations
8 would have been limited by budget?

9 A. Yes.

10 Q. And did you discuss --

11 A. Well it's limited, sorry to
12 interrupt you, but it's limited by budget and once
13 we decide how large they need to be to get what
14 where were at, then they're limited by budget. It
15 could be ten locations if all we needed to do were
16 small openings.

17 Q. And did you discuss with Mr. Buckley
18 where on the deck you would be looking?

19 A. Not specifically. These locations
20 are generics. And it would be up to me on site
21 then to determine, from the perspective of access,
22 wear and tear, et cetera, based on my experience.

23 Q. Okay. And where we see reference to
24 "repaired areas" what's being referred to there?
25 Do you recall? What would be a repaired area?

1 A. Anywhere where we could see that the
2 concrete had been repaired. So if there was fresh
3 topping concrete, for example. If they had
4 executed any repairs we'd want to know how they
5 were executing repairs and how the repair was
6 performing.

7 Q. Okay. Now I already asked you about
8 the drawings. Prior to attending at the Algo
9 Mall, did you receive any reports either from
10 Retirement Living or Algoma Central?

11 A. Nothing.

12 Q. You didn't receive any Trow reports?

13 A. No.

14 Q. And Commission counsel provided you
15 with copies of those reports when we met
16 previously. Have you now had a chance to review
17 those reports?

18 A. Yes.

19 Q. If you had received them prior to
20 conducting your inspection would they have been
21 helpful to you?

22 A. They wouldn't necessarily have
23 changed the way we performed our inspections. Our
24 reviews are kind of performed in a standard way.
25 There's a way we approach building investigations.

1 What it may have informed was our choice of
2 locations so that we could maybe see if there's
3 any sort of continuity and track any issues that
4 were occurring at the specific locations.

5 Q. Is it fair to say that it would have
6 been helpful to perhaps review those same
7 locations to see if the conditions were the same,
8 worse, better?

9 A. Yes.

10 Q. And that -- what kind of information
11 would that provide you with if you were able to do
12 a comparison?

13 A. Um ... just the progress and it
14 would also tell us a little bit about how -- how
15 well the maintenance was actually working.

16 Q. So is it fair to say it would give
17 you some fairly good insight into the rate of
18 deterioration, whether it had remained the same or
19 accelerated?

20 A. Yes.

21 Q. All right. And when you attended at
22 the Algo Mall in Elliot Lake, do you recall how
23 long you stayed there for?

24 A. It was pretty much two days. Two
25 full days I believe.

1 Q. And did you spend the entire two
2 days looking solely at the Elliot Lake mall?

3 A. No.

4 Q. What else did you look at while you
5 were up here?

6 A. We went for a drive to Retirement
7 Living's other properties. I was basically
8 angling for additional work for Halsall and so we
9 were just trying to see what other properties
10 Retirement Living had. So we took about, I don't
11 know, an hour or so one morning and drove around
12 to the various properties.

13 Q. And when you say "we" who are you
14 referring to?

15 A. Richard Quinn and I.

16 Q. And had you known Mr. Quinn from
17 your previous years in Elliot Lake?

18 A. Yeah, actually he was my electronics
19 teacher in high school.

20 Q. Okay. All right. Did anyone else
21 from Halsall attend with you?

22 A. No.

23 Q. So although Nicholls Yallowega
24 Bélanger was your client you were having
25 communications with Retirement Living, namely Mr.

1 Quinn?

2 A. Correct.

3 Q. Did you speak with anyone else from
4 Retirement Living?

5 A. No. Umm...no.

6 Q. And at the time that you attended
7 were you aware that the mall had been leaking for
8 20 years?

9 A. No.

10 Q. Having grown up in Elliot Lake was
11 that something that came within your field of
12 knowledge?

13 A. You know since this -- since the
14 incident and during this Commission I've really
15 thought about it. I had a girlfriend that worked
16 at a store in the mall. I delivered pizzas for a
17 pizza shop in the mall. And I don't have a
18 recollection of significant leaks.

19 Q. So it wasn't something that you had
20 retained with you?

21 A. No.

22 Q. Did you have any discussions with
23 Mr. Quinn about the leaks at the mall while you
24 were up here?

25 A. I believe I would have asked -- when

1 we were selecting our locations I definitely would
2 have asked to be taken to areas where it was
3 leaking, because I would have wanted to see the
4 conditions at those locations. Not knowing where
5 they leaked I was relying on Retirement Living or
6 the maintenance I guess it would be to show me
7 those locations.

8 Q. Okay. And do you recall if Mr.
9 Quinn or the mall maintenance people told you that
10 it had been leaking for a significant period of
11 time?

12 A. I don't recall that being a major
13 aspect of our discussions, no.

14 Q. Okay. All right. If I could get
15 you to turn to -- still within tab five, Exhibit
16 No. 121.

17 MS. AUTHIER: Ms. Kuka, if you can pull
18 up page 273 please. And it's page 273 in your
19 book as well.

20 BY MS. AUTHIER:

21 Q. Now these are your notes?

22 A. Yes.

23 Q. And is it fair to say that this is a
24 map of where you made your openings?

25 A. It absolutely is, yes.

1 Q. And are these the openings from the
2 to side?

3 A. Correct.

4 Q. All right.

5 MS. AUTHIER: And if we turn to the next
6 page, Ms. Kuka, which is 274.

7 BY MS. AUTHIER:

8 Q. This is the other half of the mall?

9 A. Hmm hmm.

10 Q. And we see some openings again?

11 A. Yes.

12 Q. Now, in terms of -- and we'll
13 identify those openings in a moment. But in terms
14 of deciding where you were going to make these
15 openings, how did you make that decision? What
16 did you base it on?

17 A. We tried to find areas where we knew
18 it was leak, and by knew I mean where we were told
19 it was leaking. We also selected areas on the top
20 where we could see visible areas of deterioration,
21 failed sealants, some evidence of previous
22 concrete deterioration.

23 The other thing we did was -- so there
24 was one major leak, it was over by the Woolco I
25 believe. The second area where we chose was

1 because we had been told there had been a flood
2 due to a plugged drain. So we wanted to see what
3 the impact of that was on the structure and the
4 ceiling space.

5 And then the other locations were chosen
6 based on the traffic patterns. So we tried to put
7 them into drive aisles where there'd be more
8 vehicles than others. And the last one we
9 selected was in the middle of a heavily used
10 parking area.

11 THE COMMISSIONER: You attended there in
12 April.

13 THE WITNESS: Yes.

14 THE COMMISSIONER: Friday.

15 THE WITNESS: We actually spent a fair
16 bit of time trying to plan out that aspect of it,
17 yes, because we had to make the openings and we
18 needed several days to get the openings and make
19 the repairs so we could seal the roof up again.
20 So yes, when I came up it was a beautiful sunny
21 day and it had been dry.

22 THE COMMISSIONER: Thank you.

23 BY MS. AUTHIER:

24 Q. And when you say you selected areas
25 where you were told there had been leakage who was

1 giving you this information? Was it Mr. Quinn?

2 A. No, it was the maintenance personnel
3 a man Jeff Parsons.

4 Q. And did Mr. Parsons stay with you
5 the whole time?

6 A. We did a walk about together.

7 Q. Okay.

8 A. We selected locations, and once the
9 locations were selected we put the contractor to
10 work making the openings and that's when Richard
11 Quinn and I took our little tour.

12 Q. And did Mr. Quinn stay with you as
13 well while you were selecting these openings?

14 A. I don't believe so.

15 Q. Was he with you during portions of
16 your inspection?

17 A. I don't recall much about the
18 specifics of -- the specific activities those
19 days.

20 Q. Okay. Now I note that your 1999
21 report, although you reference -- because you made
22 six openings, correct?

23 A. I believe so, yes.

24 Q. And although your report references
25 those six openings, the report doesn't speak to

1 where -- the location of the openings, is that
2 correct?

3 A. It may not.

4 Q. Okay. And you actually didn't
5 attach a copy of this sketch to the report either?

6 A. I don't believe so, no.

7 Q. Would you have given a copy of the
8 sketch to Retirement Living?

9 A. No.

10 Q. And there's no AutoCAD drawing that
11 reflected these openings either attached to the
12 report?

13 A. No.

14 Q. Why didn't you include reference in
15 your report to where the openings were made?

16 A. The level of detail required by the
17 report didn't dictate its inclusion.

18 Q. Now if you could turn to page 277.

19 MS. AUTHIER: And Ms. Kuka if you could
20 pull up that page as well.

21 BY MS. AUTHIER:

22 Q. And I take it, sir, these are your
23 notes of where you made the openings in the top
24 side?

25 A. Yes.

1 Q. And if you turn to the next page,
2 you have openings four through to six as well?

3 A. Yes.

4 Q. And you've indicated in those notes
5 the location within the grid line of where the
6 openings were made?

7 A. Yes.

8 Q. And what we'll do is we'll just go
9 through them quickly. And then we'll pull up a
10 copy of S4 and we'll have you mark those on the
11 drawing. So if you turn back to 277. You'll
12 agree with me that opening 1 you've indicated was
13 on column is that J16?

14 A. Sorry, what page am I at?

15 Q. Page 277 up at the top. It's your
16 first bullet.

17 A. Yes.

18 Q. And that opening was 23 inches by 23
19 inches?

20 A. Yes.

21 Q. So about a 2-foot by 2-foot opening?

22 A. Yes.

23 Q. And number 2 was a little bit larger
24 and it was over column D15?

25 A. Yes.

1 Q. And number 3, 31 by 25.5 inches over
2 column 11 west of I. Is that what that --

3 A. Yes.

4 MS. AUTHIER: And, Ms. Kuka, if you
5 could turn to the next page.

6 BY MS. AUTHIER:

7 Q. Opening number 4, you have it marked
8 as C between 17 and 18?

9 A. Hmm hmm.

10 Q. And then opening number 5, K you
11 have back slash 7/8, does that mean it's between 7
12 and 8?

13 A. Yes.

14 Q. And number 6, is that a K or an L?

15 A. It's a K.

16 Q. So that's at gridline K3?

17 A. Yes.

18 MS. AUTHIER: Ms. Kuka, if you could
19 pull up Exhibit No. 1876 and drawing S4.

20 BY MS. AUTHIER:

21 Q. And what I'll do, Mr. Truman is I'll
22 provide you these locations and if you could draw
23 them on S4?

24 A. Okay.

25 MS. AUTHIER: Ms. Kuka, if you could

1 blow up and make it easier for Mr. Truman, the
2 area of J16. So it's the top right hand corner
3 there. All right. And then -- thank you.

4 BY MS. AUTHIER:

5 Q. So, Mr. Truman, if you could use the
6 mouse and select a colour. And then if you could
7 perhaps put a circle around the area of J16 where
8 you would have made that first opening -- or sorry
9 --

10 A. Number 6.

11 Q. No, that would be number 1, J16. If
12 you look J is in the top right hand corner. Can
13 you perhaps put a 1 in the box so we can keep
14 track. Thank you.

15 And number 2 you have as over column
16 D15.

17 MS. AUTHIER: Ms. Kuka, if you could
18 move the drawing over to bring us to D15.

19 THE COMMISSIONER: You haven't got a
20 paper copy of that do you?

21 MS. AUTHIER: Not with the markings --
22 well, because we can do a screen capture it will
23 be easier for the participants to refer to it if
24 necessary with other witnesses.

25

1 BY MS. AUTHIER:

2 Q. So, Mr. Truman, if you could put J16
3 again.

4 A. We can work with this scale, that's
5 fine.

6 Q. Thank you. And then over column at
7 D15.

8 MR. PERRIER: I'm just concerned that's
9 not where he put J16 before. My understanding is
10 that 16 is along the expansion joint that runs
11 north-south.

12 MS. AUTHIER: That would be 16X.

13 THE WITNESS: It's okay now.

14 BY MS. AUTHIER:

15 Q. And D15, 15 being the second one
16 from the left. That was number 2.

17 THE COMMISSIONER: Put a 2 in there.

18 THE WITNESS: Yeah, sorry. Thanks.

19 BY MS. AUTHIER:

20 Q. And then number 3 which was 11 west
21 of I. And so 11 is over -- you've got the
22 expansion joint that runs east-west, and it's just
23 to the right of it is 11.

24 A. Right up here.

25 Q. Then I believe west is towards the

1 bottom and east is at the top?

2 A. Yeah.

3 Q. And just general location is
4 sufficient. And if you can put a 3 in there.

5 A. Okay.

6 Q. And then number 4, which is C
7 between 17 and 18. So 19 being the last grid line
8 you've got 17 and 18.

9 And then five, which is K between 7 and
10 8. Seven and 8 are south of the expansion joint.
11 And that was number 5.

12 MS. AUTHIER: And then, Ms. Kuka, is it
13 possible for you to move that box because it will
14 be in the way. Thank you.

15 BY MS. AUTHIER:

16 Q. And then number 6, which is K3. All
17 right thank you.

18 And while Ms. Kuka saves this in looking
19 at where you made these topside openings, can you
20 tell us what -- does it help to refresh your
21 memory in terms of what it was that you had seen
22 at these locations that caused you to want to
23 select them?

24 A. I'm quite sure that 4 -- 2 or 4
25 relates to that plugged drain and the leak.

1 Q. Okay.

2 A. 2 or 4 also relates to the fact that
3 that area was heavily used-for-parking, so one or
4 the other.

5 Q. All right.

6 A. 1 is in the drive aisle, again, lots
7 of car traffic and parking along that face. 5 and
8 6 are also in drive aisles. I believe I would
9 have selected their specific locations because of
10 failed sealants. And I think 3 was at a leak.

11 Q. All right. And it's fair to say
12 that 3 is really the only one that's fairly close
13 to an expansion joint?

14 A. That's correct, yeah. I didn't
15 choose any locations close to the expansion joints
16 because I was told that they were not leaking.

17 Q. Okay. So you were specifically told
18 that the expansion joints weren't leaking?

19 A. Yeah. I believe there's a note in
20 my file actually that says that.

21 Q. Okay. And we may get to that in a
22 moment?

23 THE COMMISSIONER: Well one is equally
24 close to an expansion joint.

25 MS. AUTHIER: Yes you're right, Mr.

1 Commissioner.

2 THE WITNESS: It's along the face, yes.

3 MS. AUTHIER: Ms. Kuka, have you been
4 able to save that.

5 MS. KUKA: Yes.

6 MS. AUTHIER: We'll make that the next
7 exhibit.

8 MS. KUKA: Exhibit No. 2327.

9 EXHIBIT NO. 2327: Drawing S4 from
10 Exhibit No. 1976 depicting where topside
11 holes as per Jeff Truman.

12 THE WITNESS: That's an expansion joint
13 at 10, 10X isn't it?

14 BY MS. AUTHIER:

15 Q. Yes, it is. And so 3 was close to
16 an expansion joint. And as Mr. Commissioner
17 pointed out so was 1. Because 16X and 17 was also
18 an expansion joint. And then there was a third
19 one at FX, F?

20 A. Okay.

21 Q. Now I'm going to ask you --

22 MS. AUTHIER: And, Ms. Kuka, if we can
23 leave this exhibit for a moment and pull up page
24 279.

25 MS. KUKA: Of Exhibit No. 121.

1 MS. AUTHIER: Yes.

2 BY MS. AUTHIER:

3 Q. And is it fair to say that these
4 notes are your notes of where you looked on the
5 interior as well?

6 A. Yes.

7 Q. And if we go -- and we'll go through
8 them again similar to what we did and then I'll
9 have you select a different colour and put them on
10 that same drawing. And is it fair to say you did
11 six -- you looked in six areas as well if you look
12 at these notes?

13 A. Okay. On page?

14 Q. Page 279. So we've the first one it
15 says was below opening number 4?

16 A. Right.

17 Q. We have another one which is at
18 expansion joint 10I?

19 A. Yes.

20 Q. And we have one at the Scotiabank
21 east of I between 10 and 11?

22 A. Okay.

23 Q. And then we have another one 8, does
24 this mean between H and G?

25 A. Yes.

1 Q. And then we have 9 at grid line H?

2 A. Yes.

3 Q. And then 9 between G and H?

4 A. Yes.

5 Q. And from my review, and you can even
6 turn to the next page, those appear to be the
7 locations where you looked? In terms of on the
8 interior because the next page is walkways.

9 A. Okay.

10 THE COMMISSIONER: You say 9 is the very
11 last one, is that a 9 or a 7?

12 MS. AUTHIER: Sorry, you're right that
13 is a 7.

14 THE WITNESS: Yes, it looks like a 7.

15 THE COMMISSIONER: Sorry, we're having
16 other technical problems. Five minutes. Sorry.

17 --- Break taken at 9:45 a.m.

18 --- Upon resuming at 9:50 p.m.

19 MS. AUTHIER: Mr. Commissioner, it was
20 pointed out to us is that we've made yet another
21 mistake on the north-south, east-west for this
22 mall. So if Ms. Kuka could pull up Exhibit No.
23 2327. And, Ms. Kuka, I'll just ask you to erase
24 the one mark so that we can redo it. So it's
25 number 3.

1 BY MS. AUTHIER:

2 Q. And, Mr. Truman, if you can redraw?

3 A. That's west right?

4 Q. Yes.

5 A. Yeah.

6 Q. All right, thank you.

7 A. Thanks.

8 Q. And now, we'll go through the
9 openings from the interior of the mall. If you
10 can select a different colour for that? Thank
11 you. So if you could select a different colour.

12 All right. So the green will be the
13 interior. And if you could just perhaps put a
14 mark at number 4 because you looked below opening
15 4.

16 A. What kind of a mark would you like?

17 Q. You can even just put either a
18 circle inside of it or outside of it. That would
19 be fine. That's good. Thank you.

20 A. One? Do you want to number these?

21 Q. That's fine, yes. They weren't
22 numbered in yours but we can number them as well?

23 A. Okay.

24 Q. And then you have an expansion joint
25 at 10I.

1 A. Where are we here? 10I.

2 Q. And then you had east of I between
3 10 and 11.

4 A. This is further along the same
5 joint.

6 Q. So east is at the bottom.

7 A. Oh. Anyway it's along the same
8 joint right?

9 Q. Yes.

10 A. Okay.

11 Q. All right. And then we have 8
12 between H and G.

13 A. I think this is right here.

14 Q. And Mr. Bisceglia has asked that we
15 do continue numbering them so if you could put
16 numbers next to them.

17 A. That looks like a 13, sorry.

18 Q. That's okay. And then 9H. And the
19 last one 7 between G and H.

20 A. All right.

21 Q. All right.

22 MS. AUTHIER: Ms. Kuka, if you can save
23 that.

24 And, Mr. Commissioner, this remains
25 Exhibit No. 2327 it's just it has both the topside

1 openings and the interior spaces that were
2 examined by Mr. Truman.

3 THE COMMISSIONER: Yes, thank you.

4 BY MS. AUTHIER:

5 Q. Now the interior areas that you
6 looked at what made you select those? What was it
7 about those areas that you felt needed to be
8 reviewed?

9 A. I believe they were locations of
10 ongoing leaks.

11 Q. Okay. And again -- sorry, continue.

12 A. No, that's it.

13 Q. All right. And so you had two
14 locations that you looked at at the expansion
15 joint that ran east-west at grid line 10.

16 A. Yes.

17 Q. But you didn't have any at the other
18 two, is that correct?

19 A. Correct. I think it was leaking --
20 sorry, I don't remember the layout of the mall,
21 where that expansion joint lines up with Woolco.

22 Q. I believe that the Woolco is in the
23 7 portion of the mall to the south of gridline 10.
24 Or it may actually run underneath it a little bit.

25 A. Sorry, south again is my left?

1 Q. The hotel's north.

2 A. Right. So it's from the expansion
3 joint over, correct?

4 Q. Yes.

5 A. Okay, that lines up with my
6 recollection as well.

7 Q. All right. And similar to the top
8 side openings, your report doesn't set out within
9 it the gridlines where you looked underneath,
10 correct?

11 A. Correct.

12 Q. And do you know why you didn't
13 include those?

14 A. Again, the level of detail required
15 by the report didn't require that level of
16 explanation.

17 Q. But you'll agree with me that for
18 comparison purposes down the road, in the event
19 that Retirement Living wanted an update, knowing
20 those locations would have been useful?

21 A. Potentially.

22 Q. Now, we know that Mr. Celli did the
23 1998 report and you completed the 1999 report. Do
24 you know why you were asked to go to Elliot Lake
25 to do the 1999 report as opposed to Mr. Celli?

1 A. Yes, my specific expertise is
2 concrete repair and rehabilitation. There was
3 concerns about the chloride contamination in the
4 concrete. We did what are called corrosion
5 potential measurements, another area of my
6 expertise as opposed to Albert's, Mr. Celli's.

7 Q. All right. And we're now going to
8 go to your report and we'll go through it.

9 MS. AUTHIER: Mr. Kuka, it's Exhibit No.
10 70.

11 BY MS. AUTHIER:

12 Q. And in your book it's tab 4. And
13 just saying on this first page, although it's --
14 although it says, Attention Michael Buckley, this
15 was the report sent to Retirement Living and
16 Nicholls Yallowega, correct? Although it says,
17 Attention Michael Buckley on it?

18 A. That's weird, yeah, I believe it is.
19 I don't know if I saw the completed report that
20 went out.

21 Q. And this is the report that you
22 drafted?

23 A. Yes.

24 MS. AUTHIER: And if you could turn to
25 page 2, Ms. Kuka, or the report, the Executive

1 Summary.

2 BY MS. AUTHIER:

3 Q. And if we look at the paragraph that
4 starts, "The major forms of deterioration
5 include."

6 A. Yes.

7 Q. And you'll agree that within this
8 category where you've indicated that,

9 "The major forms deterioration include:

10 - Leakage through cracks and construction
11 joints;

12 - Corrosion of steel beams and suspended
13 ceiling hangers; and

14 - Debonded or freeze-thaw damaged concrete
15 topping along the joints."

16 Correct?

17 And you'll agree with me that there's no
18 reference in here to connections? We were talking
19 about the deterioration that we observed and we
20 didn't observe any deterioration with the
21 connections so they're not listed.

22 Q. All right. And these major forms of
23 deterioration were in answer to one of the
24 objectives above which was "to identify defects
25 that could affect the durability of the

1 structure," is that correct?

2 A. Correct. Or identifying existing
3 conditions requiring repair.

4 Q. Okay.

5 A. Or helping to establish a basis for
6 making recommendations, it really applies to all
7 of them.

8 Q. All right. And you've indicated
9 that you didn't see any corrosion, or it's your
10 recollection based on what's written here that
11 there was no corrosion of the connections?

12 A. That's correct.

13 Q. Now, just getting into -- because
14 you said corrosion is one of your areas of
15 expertise?

16 A. Correct.

17 Q. Okay. And if we could just get into
18 the science of corrosion. With respect to
19 corrosion of beams versus corrosions of the
20 connections. Do you consider that -- do you
21 consider the corrosion of the beams to be more or
22 less critical than a corrosion at the connections?

23 A. That's a huge depends.

24 Q. Okay.

25 A. Again it depends on the location of

1 the corrosion, the extent, the type. There's
2 various types of corrosion.

3 If it's pitting corrosion that might
4 matter more than if it's surface corrosion. If it
5 was a high-strength connection using different
6 types of bolts it might matter more than if it was
7 another type of connection. So it's difficult to
8 answer yes or no.

9 Q. All right.

10 A. It's kind of an assessment based on
11 what we see.

12 Q. Okay. And in terms of failures due
13 to corrosion, how would you characterize the
14 nature of a failure of a beam due to corrosion
15 versus the nature of a failure of a connection due
16 to corrosion?

17 A. The nature? Can you define that for
18 me?

19 Q. And perhaps I'll make the suggestion
20 to you and you can tell me whether I'm correct or
21 not. Am I correct that the corrosion of a beam
22 when it reaches the point of failure -- when it's
23 getting close to the point of failure will provide
24 advance warning, whether through deformation, or
25 sagging, or deflection.

1 A. Often yes, it's designed that way.

2 Q. Whereas the failure of connection
3 when it reaches the point of failure there will be
4 no advance warning and it will be a sudden
5 failure?

6 A. It could, not always. Yes.

7 Q. And when you say "not always" in
8 what circumstances would it not be?

9 A. For example, if the connection had a
10 partial failure of a weld and kind of rotated
11 slightly you might see that deflection. Because
12 slight rotations at the end of the beam create
13 large deflection in at the centre. It may have
14 caused other forms of distress around the joint as
15 well. Sometimes we see concrete deterioration
16 around corroding joints, for example.

17 Q. Okay. And am I correct that you --
18 it is more likely that you won't get any advanced
19 notice on --

20 A. More likely, yes.

21 Q. More likely. And given the sudden
22 nature of connection failures, would you agree
23 that inspection of connections are a key component
24 to structural reviews?

25 A. If there's a concern about the

1 connections then they should definitely be
2 reviewed.

3 Q. Okay. And if -- Ms. Kuka, I don't
4 need you to pull these up. But Mr. Truman if you
5 look at -- you'll agree with me there were 12
6 photos attached to your report. You could leaf
7 through it in front of you there.

8 A. Yes.

9 Q. And you'll agree with me that of
10 those 12 photos there is not a single photograph
11 in there that is taken for the sole purpose of
12 showing a connection?

13 A. Page 19 shows a connection.

14 Q. Okay, page 19.

15 MS. AUTHIER: Ms. Kuka, if you could
16 pull up page 19. Sorry it's actually page 23 in
17 the -- apologize, it's 19 of the report. Thank
18 you.

19 BY MS. AUTHIER:

20 Q. So this is the photograph you're
21 referencing?

22 A. Yes.

23 Q. Do you agree with me that the
24 purpose of the photograph was not to show a
25 connection? If we read the observation,

1 "Minor corrosion of the structural steel
2 support beams. Heat tape and drain.
3 Assessment: The amount of observed
4 corrosion is not structurally significant.
5 Heat tape provided to keep drains free
6 during winter are especially important
7 when cycles of freezing and thawing
8 temperatures exist."

9 A. I'm sorry, I'm not sure what you're
10 asking me.

11 Q. Is it your recollection that this
12 photo was taken for the purpose of showing a
13 connection or was it taken for really the purpose
14 of the beam?

15 A. It's taken for the purpose of
16 showing the impact of the leaks on the structure
17 which includes beams and connections.

18 Q. Okay. And do you agree with me that
19 your report itself doesn't make reference to
20 connections?

21 A. It refers to connections as it
22 refers to the structure which includes beams and
23 connections.

24 Q. So I agree your report does refer to
25 the structure, it refers to the structural beams.

1 Do you agree with me --

2 A. It refers to the structure.

3 Q. To the structure.

4 A. Which includes beams and
5 connections.

6 Q. And I appreciate that for you it
7 includes beams and connections. For an owner, for
8 the reader of the report, who isn't necessarily an
9 engineer and doesn't have the same background that
10 you do, do you agree with me that they may not
11 interpret "structure" to include connections?

12 MR. PERRIER: I'm not sure that that's a
13 fair question of this witness to speculate as to
14 how other people may interpret his report, that is
15 for other people to testify to.

16 MS. AUTHIER: It is a fair question.
17 We've had similar questions asked to a number of
18 other witnesses in terms of how they think their
19 report may have been seen or interpreted by the
20 person it was being delivered to. And therefore
21 it's fair to ask that question. That same
22 question was asked of Mr. Celli, it was asked of
23 Mr. Buckley.

24 THE COMMISSIONER: The purpose of course
25 of a report is to make other people conscious and

1 aware of a particular situation. And that
2 objective obviously must be in the mind of the
3 author of the report as he makes it, or she makes
4 it. And in those circumstances, bearing in mind
5 as I said yesterday in relation to Mr. Buckley,
6 the expertise of the witness and his ability to
7 make responses which are nuanced to some degree, I
8 think the question is fair.

9 MS. AUTHIER: Mr. Commissioner, in
10 fairness to the witness I can actually ask the
11 question in a different manner.

12 BY MS. AUTHIER:

13 Q. Your report includes definitions,
14 correct?

15 A. Yes.

16 Q. Does it include a definition of what
17 would be included in the structure?

18 A. No.

19 Q. Okay, thank you.

20 A. Because that's a common term.

21 Q. For an engineer, correct?

22 A. I don't believe so, no. I think
23 most people understand that for beams and columns
24 to stand up they have to be connected.

25 Q. So it's your answer that you believe

1 that the person reading this report would
2 understand that structure would include the
3 connections?

4 A. I know for a fact the person reading
5 the report understood that there was no issue with
6 the structure.

7 Q. Why do you say that?

8 A. Because of the willsay from the mall
9 manager, she understood there to be no problem
10 with the structure.

11 Q. Sorry, and who are you referring to?

12 A. Rhona Guertin.

13 Q. And so you're basing that on the
14 willsay that you read?

15 A. Yes.

16 Q. You didn't have discussions with Ms.
17 Guertin at the time that you delivered your
18 report?

19 A. As far as I'm aware no one from
20 Retirement Living contacted us after the report.

21 Q. All right.

22 MS. AUTHIER: Ms. Kuka, if we can go
23 back to page 2 of the report of Exhibit No. 70 and
24 the last paragraph please.

25

1 BY MS. AUTHIER:

2 Q. And I'm going to take you to -- and
3 we'll get to the options that you put forward to
4 Retirement Living. But if I can just take you to
5 last sentence there where you've indicated, "If
6 required, we could prepare a phased repair
7 approach for Option 1, tailored to your financial
8 constraints." What did you mean when you said,
9 "If required we could prepare a phased approach"?

10 A. Often when clients have budget
11 restrictions we can phase the project over a
12 couple of seasons. To help them implement the
13 project in its entirety. 433,000 then was a
14 fairly large number. And we found that large
15 numbers tend to scare clients, but if they can
16 bite it off in smaller chunks it's easier for them
17 to get the repair implemented the way we feel it
18 should be.

19 Q. Did Retirement Living indicate that
20 they had any financial constraints?

21 A. Not with respect to the mall, no.

22 Q. In what respect?

23 A. When we were talking -- I mentioned
24 earlier talking about their other properties. And
25 I believe the discussion was in that context. We

1 were discussing the repair of the highrise
2 apartment buildings.

3 Q. Okay. And for this -- for the
4 repairs that you -- the options that you provided,
5 specifically the routing and sealing option, which
6 was the one you recommended, correct?

7 A. I recommended two options.

8 Q. But your recommended option was
9 Option 1? Do you agree? Which was the routing
10 and sealing?

11 A. No. There were two repair options.
12 And what we're saying is there's differences
13 between them.

14 THE COMMISSIONER: Can we examine the
15 two repair options?

16 MS. AUTHIER: Before we get to that, Mr.
17 Commissioner. Ms. Kuka, if I can ask you to get
18 to Exhibit No. 69 and it's page 2. And the second
19 paragraph of that letter.

20 BY MS. AUTHIER:

21 Q. This letter is at tab 3 of your
22 documents. And you'll agree with me that this is
23 a letter from Halsall, and it's actually signed on
24 your behalf but your name is on the letter as is
25 Mr. Buckley's, correct?

1 A. Yes.

2 Q. And this letter -- do I take it that
3 this letter accompanied the report when it was
4 sent out to Nicholls Yallowega, Bélanger?

5 A. I can't confirm that but it does
6 say, "Enclosed are two copies."

7 Q. And you'll agree with me if we read
8 the second paragraph.

9 "Though leakage through the parking deck
10 has been an ongoing problem, we have found
11 no evidence of structural deterioration
12 compromising the integrity of the
13 structure. While waterproofing the
14 parking deck is feasible, we suggest a
15 program of joint re-sealing be effected
16 instead, with consideration given to
17 proper joint detailing. This approach, in
18 our opinion, is the cost effective
19 particularly where financial constraints
20 exist."

21 So do you agree with me that your
22 recommended option, although you had two options,
23 routing and sealing and waterproofing the deck
24 with a membrane --

25 A. I would like to back away from

1 "recommended". We recommended two options. The
2 most cost effective option was Option 1.

3 Q. Okay. Do you agree that someone
4 reading this letter would perhaps interpret this
5 to mean that you're recommending the routing and
6 sealing as opposed to the membrane?

7 A. I think that most owners would
8 choose the low-cost option.

9 Q. Okay. Now in terms of the phased
10 approach that you had referenced in your report,
11 how would you have -- if you had been hired to
12 prepare a phased approach to this parking deck,
13 how would you have gone about doing that?

14 A. I probably would have done a survey
15 and tried to determine where the worst areas were
16 and maybe did those first. It would also depend
17 on where we could terminate our joints, where it
18 made sense to stop the sealants. So it may end
19 having to be the areas between the expansion
20 joints, for example.

21 So it's possible that you'd end up doing
22 two sides and then the middle, or the middle and
23 then two sides. Or I really can't say without
24 doing the review to know --

25 Q. Okay.

1 A. -- what the end result would be.

2 Q. Would you have broken it up over
3 several years?

4 A. No, I don't think so.

5 Q. What time period?

6 A. Two years.

7 Q. Two years? Two seasons?

8 A. I think --

9 Q. Sorry, I should say two summers.

10 A. I prefer to get it all done in one
11 year, but if they had to do it in two phases it
12 would be two summers, yes.

13 Q. And would there be a particular area
14 that you would recommend they start with first?

15 A. In retrospect? Based on what I know
16 now? It's pretty obvious I think, yeah.

17 Q. Which would be?

18 A. The drive aisle along the front of
19 the hotel leading to that parking area.

20 Q. But at the time given what you had
21 seen where do you think -- would you have told
22 them to start where the worst areas of leakage
23 were?

24 A. I couldn't tell you that. I'd have
25 to do a survey.

1 Q. No, that's fair. All right.

2 MS. AUTHIER: Ms. Kuka, if you could
3 then turn back to Exhibit No. 70.

4 BY MS. AUTHIER:

5 Q. And, Mr. Truman, this is again tab 4
6 of your brief of documents. And page 5. Blow up
7 the objective section, thank you.

8 And these are the objectives as you've
9 set out in your report. And you've indicated,

10 "We understand your objectives to be:

11 - Assess the current physical condition of
12 the mall roof structure, specifically that
13 park comprising the upper parking deck and
14 the pedestrian walkways;

15 - Identify items requiring repair and
16 determine the timing and approximate costs
17 of the repairs; and

18 - Minimize future repair costs by
19 identifying defects that could affect the
20 long term durability of the structure.

21 Based on your objectives, the intent of
22 our survey was to:

23 - Obtain selected information on the
24 current physical condition of the roof
25 structure, identify defects that could

1 affect the durability of the structure and
2 establish a basis for making
3 recommendations for the treatment of such
4 deficiencies; and

5 - Develop a repair and maintenance
6 strategy that will minimize current and
7 future repair costs."

8 Now these stated objectives -- and even
9 if we turn to the next page which is the
10 methodology where you indicate that your review
11 consisted of,

12 "- Visual review of the surface of the
13 parking deck and walkways and hammer
14 tapping in selected areas to identify
15 debonded topping;

16 - Removal of the concrete topping at six
17 locations to review the condition of the
18 precast panels;

19 - Exposing and visually reviewing the
20 condition of several precast panel
21 prestressing tendons;

22 - Evaluation of the corrosion potential of
23 several pre-stressing tendons;

24 - Chloride content and depth of
25 carbonation analysis of the precast panels

1 in selected locations; and
2 - Removal of insulation and spray-applied
3 fireproofing at the underside of the
4 parking deck for visual review of the
5 steel structure and selective locations."

6 And is that consistent with your
7 recollection of the work that you had done during
8 your inspection?

9 A. Yes.

10 Q. And is it your opinion that these
11 objectives and methodology as listed are
12 consistent with the further studies as noted in
13 Mr. Celli's report?

14 A. Yes.

15 Q. You'll agree with me that neither of
16 these make specific reference to the lateral
17 restraints or the connections?

18 A. Correct, it's captured again under
19 steel structure.

20 Q. But again there is no definition of
21 steel structure, correct?

22 A. Correct.

23 MS. AUTHIER: And, Ms. Kuka, if I can
24 get you to turn to page 7.

25

1 BY MS. AUTHIER:

2 Q. The second paragraph the very first
3 sentence, "Caulked joints and cracks in the
4 concrete topping and precast panels are poorly
5 detailed."

6 A. Sorry?

7 Q. It's page 7.

8 A. Oh, not the page 7 of my report.

9 Q. No. Sorry, when I reference the
10 page numbers it's the doc ID numbers.

11 A. Okay.

12 Q. "Caulked joints and cracks in the
13 concrete topping and precast panels are poorly
14 detailed."

15 A. Yes.

16 Q. Was it your opinion, having made
17 those observations, that this observation was as a
18 result of the work having been performed by mall
19 maintenance staff as opposed to qualified
20 contractors?

21 A. The original joint design was not in
22 my mind properly done. And so all of the
23 follow-up maintenance being done to that
24 methodology was also incorrect.

25 Q. So was this first sentence a

1 reference to the original construction or the
2 follow-up maintenance?

3 A. In general.

4 Q. In general, thank you. And if we
5 move to the fourth paragraph where you indicate.

6 "Leakage to the interior typically follows
7 a direct path through the topping joint
8 then through the precast panel joint
9 below. Once through the precast panels,
10 it may run along the steel support beams
11 or become trapped by the batt insulation
12 on the underside of the precast panels.
13 Wet insulation decreases the thermal
14 performance of the roof."

15 And I just want to clarify, when you
16 refer to "batt insulation" you're referring to the
17 insulation that was attached to the underside of
18 the panels, correct?

19 A. Hmm hmm.

20 Q. And this was the one that had the
21 foil backing and was attached with the wire mesh,
22 is that correct?

23 A. I don't recall. That sounds right
24 but yes.

25 Q. All right. And then if we go to the

1 last paragraph you've indicated, "Though most
2 leaks are detected by staining on the ceiling
3 tiles, or because of direct leakage, many others
4 likely remain undetected."

5 So do I take this to mean that there was
6 the potential that there were other leaks that
7 could not be seen, or that there was water in
8 other areas that hadn't been noted?

9 A. Yes. That -- this statement is a
10 catch-all because of course we can't possibly see
11 everything. One thing that I do distinctly
12 remember about my investigation is what I say
13 here, and you've read it. That leaks do typically
14 go straight through the structure. There wasn't a
15 lot of torturous paths as we typically find with a
16 lot of other leaks. Even where leaks came through
17 a joint and landed on a beam, it appeared that it
18 tended to be localized.

19 So what we were saying is that although
20 you may notice the larger leaks, or the leaks that
21 are more persistent over time, there may be leaks
22 that go undetected.

23 Q. And those leaks could cause damage
24 that could also go undetected?

25 A. Well what we're referring to here is

1 the leaks that get absorbed by the insulation. So
2 most of the leaks -- so from my observation the
3 way that core slab panels come together on top of
4 the steel beam, that joint is grouted solid
5 between -- and I wasn't finding any indication of
6 moisture penetration or chloride issues through
7 that particular joint, through the grout. What I
8 was finding is where the perpendicular joints
9 butted into that and you had a sealant failure
10 there, that's where the water was coming through.

11 So most of the leaks were not directly
12 on to the steel beam but kind of on the joint
13 running between the beams.

14 And so most of the water coming through
15 would then -- could become trapped by the
16 insulation because the insulation often spanned
17 the joints in the precast panels.

18 Q. Okay. And that you're again
19 referring to the batt insulation on the underside
20 side of the panels?

21 A. Yes.

22 Q. And if we go to the second last
23 sentence of this last paragraph.

24 "The spray-applied fireproofing on the
25 steel is also trapping moisture. It has

1 fallen from the beams in several
2 locations, reducing the fire safety of the
3 structure."

4 A. Right.

5 Q. Do you agree that the manner in
6 which that last portion of the paragraph is
7 drafted that it could be interpreted that your
8 only concern here is the reduction of the fire
9 safety?

10 A. At that point.

11 Q. Or the fireproofing?

12 A. At that point in time it was our
13 only concern.

14 Q. Do you agree with me that if water
15 is being trapped by the spray-applied fireproofing
16 that it could remain against the beam and
17 potentially cause corrosion in that location and
18 you may not necessarily be able to see if it
19 hasn't fallen away?

20 A. It will fall away before the
21 corrosion becomes too extensive. And this is what
22 we found, in my pictures and my file actually show
23 that. Where there were leaks the fireproofing
24 tended to fall away. The fireproofing is bonded
25 to the surface of the steel. Once the surface

1 corrodes and the corrosion product is no longer
2 bonded the fireproofing is no longer bonded. It's
3 not a light product, it tends to fall away from
4 the beam.

5 So to think there were leaks that were
6 ongoing for some time that were undetected and
7 there was moisture trapped in the fireproofing
8 causing corrosion I think is a stretch

9 Q. Is it a possibility?

10 A. I don't think so. I think the
11 fireproofing would come off long before the
12 corrosion got significant. I mean even if there
13 was flaking corrosion, flakes of corrosion, the
14 fireproofing would end up falling off. And to get
15 to get from flakes of corrosion to structural
16 distress is a long period of time and significant
17 deterioration.

18 Q. In your inspection did you take any
19 steps to confirm what you've just indicated in
20 terms of removing --

21 A. Yes.

22 Q. Let's say you had an area of
23 fireproofing that had fallen away and there was
24 corrosion in that area, did you remove
25 fireproofing in that same line?

1 A. It was well adhered at the extents
2 of where it had fallen away. So it was quite
3 obvious that you could see moisture -- a stain at
4 a crack, you could then see fireproofing that was
5 fallen away. At the extents of where it had
6 fallen away it was all still well bonded and in
7 good condition.

8 So it wasn't as if moisture was coming
9 through, traveling along the beam and consistently
10 growing the defect. It was coming straight down.
11 Gravity works really well with water.

12 Q. But did you remove any of the
13 fireproofing around those areas?

14 A. Didn't have to, it was well bonded.

15 Q. So you didn't remove any?

16 A. No, wouldn't be any corrosion
17 underneath well bonded fireproofing.

18 Q. But you didn't take any steps to
19 confirm that?

20 A. Yes. At the edges of where it was
21 deteriorated we did and it was well bonded around
22 there. We're not going to go taking off
23 fireproofing.

24 Q. Now, if we go to your methodology
25 which is at page 6, the last item you actually

1 indicate that you removed spray-applied
2 fireproofing?

3 A. In order to review, right. In order
4 to review it. So if it was obvious to me, if I
5 could see and I didn't need to remove it I didn't.
6 So I only checked around the perimeter to make
7 sure that it was well bonded.

8 Q. So you were checking to ensure that
9 it was well bond but you didn't remove any?

10 A. No.

11 Q. So contrary to what it said in your
12 methodology? Because your methodology says
13 "removal of insulation and spray-applied
14 fireproofing."

15 A. Correct.

16 Q. It didn't say, Confirm that it's
17 well adhered where it's still in place?

18 A. Correct.

19 Q. So certainly the reader would think
20 that you had removed some of the fireproofing?

21 MS. AUTHIER: Page 7 again, Ms. Kuka.

22 THE COMMISSIONER: Did you agree with
23 the last proposition?

24 THE WITNESS: Oh sorry, yes.

25

1 BY MS. AUTHIER:

2 Q. And we have already gone through it
3 where you made reference to wet insulation
4 decreasing the thermal performance of the roof.

5 But you didn't indicate any consequences
6 with respect to fire -- with respect to water
7 becoming trapped against the steel by the
8 fireproofing, other than it will -- if the
9 fireproofing falls off.

10 MR. PERRIER: The witness has already
11 testified that where there is water the
12 fireproofing will fall off. So the proposition
13 being placed to the witness by my friend isn't a
14 fair one.

15 MS. AUTHIER: I can rephrase it
16 actually.

17 BY MS. AUTHIER:

18 Q. Unfortunately I don't have the
19 reference to it before me. Have you read the NORR
20 report, Mr. Truman?

21 A. No, just briefly read the draft.

22 Q. You didn't read the one that came
23 out in March of this year?

24 A. No.

25 Q. Then at the break I'll find the

1 reference and we'll come back to it at that time.

2 MS. AUTHIER: And, Ms. Kuka, if you can
3 turn to Exhibit No. 121, page 279.

4 BY MS. AUTHIER:

5 Q. And, Mr. Truman, this is tab 5 of
6 your brief.

7 A. Sorry, which page for me?

8 Q. Page 279, sorry. And if we look at
9 your note, and this goes to what we were just
10 talking about in terms of the spray-applied
11 fireproofing. And it's your note below opening
12 number 4.

13 MS. AUTHIER: And, Ms. Kuka, if you can
14 expand that for us, please. Switch pages.

15 BY MS. AUTHIER:

16 Q. And it's the third bullet where you
17 say, "spray-applied fireproofing generally in
18 place (vermiculite) may be holding moisture
19 against steel."

20 So I suggest to you that at the time
21 you certainly thought that the spray-applied
22 fireproofing could be holding moisture against the
23 steel?

24 A. This is opening number 1.

25 Q. Is that opening 1? It looks like 4?

1 A. The first one that I viewed. So
2 opening number 4 was the first one that we kind of
3 went under.

4 Q. Hmm hmm.

5 A. So that would be when I'm first
6 being told about this issue. So once we go
7 through our analysis and do all of our reviews we
8 may come to different conclusions.

9 Q. Okay. But was this your observation
10 that it could be holding moisture against the
11 steel?

12 A. It may be holding moisture against
13 the steel. Yes that was my observation, my
14 initial observation. But again the conclusions
15 have to be taken in the context of the entirety of
16 my whole review.

17 Q. And if we go on with that note it
18 says, "Super noted that after it was applied," and
19 I'm assuming that "it" refers to the spray-applied
20 fireproofing?

21 A. Seems like it, yes.

22 Q. "Was more difficult to find leaks
23 because fireproofing held water and permitted it
24 to run behind." So -- and when you reference to
25 the "super" who are you referring to? Is this Mr.

1 Snow? Ken Snow?

2 A. I couldn't tell you who told me
3 that.

4 Q. Okay. But this was whomever at the
5 mall that you were with that day?

6 A. Yeah.

7 Q. And so it's fair to say that you
8 certainly had a discussion with this individual
9 about the possibility of water running behind the
10 fireproofing and becoming trapped against the
11 steel, correct?

12 A. No. The person told me that he felt
13 it was more difficult to actually track the leaks
14 because if he found -- and I'm supposing here, but
15 if you notice a stain on a ceiling tile how do you
16 then follow it straight back up? And what he was
17 saying is that it gets behind the fireproofing so
18 it comes down and comes I guess behind it. And so
19 he was having a difficult time tracking it from
20 one point to the other. That is my interpretation
21 of this note.

22 Q. What's your recollection of the
23 discussion that you had when this note was made?

24 A. Sorry, I don't recall that.

25 Q. So what you're saying to me today is

1 that the notation of "may be holding moisture
2 against the steel" that wasn't your observation?

3 A. No. Well it -- it may have been. I
4 may have gone there and based on what the super
5 told me I write that note down. And then I go on
6 to do my work to determine whether or not that's
7 true.

8 Q. Did you discuss this observation
9 with Mr. Buckley when you returned to the office?

10 A. I can't recall specifically.

11 Q. And so in addition, and we're just
12 going to go through the observations that you did
13 make when you were reviewing above the ceiling.
14 So if we go on you have, "exposed one P/T", I'm
15 assuming that prestressing cable?

16 A. Post tension cable.

17 Q. Post tension cable.

18 A. It would be prestressing in this
19 case, sorry.

20 Q. "pic12"?

21 A. Picture 12.

22 Q. "Bright, clean steel"?

23 A. Hmm hmm.

24 Q. Do I take that to mean that you --
25 did you chip into the bottom section of the slab?

1 A. Yes, we exposed the post tension
2 cables.

3 Q. And it says, "Corrosion potential 6
4 feet along core slab."

5 A. Yes.

6 Q. And what does the -- "on line"?

7 A. Yeah.

8 Q. Of?

9 A. Of post tension cable.

10 Q. Of post tension cable.

11 A. "Prestressing cable." Yes.

12 Q. And what does it say after that?

13 A. "Ranged between -.035 and -.05
14 volts."

15 Q. And what does that mean?

16 A. It means there's a low potential for
17 corrosion. So again because there was no known
18 leak at 4 I was told this was the worst area. We
19 were checking to see what impact the moisture
20 penetration and the chlorides may or may not be
21 having on the prestressing tendons in the core
22 slabs.

23 So what I would do from the underside is
24 use what's called a half cell and we would measure
25 the corrosion potentials on the underside of the

1 slab. There was -- the readings were very, very
2 low. And so there's very little risk of
3 corrosion.

4 And based on our exposing some of these
5 cables we felt that there was no issue with the
6 precast slabs.

7 Q. And so the corrosion we're talking
8 about here is the post tensioning cable within the
9 slab?

10 A. The prestressing tendon, yes.
11 Sorry, I get them mixed up as well.

12 Q. So the next one where you have, "EJ"
13 is expansion joint?

14 A. Yes.

15 Q. "At 10I"?

16 A. Yes.

17 Q. You've indicated, "All fireproofing
18 --

19 A. "All fireproofing is in place. No
20 evidence of leaks behind the insulation."

21 Q. And so I take it that --

22 A. So I was probing behind the
23 fireproofing, and behind the insulation to see.

24 Q. And so the insulation -- are you
25 referring to the batt insulation or the

1 fireproofing?

2 A. In -- by what?

3 Q. I just want to clarify what you've
4 written here. When you say, "No evidence of
5 leakage behind insulation," are you referring to
6 the batt insulation or the fireproofing?

7 A. I can't recall, sorry.

8 Q. And I take it from this note you
9 didn't remove any fireproofing?

10 A. I don't recall that either. I may
11 have.

12 Q. All right. But you haven't made a
13 note of it, correct?

14 A. No. I don't know if we could look
15 at the photos of that it may be clearer because
16 perhaps that's a location -- maybe there was some
17 stuff exposed. I'm not sure.

18 Q. In fairness I don't know if we have
19 a photo that identifies that area. I'm going to
20 look right now.

21 A. Yeah. I'm just wondering if it
22 would help me jog my memory to answer that
23 question.

24 Q. I'm just looking to see if I have a
25 photo here that's referenced as 10I. Although

1 you've identified a number of photos by the grid
2 locations I don't see one at 10I. Perhaps at the
3 break if you want to leaf through and we can come
4 back to that?

5 A. And that's just to answer the
6 question if I was referring to -- what was in
7 front of me when I made that note.

8 Q. All right. And the next one we have
9 "Scotiabank" which I take it was in that area of
10 east of I between 10 and 11?

11 A. Hmm hmm.

12 Q. And you've noted "ceiling hanger
13 corroded through."

14 A. Hmm hmm.

15 Q. "Currently wet, raining." Does that
16 mean that it was raining outside?

17 A. It couldn't have been so maybe it
18 had rained previously and the insulation was wet.

19 Q. And then it says, "Insulation
20 soaking moisture." Actually it says, "Insulation
21 preventing" and that's stroked out "soaking
22 moisture."

23 A. Yeah. So I guess what this is
24 saying is there was insulation that was wet.

25 Q. And the insulation is it the batt

1 insulation or the fireproofing?

2 A. I'm talking about the core slab
3 joint so it's probably the insulation.

4 Q. Okay. All right. And here you've
5 looked at the hangers but there's no reference to
6 having looked at a beam in this area, correct?

7 A. Again this note makes reference to a
8 defect that we observed. So up in that space I'd
9 be checking everything that I could see. And I
10 would take pictures or make notes of issues of
11 concern. And if there weren't then didn't take
12 pictures or make notes.

13 Q. Okay. And if you had taken pictures
14 would you have noted that you had taken pictures?

15 A. Not always.

16 Q. Okay. So how do you --

17 A. I mean most times I would, but if
18 it's not noted here maybe perhaps there isn't a
19 picture related to that. Because I do often, as
20 you can see lower down I have picture 1, 2, 3, 4,
21 5, 6, et cetera.

22 Q. Hmm hmm.

23 A. So I often do that. Occasionally
24 I'll forget.

25 Q. Is it possible that for these two

1 locations the expansion joint and the Scotiabank
2 that you didn't take any photos?

3 A. It is possible. It's possible there
4 were no issues with the structure there.

5 Q. And do I take it that when you
6 prepare your report you use your notes to prepare
7 your report?

8 A. Yes.

9 Q. So I take it that whatever is
10 written here that's the only information you have
11 in front of you, in addition to your photos, in
12 order to prepare that report?

13 A. And my memory, yes.

14 Q. And your memory. And if we go to
15 the next location which is 8 between H and G
16 you've done some more half cell testing, correct?

17 A. Hmm hmm.

18 Q. And again you've exposed
19 prestressing strand?

20 A. Yes.

21 Q. And you've indicated, "significant
22 scale on top flange of beam".

23 A. Yes.

24 Q. "Approximately 3 millimeters".

25 A. Yes, and there's a picture of that.

1 Q. And there's a picture of that. And
2 is it fair to say that this reference here is the
3 same reference we looked at earlier today where it
4 said, "significant scale on top flange of beam"?

5 A. Quite possibly.

6 Q. And in order to --

7 A. Because there's only one note of
8 that here so must be the same location.

9 Q. And in order to arrive at this
10 observation of approximately 3 millimeters of
11 scale what did you do? Did you measure it? What
12 steps do you take?

13 A. If it was more significant I would
14 have measured it. I believe I -- I think I recall
15 there's a photo showing a tape measure --

16 Q. Hmm hmm?

17 A. -- on top of -- measuring the scale
18 I think.

19 Q. Other than measuring it did you do
20 anything else?

21 A. Such as?

22 Q. Did you scrape to see if any of it
23 flaked off or anything like that?

24 A. I don't recall.

25 Q. Did you take any steps to measure

1 loss of section?

2 A. Well that's what we measured, yeah.
3 No -- the -- if the section -- if the corrosion
4 product, what we're seeing here is 3-millimeters.
5 That represents an extremely small section loss.
6 The only time I'd be very concerned and actually
7 have to measure the section is when there's much
8 more significant corrosion product. I have
9 repaired buildings, beams, steel lintels, et
10 cetera where the original lintel is, you know, a
11 quarter inch thick and the corrosion product is
12 double that. And when we scrape it all down and
13 measure the section loss it's still not even 10%.
14 So it would have to be very significant flaking
15 corrosion for us to get concerned enough to
16 actually have to go measure the section loss.

17 Q. But in this case you didn't scrape
18 it all off?

19 A. I don't believe so, no. Wouldn't
20 have had to.

21 Q. And is it fair to say that depending
22 on how thick the original member was the amount of
23 scaling, even if it's 3-millimeters, it could
24 represent a section loss more than 10%, depending
25 on how thick the member is? Does the thickness of

1 the member correlate back to section loss?

2 A. So -- if there's corrosion product
3 in the 1 to 3-millimeter range it typically
4 represents a section loss well under a millimeter.
5 For that to be significant the thickness of the
6 section would have to be only 10-millimeters, so
7 less than half a inch. These are large beams. It
8 wasn't an issue here.

9 Q. So the thickness it could affect it,
10 not in this case but --

11 A. Ultimately yeah. Section loss is a
12 section loss of the you were lying material. The
13 thinner it is the more section -- again we're
14 talking percentages though right. So when I'm
15 framing it as 10 percent section loss that is
16 relevant to size of is the member.

17 Q. All right. And now the next one?
18 Again you did half cell testing at 9H.

19 A. Yes.

20 Q. And you noted "very minor rusting"?

21 A. Yes.

22 Q. And we go to the next one which is 7
23 between G and H. You have, "scale 1 millimeter"

24 A. Yes.

25 Q. "Underside top flange".

1 A. Right.

2 Q. And then you have -- these are
3 general comments?

4 A. So now once I've finished my review
5 I make some general observations. So this is
6 where if I felt there was issues with water
7 running behind fireproofing I summarize it in a
8 general note. And so by that point I didn't feel
9 that was an issue.

10 Q. And your general note says,
11 "Corrosion on bottom flange at each location,
12 varying corrosion on exposed beam, leaks run on to
13 beams and typically right into building."

14 A. Yes.

15 Q. "Approximately 90 percent."

16 A. Yeah.

17 Q. And when you say 90% you mean 90% of
18 the locations you looked at?

19 A. Based on my observations I felt that
20 it was likely 90% of the leaks followed that path,
21 but potentially more. What I'm trying to say is
22 that most of the leaks followed that pathway.

23 Q. So this 90% references the building
24 as a whole?

25 A. Yes.

1 Q. Okay. "Beam corrosion is minor
2 scaling and surface corrosion."

3 A. Yes.

4 Q. And you'll agree with me that this
5 one page of notes are the notes that you took on
6 the interior of the mall excluding including the
7 openings, the walkways and the surface areas.

8 A. Correct.

9 Q. So these would be the tenant spaces.

10 A. Excluding the exterior walkways?

11 Q. Excluding the walkways.

12 A. The exterior?

13 Q. Yes.

14 A. Yes.

15 Q. The service corridors and the
16 topside openings for these observation.

17 A. Okay. I'm -- they seem to refer to
18 the areas that I climbed a ladder and went into
19 the ceiling space.

20 Q. Yes.

21 A. So I guess by definition it excludes
22 those other areas.

23 Q. And you'll agree with me that in
24 these notes there's no reference to connections?

25 A. Correct.

1 Q. Okay.

2 A. Again, no observed issues with the
3 connection so there's no note on them.

4 Q. But it certainly doesn't even
5 indicate where or not you looked -- the notes
6 don't speak to looking at a connection. Whether
7 you saw something or not it doesn't even say,
8 Looked at a connection, it was fine.

9 A. We don't often record the fact that
10 we look at every element in the building and write
11 down that it's okay. We're looking for defects
12 and that's why we tell you what we've done in our
13 approach and our methodology and that's what we
14 did do.

15 Q. Is it fair to say that the
16 inspection of the connections that you would have
17 done would have been incidental to the other areas
18 you were looking at?

19 A. Sorry?

20 Q. So none of these areas were
21 specifically to look at a connection? You were
22 looking at something else and you would have
23 perhaps --

24 A. Accidentally looked at the
25 connection?

1 Q. I didn't say accidentally I said
2 incidentally?

3 A. No. My job was to review the
4 structure and that includes beams and connections.
5 While up in the ceiling space I'm reviewing the
6 structure and that includes beams and connections.

7 Q. Did your observations at these
8 locations warrant further review of more
9 locations?

10 A. Definitely not.

11 Q. And if they had what action would
12 you have taken?

13 A. We would have made that
14 recommendation to the client.

15 Q. And that would have been in your
16 report?

17 A. Absolutely.

18 Q. Now, can we go back to your report
19 at Exhibit No. 70, tab 4 in your book. Page 7.
20 And if we look at paragraph 4 from the bottom that
21 starts with, "Corrosion of steel support beams is
22 minor."

23 A. Hmm hmm.

24 Q. In this paragraph you reference that
25 area of the thicker scaling that we looked at

1 previously.

2 A. Yes.

3 Q. But you don't note its location,
4 correct? You don't indicate in the report the
5 area of the mall where you saw this beam. You
6 don't say, gridline --

7 A. I don't know. Did I?

8 Q. Well take a moment and look through
9 your report. You reference the interior space
10 again in general.

11 A. Correct. I see on page -- my page
12 15, on page 19 it shows where I measured the
13 corrosion. That's probably referring back to
14 that. You're correct, it doesn't specifically
15 stated where it's located.

16 Q. And your notes weren't attached to
17 the report?

18 A. Correct.

19 Q. So the owner, although they would
20 have seen your observation of the thicker scaling
21 wouldn't have necessarily known where you had made
22 that observation?

23 A. The report wasn't for the owner it
24 was for a potential purchaser. They might not
25 have been the owner ultimately.

1 Q. Okay. But for the --

2 THE COMMISSIONER: A reader.

3 BY MS. AUTHIER:

4 Q. A reader, thank you. The reader
5 isn't going to know --

6 A. Correct.

7 Q. -- the location of that thicker
8 scaling?

9 A. That's correct.

10 Q. Thank you. And you'll agree me that
11 -- so your report indicates that the "...thicker
12 scaling...only represents less than 1mm of
13 original surface loss and is a relatively
14 insignificant portion of the overall steel cross
15 section."

16 A. Correct.

17 Q. Did you explain to the client at
18 what point the scaling becomes significant or
19 represents a significant loose of section?

20 A. No, we made a recommendation to have
21 them repair it. And our expectation was that if
22 they followed the recommendation we wouldn't be
23 concerned with that.

24 Q. You'll agree with me that clients
25 don't always follow recommendations?

1 A. I suppose that's true.

2 Q. All right. And if we could turn to
3 page 8, Ms. Kuka.

4 THE COMMISSIONER: Perhaps this might be
5 a good time, Ms. Authier, to take our morning
6 break. Twenty minutes, Mr. Registrar.

7 --- Morning break taken at 10:45 a.m.

8 --- Upon resuming at 11:05 a.m.

9 MS. AUTHIER: Mr. Kuka, we were at
10 Exhibit No. 70, page 8.

11 BY MS. AUTHIER:

12 Q. And, Mr. Truman, that's again tab 4
13 in your book. All right. And these are the
14 recommendations that you made in your report,
15 correct?

16 A. Yes.

17 Q. And we'll start with -- we'll start
18 from the beginning.

19 "To address your requirements we recommend
20 the following as Option 1:

21 - Rout and seal at joints and cracks in
22 the parking deck topping and walkway
23 canopies, ensuring a proper joint profile
24 and surface preparation prior to placing
25 the sealant;

- 1 - Remove sealant from the underside of the
2 joints in the walkways;
3 - Clean and paint all exterior structural
4 steel, particularly the beams along the
5 walkways;
6 - Reinstate spray-applied fireproofing to
7 the structural steel;
8 - Replace corroded suspended ceiling
9 hangers (as part of regular maintenance);
10 and
11 - Reinstate all batt insulation at the
12 underside of the parking deck."

13 You also go on in the second-to-last
14 paragraph as "An alternative to sealing joints in
15 the topping would be to provide a waterproofing
16 membrane, as noted in our initial report, further
17 referred to as Option 2."

18 And then you go on to describe what the
19 membrane would do. And those are the two options
20 that you proposed to Retirement Living, correct?

21 A. Correct.

22 MS. AUTHIER: And, Ms. Kuka, if you
23 could turn up page 9 quickly.

24 BY MS. AUTHIER:

25 Q. You've included a chart as to the

1 cost of those two options, correct?

2 A. Yes.

3 Q. And you have the rout and seal
4 option for \$433,000 and the membrane option at
5 \$776,000?

6 A. Correct.

7 Q. And in your summary of costs you
8 make reference to contractors mobilization and
9 site protection. And construction contingencies
10 engineering design and project management,
11 correct?

12 A. Yes.

13 Q. And so in this portion of the report
14 you do make reference to contractors, correct?

15 A. Correct.

16 Q. For the routing and sealing?

17 A. Correct.

18 Q. But if we go back to page 4.

19 MS. AUTHIER: Sorry, Ms. Kuka, it's page
20 8 of the document, page 4 of his report.

21 BY MS. AUTHIER:

22 Q. If we go back to your
23 recommendations, do you agree with me that in your
24 recommendations it does not state anywhere in here
25 that the work must be done by contractors? You've

1 given a price to do the work by contractors, but
2 it doesn't say it has to be done by a contractor?

3 A. In that statement, no, it doesn't
4 say it has to be done by a contractor.

5 Q. Okay. And so do you agree, if I
6 suggest to you that a reader looking at these
7 recommendations could believe, because it doesn't
8 specifically say, In order to be effective this
9 work must be carried out by a qualified
10 contractor. They could believe that they could do
11 it themselves with their own maintenance staff?

12 A. No, we told them that what they were
13 doing was not being done properly. And I think
14 more to the point, they'd been carrying that type
15 of work on for some time without success so why
16 would they think they could continue.

17 Q. So what you're saying to me is that
18 to do it with maintenance staff was not
19 appropriate?

20 A. Correct.

21 Q. And it's your position that it had
22 to be done with qualified contractors?

23 A. Building repairs should be done by
24 qualified contractors, yes.

25 Q. Okay. And we looked at earlier

1 today the letter that appeared to have accompanied
2 this report?

3 A. Okay.

4 Q. Where there is a recommendation of
5 the joint sealing, which is the rout and seal.
6 What was the -- do you recall what the primary
7 reason was for making this recommendation other
8 the application of a membrane?

9 A. Again I suspect it was to meet the
10 client's budget. We felt that the routing and
11 sealing option was viable.

12 Q. Okay. And how effective would the
13 routing and sealing have been for stopping the
14 leaks in comparison to a membrane?

15 A. Well again being an engineer I have
16 to qualify that. If the membrane was properly
17 detailed it would probable be more effective and
18 require less maintenance.

19 Q. Okay. And putting aside factors of
20 cost and inconvenience from having to shut down
21 the parking garage, because presumably with a
22 membrane you would have to shut it down?

23 A. Portions.

24 Q. Portions. Which option had the
25 greater chance of success. If you put aside cost,

1 money was no object, what would have been your
2 recommendation?

3 A. If money was no object clearly a
4 membrane was a better option.

5 Q. And those are the two options that
6 Mr. Celli had put in his report, correct?

7 A. Correct.

8 Q. Both options included a membrane?

9 A. Yes. Based on his assumptions at
10 the time, yes.

11 Q. And it was just a difference of
12 whether the membrane went above or below the
13 topping, correct? Because if he wasn't sure of
14 where the insulation was?

15 A. Correct.

16 Q. Did you have any concerns that
17 Option 1, being the routing and sealing, would not
18 be effective in stopping the chloride-laden water
19 from continuing to penetrate the building?

20 A. No, there's many structures that are
21 sealed in that manner that are effective at
22 resisting moisture penetration.

23 Q. Now you use the word "resisting",
24 what's your definition of resisting versus using
25 the word watertight? Do you agree that resisting

1 isn't a hundred percent watertight?

2 A. The terms are to limit moisture
3 penetration. No system is ever a hundred percent.

4 Q. All right. And if we can carry on
5 into your report at page 10, Ms. Kuka. Page 6 of
6 your report, Mr. Truman. The observations. The
7 second paragraph, the last line you indicate,
8 "Replacement of failed sealants and debonded
9 toppings has been performed by mall maintenance
10 staff on a regular basis."

11 In your opinion is the replacement of
12 failed sealants and debonded topping by
13 maintenance staff appropriate? Is that an
14 appropriate method of maintenance?

15 A. It would be better to have properly
16 detailed specification executed by qualified
17 contractors.

18 Q. What about mall maintenance staff
19 following instructions from maybe a contractor or
20 --

21 A. If they had the expertise that a
22 contractor had, maybe, I don't find that typically
23 to be the case.

24 Q. And based on your observations from
25 the condition of the deck when you were there in

1 1998, do you feel that the maintenance staff that
2 was working on the roof that they had the proper
3 expertise and knowledge?

4 A. No.

5 Q. Would you have had concerns if you
6 had known that Retirement Living, after they had
7 purchased the mall, had the routing and sealing
8 done by their maintenance staff? If you had known
9 that at the time that that was their plan, would
10 you have had concerned with that?

11 A. If they had come back to us after
12 this report and said, Look, we're planning to
13 continue this with our maintenance staff, we would
14 have said, We don't think you should do that. You
15 should tender this out and get it done by a
16 qualified contractor.

17 Q. Okay. And do you agree with me that
18 the option of routing and sealing, other than your
19 recommendation that they use qualified
20 contractors, the routing and sealing was really no
21 different that what the previous owner had been
22 doing all along?

23 A. Not significantly different.

24 Q. How.

25 A. The joint profiles are a significant

1 aspect of caulked joint performance and if they're
2 not properly detailed, designed and implemented
3 the caulked joint won't work.

4 And what was there previously wasn't
5 properly detailed. And I can't say much about how
6 -- I wasn't watching them do the repairs so I
7 can't say if they were doing it improperly or not.
8 But unless you're experienced with understanding
9 surface preparation, I think it would be very
10 difficult to do a good job at it.

11 Q. Okay. Is it fair to say that Algoma
12 Central had been doing a routing and sealing just
13 not well?

14 A. I don't know that they were routing.

15 Q. Okay.

16 A. I don't believe they were using
17 mechanical equipment to abrade the joint. I think
18 they were just pulling out the old caulking and
19 pouring in new caulking.

20 Q. And did you speak to the maintenance
21 staff at all when you were there? Do you recall?

22 A. Yes.

23 Q. And did you ask them what they had
24 been doing?

25 A. In fact they showed me a sheet of

1 paper --

2 Q. Okay.

3 A. -- that was their maintenance
4 procedure and I told them it wasn't correct
5 because of the joint profiles.

6 Q. Okay. And you indicated earlier
7 today that you read Ms. Guertin's willsay?

8 A. Yes.

9 Q. Did you have occasion to read Mr.
10 Quinn's willsay?

11 A. No I haven't.

12 Q. And if I indicate to you it's
13 anticipated that Mr. Quinn will testify, when he
14 comes in later this week, that Retirement Living
15 had interpreted your recommendation of routing and
16 sealing as Halsall validating as proper the
17 procedures that had been used by Algoma.

18 A. That's incorrect.

19 Q. Were you aware that this is how they
20 had interpreted your report?

21 A. No.

22 Q. It's also anticipated that Mr. Quinn
23 will testify this week that you had instructed him
24 on how to rout the cracks, including putting in a
25 backer rod?

1 A. No. I didn't instruct him on how to
2 do it. I think we talked about when he brought me
3 the procedure I told him what was wrong with it
4 and how you do a proper joint -- sorry, in respect
5 of -- so if I tell him that the Vee groove was is
6 not properly done and he asks, Why not? And I
7 describe the fact that a proper joint has to have
8 a 2-to-1 profile and it has to have a bond break
9 in order to limit 3-sided adhesion, which is what
10 they were getting in the Vee grooves. I did not
11 say, Go ahead and do this work.

12 MS. AUTHIER: Ms. Kuka, if you could
13 pull up Exhibit No. 121.

14 BY MS. AUTHIER:

15 Q. And this is tab 5 in your look, Mr.
16 Truman, page 272. And are these your notes, Mr.
17 Truman?

18 A. Yes.

19 Q. And I want to deal with the notes
20 that are above the line.

21 A. Okay.

22 Q. Do you recall when and why you made
23 these notes? And take a moment to read them.

24 A. Hmm hmm. It's a -- it's a way for
25 me to estimate the potential cost of repair.

1 Q. Okay. And if we look at what you've
2 written, so we have 13000-meters of joints.

3 A. Yes.

4 Q. And was that your estimate of how
5 many joints there were on the roof in total?

6 A. Yes.

7 Q. And you have "say 1% debonded."

8 A. Yes.

9 Q. "At 150mm wide". And then you do a
10 calculation that gets you to the 20 square meters?

11 A. Yes.

12 Q. And then I presume that the five
13 percent is your -- you're doing a calculation
14 based on --

15 A. I'm trying to bound my estimate, so
16 trying to come with an upper and lower bound.

17 Q. Okay. And then you have at \$200 a
18 square meter?

19 A. Yes.

20 Q. You have a range of 4,000 to 20,000?

21 A. Yes.

22 Q. And then you've indicated say
23 10,000?

24 A. Yes.

25 Q. What are you referencing? What

1 amount --

2 A. To repair the debonded toppings.

3 Q. So this is for the topping?

4 A. Yes.

5 Q. And so are you saying that it would
6 be \$10,000 to have a contractor repair the bonded
7 topping?

8 A. To repair the areas where the
9 topping was debonded from the precast.

10 Q. And then the next one we see is
11 "wash and pressure grout voids at joints."

12 A. Hmm hmm.

13 Q. And then you've got "urethane?
14 epoxy?" What is that in reference to?

15 A. We were finding in some areas below
16 the leaking cracks there were small voids due to
17 freeze-thaw deterioration. So the moisture would
18 get trapped on top of the precast, cause some
19 deterioration in the underside of the topping.
20 And to repair it we wanted to go in and inject --
21 and I have a question mark there. I wasn't sure
22 what material we would use.

23 Q. And here you're saying that to do
24 this --

25 A. So then we went -- I reviewed this

1 with the senior structural designer, a gentleman
2 named David Laird. And we were talking about
3 whether or not the topping was an integral
4 component of the deck. And what Mr. Laird was
5 saying is that the core slab capacity is the core
6 slab capacity. Granted it may be improved by
7 having the topping over it but there was still
8 sufficient capacity in the core slabs that you
9 didn't need the topping for it to be used as a
10 parking deck.

11 And so then we decide we didn't need to
12 go and repair those debonded areas.

13 Q. Okay. And so these notes are made
14 after you've left Elliot Lake?

15 A. Yes.

16 Q. And the reference to "No. Doesn't
17 affect structure and if keep water out." What
18 does that mean?

19 A. So that -- having those voids in the
20 debonded topping doesn't affect the structure.
21 And if we keep the water out we shouldn't be
22 concerned about it.

23 Q. So you're telling me that these are
24 notes of your discussion with David Laird?

25 A. Yes. This is going back to the

1 office, trying to come up with a budget and a
2 repair approach.

3 Q. Okay.

4 MS. AUTHIER: Ms. Kuka, if you could
5 then bring up page 282.

6 BY MS. AUTHIER:

7 Q. And again these are your notes?

8 A. Yes.

9 Q. And we see it indicates "Repair
10 options: 1. R&S jts & cracks", rout and seal
11 joints and cracks, correct?

12 A. Hmm hmm.

13 Q. "Repair debonded topping."

14 A. Hmm hmm.

15 Q. "High maintenance."

16 A. Hmm hmm.

17 Q. "10-15 years (or do in phases)."

18 A. Hmm hmm.

19 Q. "Show money".

20 A. Show dollars.

21 Q. "Show dollars for say four years."

22 A. Yes.

23 Q. And what are you reffing to in terms
24 of -- are you suggesting that they could stretch
25 out the rout and seal repair option for 10 to 15

1 years.

2 A. I think I was writing down my
3 options, potential options before I discussed it
4 with Mike.

5 Q. Okay. And then the reference to
6 maintenance staff there?

7 A. Yeah.

8 Q. Was that a reference to having the
9 maintenance staff do this work?

10 A. I think I was asked that maybe. I
11 don't know that this refers to. I don't recall
12 specifically. I'm guessing right now I may have
13 been asked on site if the maintenance staff could
14 actually do the work.

15 Q. And here you had a question mark?

16 A. Yeah.

17 Q. So at the time you weren't certain.
18 Because if we look below when you talk about the
19 membrane at Option 2?

20 A. "Need contractor."

21 Q. You last bullet actually says, "Need
22 contractor."

23 A. Right.

24 Q. So if I suggest to you, based on
25 this note, that perhaps you had a conversation

1 with Mr. Quinn of the possibility of the
2 maintenance staff doing the rout and seal.

3 A. He asked me about it.

4 Q. And so is it possible that you
5 indicated to him, it's -- it may be a possibility
6 based on this note?

7 A. I would have said -- I wouldn't have
8 told him what my conclusions are from my
9 investigation. I would have only been discussing
10 the document that he gave me which outlined the
11 procedure that they were following at the time.

12 Q. And so you reviewed that procedure
13 with them?

14 A. I have this recollection of being up
15 on the top deck, standing around an opening
16 looking at it, some people coming up to me, I
17 can't remember who it was, being handed a piece of
18 paper and I remember reviewing this maintenance
19 procedure. And the thing that stuck out at me was
20 the Vee grooves. And I said that this procedure
21 doesn't work. This isn't the way you should be
22 doing this. So my question mark here, I'm
23 assuming this means once I discussed this -- maybe
24 that -- maybe the client asked me, Is this is a
25 possibility? And so when I'm sketching these

1 notes out in preparation for my discussion with
2 Mike Buckley that would have been something I
3 brought up with him to discuss.

4 Q. So is it fair to say that during
5 this discussion on the roof deck where they've
6 shown you the procedure, and someone has raised
7 the work being done by the maintenance staff, is
8 it fair for me to suggest to you that at that time
9 you didn't say no on the maintenance staff?

10 A. The person doing it was my friend,
11 Jeff Parsons. I distinctly remember kind of
12 snorting at the fact that he was doing the work
13 during this process. I'm sure I said, These guys
14 are doing this work? They're not -- are they
15 taking -- are they taking a mechanical grinder?
16 Are they grinding out the joints? They weren't.
17 So as I told him at the time that procedure wasn't
18 proper.

19 Q. You told him the procedure wasn't
20 proper?

21 A. Yeah.

22 Q. In terms of not routing out the
23 joints mechanically?

24 A. I can't recall the specifics of the
25 conversation, but there is no way I would have

1 agreed if the question was posed to me, Can these
2 guys continue to do the work? There's no way I
3 would have agreed to that.

4 Q. Okay.

5 A. Because it was obvious to me at the
6 time that they weren't successful. Another thing
7 I remember distinctly is there was a crack and a
8 large area where there's some concrete
9 deterioration they'd simply filled it up with
10 caulking and I pointed out that that wasn't right
11 either.

12 Q. Okay. That's not referenced in your
13 report though. I don't recall seeing that.

14 A. I don't think so, no. But I think
15 there's a picture that shows that area that I'm
16 talking about. Because that's how I remember it.
17 I think it's in one of the pictures of the top
18 side where we made our opening.

19 MS. AUTHIER: And, Ms. Kuka, can we
20 actually go back to page 272?

21 BY MS. AUTHIER:

22 Q. Now you'll agree with me that the
23 amounts you have here for the topping -- so for
24 the first part in terms of the topping repair, and
25 I'm assuming this would include the routing and

1 sealing?

2 A. No, that's just topping repair.

3 Q. That's just topping repair, all
4 right.

5 A. So then I'd have to take the 13,000
6 meters of joints and multiply that by a unit rate
7 to come up with a sealant replacement.

8 Q. But that's not showing on this
9 document?

10 A. No.

11 Q. Okay. All right.

12 MS. AUTHIER: Ms. Kuka, if you can go
13 back to Exhibit No. 70, page 11.

14 BY MS. AUTHIER:

15 Q. Now, in the first paragraph in the
16 first and second sentence,

17 "Corrosion of the steel beams supporting
18 the precast panels has a occurred at leak
19 locations, typically causing the red-oxide
20 coating to be removed by surface
21 corrosion. Severe scaling has generally
22 not occurred."

23 Now you don't go on and advise the
24 client that if they don't stop the leakage that
25 severe scaling could occur and that there could be

1 some structural integrity issues down the line, do
2 you agree?

3 A. We made a recommendation for repair.
4 And our expectation was that these issues would
5 not be of concern if they followed that
6 recommendation.

7 Q. But again you didn't know whether
8 they would carry out the repairs?

9 A. No.

10 Q. And there was always the possibility
11 that they wouldn't carry out the repairs?

12 A. I mean I suppose. But I don't know
13 what building owner allows his roof to
14 continuously leak.

15 Q. Do you agree with me that it would
16 have within prudent to provide a warning on what
17 would happen if they did nothing?

18 A. My experience is always that we look
19 at the "do nothing" option. We didn't provide
20 them with "do nothing" or "as is" option in this
21 point. We gave them two options, fix it or fix
22 it. There wasn't a wait and see, there wasn't a
23 keep doing what you're doing. There wasn't
24 anything that referred them to anything other than
25 fix it properly or fix it properly.

1 Q. Well why wouldn't you put in -- and
2 I appreciate Halsall felt that the work needed to
3 be done, but why not include a "do nothing" option
4 to provide that warning?

5 A. It's not a viable option.

6 Q. But do you agree that --

7 A. You don't let your roof continue to
8 leak.

9 Q. But do you agree with me that
10 there's always the possibility that the client,
11 despite being given two options, and being told
12 that it needed to be fixed, that the client could
13 choose to do nothing? Would it not be important
14 in that circumstance to tell them what would
15 happen if they did nothing?

16 A. Tell the client who lives in
17 northern Ontario the effect of salt and water on
18 steel.

19 Q. Yes.

20 A. I would think that's fairly obvious.

21 Q. I think under the circumstances it
22 may not have been given the outcome.

23 A. I think what wasn't -- now I don't
24 think that's a fair statement all.

25 MR. PERRIER: In fairness to the witness

1 that's his testimony. And I don't think it's --
2 and counsel is not to argue with his testimony.
3 That's his testimony.

4 THE COMMISSIONER: I think he's answered
5 your question, Ms. Authier.

6 MS. AUTHIER: That's fine. Ms. Kuka, if
7 you could turn to page 18.

8 BY MS. AUTHIER:

9 Q. And now we've looked at this photo
10 before, this is page 14 of your report?

11 A. Sorry, what tab?

12 Q. Tab 4.

13 A. What page?

14 Q. It's page 18 at the bottom, 14 of
15 your report.

16 A. Okay.

17 Q. Now this is one of the photos that
18 you referenced. And I believe you told me that
19 you did not remove any fireproofing on this beam?

20 A. I said I don't recall that, yeah.

21 Q. Okay.

22 A. So as you can see here the corrosion
23 is on the top flange and it is exposed.

24 Q. All right. And can you identify is
25 that whole top flange corroded, is that what --

1 A. No, there's one -- there's two
2 spots. One is directly below the joint and the
3 other is just slightly beside it.

4 Q. So the two darker areas --

5 A. Correct.

6 Q. -- are the corrosion? Is that
7 accurate?

8 A. That's right.

9 Q. And if we look at your observation,
10 "Moisture penetration to interior is directly
11 through precast panel joints." I'm assuming
12 you're referencing the joints that we see up in
13 the top of the photo?

14 A. That's correct.

15 Q. "Mall maintenance and measurements
16 indicate low points in the parking deck are at
17 support beam locations." What does that mean?
18 What was the reader to interpret from that?

19 A. This is interesting. So again, as
20 we're kind of working through this and collecting
21 our observations we're developing a sense of
22 what's happening on the structure. What we were
23 finding -- so maintenance and our observations
24 confirmed that the deck typically drained towards
25 the beams. And I explained a little bit earlier

1 that where the precast comes together that joint
2 is grouted quite solid and that the leaks weren't
3 occurring through the joint and into the precast,
4 but rather the joints that butted perpendicularly
5 into that joint.

6 And what this photo and the comments are
7 intend to express is that specific observation,
8 that the leaks are tending to occur at these
9 joints. So that's what these comments are intend
10 to represent.

11 Q. And maybe to help you out I think I
12 know what observation perhaps you're referring to
13 from your notes.

14 MS. AUTHIER: And, Ms. Kuka, if you
15 could you could pull up Exhibit No. 121 again.

16 BY MS. AUTHIER:

17 Q. And it's tab 5 of your book and it's
18 page 275.

19 A. Okay.

20 Q. And if you look at the fourth
21 bullet. Where you have indicated, "Ken". And I'm
22 assuming this is Ken Snow?

23 A. Yes. Because they're still cambered
24 even with the topping. Yeah, I see that.

25 Q. It says, "Core slab still cambered

1 even with topping." And then you also make a
2 note, "(Good, keeps moisture at one end)." Is
3 that what that says?

4 A. Yes.

5 Q. So is this in reference to what was
6 noted at that photo?

7 A. Yes.

8 Q. Okay. And can you -- when you say
9 "still cambered" so as you explained the water
10 runs to the ends?

11 A. Yeah.

12 Q. On to the support beams, correct?

13 A. To the joints over top of the
14 support beams, yes.

15 Q. And what did you mean by "Good,
16 keeps moisture at one end." What does that mean?

17 A. So that you weren't having random
18 leaks, so it's directing the moisture to certain
19 areas.

20 Q. Okay. And so do I take that to mean
21 that even though there was a topping on the roof
22 deck that camber, which we've heard through
23 testimony here meant that there was still --

24 A. Right.

25 Q. -- a curve to the slab, for lack of

1 a better description?

2 A. Correct.

3 Q. Okay. So even with the topping that
4 was still there.

5 A. Yes.

6 Q. And the water was being directed to
7 the beams?

8 A. Yes.

9 Q. And by extension does that mean that
10 the water could also be directed towards the
11 connections?

12 A. If this's a connection directly
13 below a joint in the precast, yes.

14 Q. Okay. And so in areas -- because of
15 that camber that remained in the slab, in areas
16 where there was a joint over a beam then the water
17 could be directed on to that connection?

18 A. Potentially, depending on the
19 configuration. Yes.

20 MS. AUTHIER: Ms. Kuka, if we could go
21 back to Exhibit No. 70, page 19.

22 BY MS. AUTHIER:

23 Q. So this is tab 4 of your book, page
24 19 of the document, 15 of your report.

25 A. Okay.

1 Q. In this photo this is the beam we
2 spoke about earlier with the corrosion that you
3 measured?

4 A. Hmm hmm.

5 Q. And this is the photo with the
6 measuring tape. And so if you can just, for the
7 purposes of the Commission, identify where we're
8 seeing the corrosion product?

9 A. Can I point on screen?

10 Q. Yeah.

11 A. It's this little band in there.

12 Q. So the area that the witness was
13 pointing to was the area where the measuring tape
14 is showing that first from the steel point of the
15 measuring tape down to the top of the beam -- top
16 of the top flange of the beam, he was showing some
17 corrosion. Is that an accurate description?

18 A. That's right.

19 Q. For the purpose of the transcript.

20 A. That's right. And the tape is there
21 for scale not specifically to measure because you
22 can see it's kind of angled. It's not turned so
23 that the millimeter readings are laying against
24 the scale.

25 Q. Although this is showing almost 10

1 millimeters.

2 A. Right. That's why I'm saying it's
3 tilted. If that was actually laid flat I don't
4 think it would be showing that.

5 Q. All right. Do you recall the
6 condition of the remainder the of the flange?
7 Because in the photo it's showing up as black.

8 A. Yeah, I can't recall.

9 Q. Okay. Do you recall if it was that
10 colour or --

11 A. It's hard to tell. It looks like --
12 the photo looks like it's really grained out so I
13 can't really tell if that's surface corrosion or
14 what that is.

15 Q. And do you have any recollection --

16 A. No.

17 Q. -- as to the condition of the
18 remainder of the beam?

19 A. No.

20 Q. And we've already heard that you
21 didn't try to flake off any of this corrosion?

22 A. Well that corrosion that I'm
23 measuring is on the top flange so I wouldn't be
24 able to remove it. It's sandwiched between the
25 precast and the beam.

1 MS. AUTHIER: Ms. Kuka, if you could now
2 turn to page 20. Actually sorry, page 21.

3 BY MS. AUTHIER:

4 Q. And the heading on this one is
5 "Precast Panel Prestressing Stands." And I have
6 to admit to you this is the first time of all of
7 the reports that we've seen to date where there's
8 reference to carbonation. And your report does
9 provide a definition of what carbonation means.

10 A. So again that's why I said concrete
11 is my expertise.

12 MS. AUTHIER: And, Ms. Kuka, just for
13 the purposes of the definition at page 27, and
14 it's at the bottom of the page.

15 BY MS. AUTHIER:

16 Q. And we see here you've provided a
17 definition of carbonation. Which you've
18 indicated,

19 "Atmospheric carbon dioxide normally
20 penetrates concrete, reacting with the
21 concrete components that offer protection
22 to embedded steel. The reaction causes a
23 reduction in the alkalinity of the
24 concrete and, like chlorides, acts to
25 break down the protection against

1 corrosion which concrete normally provides
2 for steel. Carbonation occurs at the
3 greatest rate in the presence of
4 sufficient but not excessive moisture -
5 between 50% and 70% internal relative
6 humidity. Carbonation typically occurs at
7 an average rate of about 1mm per year and
8 slows over time. The rate depends greatly
9 on exposure conditions and concrete
10 quality and can therefore vary from
11 element to element on a building."

12 Can you explain that in more layman's
13 terms so that everyone here can understand what
14 that means?

15 A. Concrete has a normally high pH, and
16 the high pH acts to protect the steel that's
17 embedded within concrete. When carbon dioxide
18 moves through concrete it reacts with the concrete
19 to reduce the pH. Once that reaches the level of
20 the steel, with the reduced protection corrosion
21 can be initiated under the right circumstances.

22 Q. Okay. And if I understood that
23 definition correctly, carbonation can have the
24 same effect as chloride in terms of spalding the
25 concrete and have it pop off if the steel becomes

1 corroded inside?

2 A. Same effect, yes.

3 MS. AUTHIER: Ms. Kuka, if you can go
4 back to Exhibit 70, page 21. Same page where we
5 were at.

6 BY MS. AUTHIER:

7 Q. And now the last sentence under
8 "Observation" you indicate, "Carbonation of the
9 concrete (carbonated areas will not turn pink) is
10 less than 5mm where checked."

11 Did you mean will turn pink? I'm just
12 trying to -- to be honest I read this --

13 A. No, carbonated areas will not turn
14 pink.

15 Q. Okay.

16 A. So the fact that -- oh. Carbonated
17 areas will not turn pink.

18 THE COMMISSIONER: Is that an indication
19 of good health?

20 THE WITNESS: So when it's turned pink
21 the pH is high, sorry.

22 BY MS. AUTHIER:

23 Q. Because I can tell you when I was
24 reading this I was a little confused.

25 A. Yeah.

1 Q. So the pink area that we see?

2 A. Means it's good.

3 Q. Means it's good?

4 A. Yes.

5 Q. Does that mean that the rest of the
6 area is not?

7 A. No.

8 Q. Okay.

9 A. So what this area is we --

10 Q. Hold on, hold on. Actually before
11 you step -- just because the mic won't catch you
12 so Justin will bring you a mic.

13 A. Okay. So in order to check the
14 condition of the prestressing tendon we have the
15 contractor kind of chip away the concrete in this
16 area. So this is the underside of the precast
17 slab as it sits.

18 Q. Okay.

19 A. So we were checking the depth. We
20 chip away the surface and spray it. So as soon as
21 we chipped away just the surface you could see
22 just directly under the surface the pH is really
23 high so it's not carbonated.

24 Q. So you only sprayed the area where
25 the pink appears?

1 A. Correct.

2 Q. So you didn't spray anywhere else?
3 I just want to get -- so we have an accurate
4 understanding.

5 A. The surface is always carbonated.

6 Q. Okay.

7 A. But with high-density concrete, and
8 precast concrete is high density, we don't expect
9 to see carbonation progress at all. So this was
10 just a quick check, but we normally don't have to
11 worry about carbonation in high-strength
12 concretes.

13 Q. And I understand that you would have
14 sprayed phenolphthalein?

15 A. Yes.

16 Q. So you only sprayed it in that area
17 where it's pink?

18 A. Right. Just to show that once
19 you're under the surface the pH is still good.

20 Q. And again, just so that we have an
21 understanding of this process, because this the
22 first report we've seen that speaks of
23 carbonation. If I understood the definition
24 correctly, does exposure -- so exposure to
25 moisture has the chance of increasing that

1 carbonation?

2 A. Um...atmospheric humidity increases
3 the rate of carbonation.

4 Q. Okay.

5 A. Physical moisture does not.

6 Q. All right. So leaking into the mall
7 like had been experienced.

8 A. Could be because you're creating
9 local humidity issues.

10 Q. Okay.

11 A. So again that's another reason why
12 we were checking to see what the impacts were.
13 But as I mentioned, with high-density concretes we
14 don't usually see that as a problem.

15 Q. Okay. So the leaks in the mall had
16 the potential of increasing the humidity within
17 that ceiling space?

18 A. No, what happens is the leak would
19 come down through a joint and say wet an area of
20 soffit, and that constant wetting and drying may
21 cause local increases in carbonation.

22 Q. Now, other than in the definition,
23 which I have to be honest I had trouble
24 understanding. You actually don't reference that
25 in the report that the constant wetting could

1 increase the carbonation?

2 A. Again it's not a significant issue
3 with this type of concrete

4 Q. Okay.

5 MS. AUTHIER: Ms. Kuka, if I could have
6 you turn to Exhibit No. 69. Actually sorry, Ms.
7 Kuka, we already dealt with this.

8 BY MS. AUTHIER:

9 Q. Now for this project, your
10 responsibilities included going to the site,
11 making observations and you made your notes and
12 then you were to draft a report, correct? And Mr.
13 Buckley was to review your report?

14 A. Yes.

15 Q. What procedure did you follow on
16 this project. Once you came back to -- I'm
17 assuming you went back to Toronto?

18 A. Yes.

19 Q. So once you went back to Toronto
20 from Elliot Lake, did you sit down with Mr.
21 Buckley at that time to discuss your observations
22 or did you immediately draft the report?

23 A. I couldn't tell you the exact
24 process, but normally I make a bunch of notes,
25 come up with general observations, develop a

1 budget, discuss the approach and then get down to
2 writing.

3 Q. Okay. So you would have discussed
4 your observations with Mr. Buckley?

5 A. That's the normal process.

6 Q. And would he have reviewed all the
7 notes that you made, or would it have been a
8 general discussion?

9 A. So usually the way -- the way it
10 works is a -- he would be asking me questions
11 about what were important in his mind. What did
12 you see with this? What did you see with that?
13 And we'd talk about the pictures. I would tell
14 him what I thought and what my approach would have
15 been. I discussed that first with Ed Welch the VP
16 of the restoration group because they had done
17 garages with these types of joints before.

18 And then yes, he would have questioned
19 me on my conclusions as to why do you think this?
20 And what are your -- what's your evidence to
21 support this conclusion?

22 Q. And it's your recollection that this
23 would have all been done prior to drafting the
24 report?

25 A. I think so. I mean that's not to

1 say that I wouldn't have worked on these
2 observations while I was waiting to meet with
3 Mike.

4 Q. Okay.

5 MS. AUTHIER: Ms. Kuka, if you can pull
6 up Exhibit No. 121, page 196.

7 BY MS. AUTHIER:

8 Q. And this is tab 5, Mr. Truman. With
9 a document ID number page 196. And this is a fax
10 cover sheet from yourself to Mr. Quinn and Ms.
11 Guertin dated April 22nd. And in it you're
12 sending a draft of the report, do you recall that?

13 A. Well I wouldn't have sent the fax
14 myself I don't think.

15 Q. But you made arrangements for a
16 draft to be sent out?

17 A. I don't recall. Our admin staff
18 would have taken care of this so I would have had
19 very little involvement which is probably why I
20 don't remember it.

21 Q. Do you recall being asked by Mr.
22 Quinn or Ms. Guertin to send you a draft of the
23 report?

24 A. No.

25 Q. Do you know if --

1 A. I wouldn't have had -- sorry to
2 interrupt. I wouldn't have had direct contact
3 with them after that point.

4 Q. All right. Do you remember if at
5 the time this was sent -- at the time the draft
6 was sent Mr. Buckley would have reviewed that
7 draft already?

8 A. Oh absolutely.

9 Q. Do you recall if you were asked to
10 make any changes to the report by Retirement
11 Living either directly from them or through
12 Nicholls Yallowega.

13 A. No.

14 Q. And so I take that to mean that you
15 didn't receive any calls for clarifications?

16 A. Not me personally, no.

17 Q. If Mr. Buckley had received a call
18 for a clarification would you expect that he would
19 come to see you about it?

20 A. I imagine, yes.

21 Q. And do you recall that occurring?

22 A. No.

23 Q. And do you recall if you had any
24 discussions with Mr. Quinn or anyone else at
25 Retirement Living between the time that you sent

1 this draft and when the final report was sent in
2 May?

3 A. No.

4 Q. If Retirement Living hadn't
5 understood something contained in your report
6 would you have expected Mr. Quinn to either
7 contact you personally or through Nicholls
8 Yallowega Bélanger to obtain further
9 clarifications?

10 A. Yes, I experience that regularly
11 with clients.

12 Q. And did you follow up with them
13 after the delivery of your 1999 report?

14 A. I left Halsall shortly after that.

15 Q. And did you speak to Mr. Quinn a few
16 years later after you had left Halsall?

17 A. No.

18 Q. And again, as I've indicated before
19 in Mr. Quinn's willsay it's anticipated that he
20 will testify that you had contacted him after you
21 had started your own company with a view to
22 obtaining work. And do you recall that
23 discussion?

24 A. No.

25 Q. No.

1 A. When would that have been?

2 Q. He didn't specify, it was after you
3 started Truman Consulting.

4 A. No.

5 MS. AUTHIER: Ms. Kuka, if you could
6 please turn to page 267 of Exhibit No. 121 please.

7 BY MS. AUTHIER:

8 Q. Now this is a handwritten note, is
9 this your handwriting?

10 A. Where is this? 267?

11 Q. 267, yes.

12 A. Yes.

13 Q. All right. And if we look at this
14 letter and if you want -- I don't want to read the
15 whole thing, but if you review it briefly it
16 appears to be a draft of the letter that
17 eventually accompanied the report in May?

18 A. Yes.

19 Q. And I want to take you to a specific
20 location, which is the second paragraph that
21 starts, "Though leakage through the parking deck
22 has been an ongoing problem, we find no evidence
23 of..." you've written "severe" and then you
24 scratched it out. "...structural deterioration
25 compromising the integrity of the structure." And

1 you'll agree with me, and we can turn back to it,
2 the letter that ultimately went out with the
3 report does not say that. It says, We found no
4 evidence of structural deterioration.

5 And so my question to you is, why did
6 you put in "severe" to begin with and subsequently
7 strike it out?

8 A. This isn't as if I wrote a whole
9 paragraph and then went back to strike out
10 "severe." It's as I'm writing I'm about to say
11 "severe structural issues", But it's better to say
12 "structural issues compromising the integrity", so
13 it's just a better way to write it.

14 Q. So no one asked you to remove that
15 reference?

16 A. No.

17 Q. And it's not an indication that you
18 thought there was some structural deterioration
19 just not severe?

20 A. No. We mentioned that we saw
21 corrosion but that it wasn't severe. Because the
22 alternative I could have said, We found no
23 evidence of severe structural issues and that says
24 kind of the same thing as structural deterioration
25 compromising the integrity of the structure.

1 That's why it's struck out because I started to
2 write that and there's a better way to write that.

3 Q. Well not really because -- let's
4 read that sentence again. "Though leakage through
5 the parking deck has been an ongoing problem we
6 find no evidence of severe structural
7 deterioration compromising the integrity of the
8 structure."

9 A. No, you have to --

10 Q. And then the way it ultimately ended
11 up in the letter was, "Though leakage in the
12 parking deck has been an ongoing problem, we found
13 no evidence of structural deterioration
14 compromising..." Do you agree with me that that
15 does have a different connotation than what you've
16 just indicated?

17 A. No, in my mind what I was thinking
18 as I wrote this is we're not seeing any severe
19 structural issues. Meaning, we don't see any that
20 are causing structural distress, but when I wrote
21 down the word "severe" I realized that's not the
22 right way to say it. So I stopped, scratched it
23 out, started again to complete the sentence
24 properly.

25 Q. Okay, thank you.

1 MS. AUTHIER: Ms. Kuka, if you can turn
2 to page 326 of be Exhibit No. 121. And if you
3 could blow up the bottom paragraph for me please.
4 All right.

5 BY MS. AUTHIER:

6 Q. Now is this a photograph that you
7 had taken?

8 A. Yes.

9 Q. And you'll agree with me this photo
10 isn't in your report, correct.

11 A. Correct.

12 Q. And is this an area where you had
13 removed fireproofing?

14 A. Possibly. It looks like there's
15 some scraped away there.

16 Q. And the picture isn't overly clear,
17 but it appears to me that at this connection, and
18 we've got two beams that are being connected
19 together, correct? As part of the Gerber system?

20 A. It looks like that's what it is,
21 yes.

22 Q. Is that corrosion on the connection
23 there, on the bolts?

24 A. It looks like very minor corrosion
25 -- yeah, I still see some red oxide primer on it

1 though so it's still very insignificant.

2 Q. But there is some corrosion,
3 correct?

4 A. There is, yeah.

5 Q. Okay. And if this was an area where
6 you had scraped off fireproofing do you agree with
7 me that it was becoming corroded underneath the
8 fireproofing?

9 A. I can see to the left -- to the left
10 of where the bolts are it looks like some
11 fireproofing has been scraped away. Directly on
12 where the bolts are it doesn't look like
13 anything's been scraped, it looks like corrosion
14 formed and caused the fireproofing to fall off.

15 THE COMMISSIONER: I just want to
16 understand the nature of that fireproofing. After
17 it's been applied does it become kind of a
18 homogeneous shell? In other words, and I'll tell
19 you where I'm going. You seem to be saying that
20 corrosion would not likely be hidden by the
21 fireproofing because if there was corrosion
22 there'd be debonding and the fireproofing would
23 fall away.

24 THE WITNESS: Correct.

25 THE COMMISSIONER: Now, if there was

1 partial debonding would the remaining fireproofing
2 around an irregular structure nevertheless not
3 hold the whole thing together? Or is the nature
4 of the fireproofing so spongeous, if I can use
5 that expression, that it would fall away at that
6 exact spot?

7 THE WITNESS: Imagine wet kleenex. A
8 bunch of spitballs.

9 THE COMMISSIONER: As opposed to, for
10 example, an egg carton container.

11 THE WITNESS: Right.

12 THE COMMISSIONER: Where you can see the
13 debonding but it still holds together.

14 THE WITNESS: Right. It's got more
15 fibers in it so it's more rigid.

16 THE COMMISSIONER: What is it made of?

17 THE WITNESS: I'm sorry, I'm not an
18 expert in that. I don't know much about it.

19 THE COMMISSIONER: Some kind of
20 fiberglass or -- it doesn't matter.

21 THE WITNESS: I mentioned vermiculite so
22 perhaps I was more familiar with it at that point.
23 I don't really know how to describe it. What's
24 vermiculite? It's a mineral but it's like a foam.

25 THE COMMISSIONER: But I think I

1 understand your answer. What you're telling me is
2 that it's like wet Kleenex at the particular spot.

3 THE WITNESS: Correct. Especially if it
4 got moist now --

5 THE COMMISSIONER: Yeah.

6 THE WITNESS: -- it loses it's ability
7 to stick together.

8 THE COMMISSIONER: It's cohesiveness --

9 THE WITNESS: Right.

10 THE COMMISSIONER: -- with the remainder
11 of the fireproofing.

12 THE WITNESS: Correct.

13 THE COMMISSIONER: So it's really all or
14 nothing in a sense. It either falls off or it
15 doesn't.

16 THE WITNESS: That's right. And at the
17 end of the day that's what became obvious. After
18 looking at all the locations we did look at, it
19 became obvious that where there was water it had
20 caused the fireproofing to fall away. And where
21 there was significant corrosion the fireproofing
22 also fell away. We didn't feel that there was a
23 significant risk of hidden corrosion.

24 THE COMMISSIONER: Okay, I understand
25 your answer.

1 THE WITNESS: Otherwise I think we would
2 have said, We're concerned about it. We've got to
3 do more inspections.

4 BY MS. AUTHIER:

5 Q. I'm almost done here, Mr. Truman.
6 Just a few more questions.

7 You'll agree with me that in your report
8 you don't make a recommendation that Retirement
9 Living set up a program of regularly inspecting
10 the steel until the repairs were made?

11 A. No, we didn't expect them to delay
12 the repairs, and they weren't the owner either.

13 Q. But they were going to be the owner?

14 A. Maybe.

15 Q. Well at that time were you aware
16 that they had already signed the agreement of
17 purchase and sale?

18 A. No.

19 Q. Okay.

20 A. I wouldn't have been privy to that.
21 And besides that doesn't matter does it? There's
22 still your due diligence period which is what they
23 were in.

24 Q. And so that was your understanding
25 that they were still in the due diligence period?

1 A. I think that this was a follow-up to
2 the prepurchase inspection. So their decision to
3 buy or not buy the mall would have rested on the
4 results of this I would expect. Because the
5 purpose of the prepurchase is to give the buyer's
6 lender an indication of any potential risk that
7 might put the mortgage at risk. So this report
8 is -- it's really a high level report and it's
9 intended to give a potential buyer an expectation
10 of what their financial commitments are going to
11 be over the five to ten year near-term future.

12 Q. You referenced the lender do you
13 know if a copy of this was being send to
14 Retirement Living's lender?

15 A. No, but in my experience that's what
16 drives these inspections.

17 Q. So they didn't tell you that?

18 A. No.

19 Q. In your report, and it was also in
20 Mr. Celli's report, there was reference to signage
21 being posted to keep heavy vehicles and large
22 vehicles off the roof?

23 A. Correct.

24 Q. Do you recall that?

25 A. Yes.

1 Q. And while you were at the Algo Mall,
2 did you -- when you went up on to the roof did you
3 drive up on to the roof? Do you recall?

4 A. I don't recall driving. No, I don't
5 know. But I would have driven across it many
6 times in my youth.

7 Q. Do you recall having seen -- because
8 the two recommendations that both -- that Mr.
9 Celli made and you repeated them, was that the
10 signage be posted for weight restrictions and also
11 that height restrictors be installed.

12 A. Correct.

13 Q. And so my question to you is do you
14 recall when you were up there if you had seen any
15 at the entry and exit ramps?

16 A. It's hard for me to recall that
17 because they were always there --

18 Q. Okay.

19 A. I recall growing up on occasion they
20 would be moved, they weren't always in place. But
21 on that day I can't recall whether or not they
22 were closed. But they were in place because
23 they're permanent.

24 Q. So going back to what you said in
25 terms of the gates not being in place, those gates

1 that were there that you recalled always being
2 there they were movable, correct?

3 A. Yes.

4 Q. You could open or close them?

5 A. Correct.

6 Q. To allow access to vehicles?

7 A. Right. But they never were taken
8 away from that location, they were either open or
9 closed.

10 Q. And you recall instances where those
11 gates were open?

12 A. Yes.

13 Q. But you don't recall whether they
14 were open or closed on that day?

15 A. No.

16 Q. Thank you.

17 MS. AUTHIER: Subject to any examination
18 by my friend Mr. Perrier, or any cross-examination
19 of the other participants those are my questions.

20 THE COMMISSIONER: Mr. Perrier, do you
21 wish to introduce evidence in-chief through your
22 client?

23 MR. PERRIER: No, thank you. I'll wait
24 for cross, thank you.

25 THE COMMISSIONER: We'll proceed to

1 cross-examination then. Who wants to go first?

2 Mr. Kearns.

3 CROSS-EXAMINATION BY MR. KEARNS:

4 Q. Morning, Mr. Truman, my name is Doug
5 Kearns and I'm the lawyer for Retirement Living.
6 I have a number of questions for you.

7 Mr. Buckley told us yesterday that he
8 did not ask for any previous engineering reports
9 from anyone with respect to the Algo Centre. Did
10 you ask for any previous engineering reports from
11 anyone?

12 A. I believe I did. I walked into the
13 office to collect -- that's a part of my standard
14 process is the go visit the owner and ask for
15 information.

16 Q. And when you say the owner, who did
17 you go in to see?

18 A. I was hoping to meet with Richard
19 Kennealy but he -- I recall walking in and he kind
20 of ran out and kind of waved as he went by. And I
21 ended up speaking with I think it was Richard
22 Quinn.

23 Q. I'm just confused, because as you've
24 said a couple of times they're not the owner?

25 A. Sorry, the client I guess is what I

1 should refer to. So when I'm speak of owner I
2 mean client.

3 Q. Okay.

4 A. Though I realize in this case our
5 client was actually Nicholls Yallowega, but the
6 end client.

7 Q. And you have a recollection of going
8 in and speaking to Ms. Guertin about engineering
9 reports?

10 A. Ms. Guertin? I don't know her and I
11 don't recall speaking with her specifically.

12 Q. Okay. Mr. Quinn then?

13 A. Yes.

14 Q. And you asked him for engineering
15 reports or just the structural drawings?

16 A. I'm sure I would have asked for
17 reports on the building. Do you have any
18 documents? Any historical information.

19 Q. Okay. We're going to find I think
20 that those terms are confusing a bit. What I'm
21 really specifically asking is, did you ask Mr.
22 Quinn if he had any engineering reports with
23 respect to the Algo Centre?

24 A. I wouldn't have limited my request
25 to engineering reports. I want any reports on the

1 building. I've often found that smaller reports
2 from say a mechanical contractor can be equally as
3 informative, so I don't limit it by stating
4 engineering reports.

5 Q. Okay, so you didn't ask for
6 engineering reports but for generic. Give me
7 everything you've got?

8 A. Let me know the history, yes.

9 Q. What was he able to provide you
10 with?

11 A. Nothing. I think I was just given
12 the drawing of the roof deck at that time.

13 Q. When you later on do your report and
14 your consulting with Mr. Buckley, is it ever
15 raised again between the two of you that, you
16 know, we don't even have engineering reports with
17 respect to this building?

18 A. That wouldn't have changed our --

19 Q. I'm not asking you whether it would
20 have changed anything. I'm just asking you
21 whether or not you had a discussion with Mr.
22 Buckley about the fact that you didn't have any?

23 A. I don't recall.

24 Q. Because you would have, by being on
25 the deck in these two days in April, you would

1 have seen a number of bore holes wouldn't you?

2 A. I can't recall seeing those. What
3 do you mean by bore holes?

4 Q. Well I should have said core holes
5 rather. We know from the Trow reports that they
6 did 13 of them in 1991 and another 9 of them in
7 1994. So there are 22 of these core testing
8 holes. I'm going to presume you would have seen
9 those?

10 A. I couldn't tell you if I did or not.
11 I don't recall seeing them.

12 Q. So when then -- when you're meeting
13 with Mr. Buckley and you're putting together your
14 report is it not important to you to make a
15 request, a formal request of your client to get
16 these reports so you can look at them?

17 A. Make a formal request?

18 Q. Yeah, like something in writing. A
19 letter to Nicholls Yallowega. Can you get us the
20 engineering report on this Center?

21 A. Well it's possible it was in
22 Nicholls Yallowega proposal. In fact it probably
23 was that the owner turn over all relevant
24 documents. That's a normal request for a
25 prepurchase inspection.

1 Q. But you didn't have them right? You
2 and Mr. Buckley are sitting there talking. You
3 don't have them. Did you make a request from your
4 client to get them?

5 A. I walked in and asked them for them
6 and we weren't given any. Are you suggesting that
7 we should have known there were reports and dug
8 deeper to get them?

9 Q. Your client is Nicholls Yallowega,
10 I'm asking you --

11 A. Personally I didn't personally ask
12 Nicholls Yallowega.

13 Q. Now, what did you understand the
14 client, whoever that is, wants out of this report?
15 What is this report? What is the destination that
16 this report is going to --

17 A. The prepurchase inspection is
18 typically written for a buyer. So that they can
19 be aware of their potential near-term expenses.
20 What drives it are typically lenders as a risk
21 management exercise. They don't want to lend
22 someone five million dollars to buy a building and
23 have the roof fail the next year and the owner not
24 have the money to repair the roof, which causes
25 the mortgage to go into default.

1 So it's a high level order of magnitude,
2 if I can say that. Estimate of costs over the
3 next ten years so that the proper financing can be
4 in place.

5 Q. Okay. It doesn't necessarily have
6 anything to do -- necessarily have to do with
7 financing though does it? It can be strictly the
8 owner wants to know, before I close this deal is
9 this building structurally sound? And what's it
10 going to cost me to keep it that way other the
11 next five or ten years?

12 A. That's correct. But I'm just saying
13 that in my experience it's driven by the lenders
14 more than the buyers.

15 Q. Okay. There is some confusion in
16 this case because we do know that your client is
17 Nicholls Yallowega Bélanger.

18 A. Right.

19 Q. And the ultimate receiver of this is
20 Retirement Living. Would your report have been
21 any different if you had had a direct contract
22 with Retirement Living to produce a due diligence
23 report?

24 A. No.

25 Q. Now, Mr. Celli told us last week

1 that he had never met with anybody from Retirement
2 Living or ACP. And Mr. Buckley told us yesterday
3 --

4 A. Sorry, what's ACP?

5 Q. Algoma Central Properties, the Algo
6 Centre.

7 A. Okay.

8 Q. Mr. Buckley told us yesterday that
9 he'd never had any contact with anybody at
10 Retirement Living or ACP. And he did not recall
11 any conversation with Nicholls Yallowega in which
12 he discussed the findings of your report.

13 Firstly, did you ever have any
14 discussions with Nicholls Yallowega about the
15 contents of your report?

16 A. No.

17 Q. Secondly, did you at any time
18 discuss the findings of your report with anyone
19 from Retirement Living?

20 A. No.

21 Q. Specifically did you ever discuss
22 with Retirement Living the details of what you
23 were proposing in Options 1 and 2?

24 A. No.

25 Q. You did have some contact I know

1 you've described it with Mr. Quinn. And you said
2 also something that you would not have discussed
3 with him what your thinking was with respect to
4 what your recommendations were going to be, until
5 those were fully flushed out and discussed with
6 Mr. Buckley. Is that correct?

7 A. That's correct. I mean I hadn't
8 even flushed it out yet because I didn't even have
9 my lab results back yet. We had sent concrete
10 samples away to the lab. So I couldn't have drawn
11 any firm conclusions. For example, if the top
12 deck had been loaded with chlorides we wouldn't
13 have recommended a rout and seal.

14 Q. Now, one of the things that seems to
15 be a bit confusing is who it is that you're
16 talking to at the mall on those two days that
17 you're there in April?

18 A. It's confusing to me frankly because
19 I don't remember the day that clearly. I know my
20 friend Jeff Parsons took me around. I know I
21 talked to Richard Quinn.

22 Q. Yeah.

23 A. Anyone else I don't recall. I don't
24 think I talked to many other people.

25 Q. But there's reference I think in

1 your notes already to a "super", and Ken Snow.

2 A. Yeah. I'm just saying I don't
3 recall speaking with him. So maybe it was a brief
4 conversation, maybe it was when they came up and
5 showed me that maintenance procedure. But I don't
6 know Ken.

7 Q. Who is the "we" that is in your
8 memory that shows you the maintenance schedule?

9 A. I'm sorry I don't recall. I have --
10 I don't know who was with me at that point.

11 Q. We've heard a number of terms from
12 previous Halsall witnesses in the past few days.
13 Mr. Celli spoke of prequalified contractor,
14 moisture content of the slab, moisture content of
15 the sealant, recessing the seal in the joints.
16 Mr. Buckley spoke yesterday of warranties,
17 performance bonds, and if I can quote from page 71
18 of his transcript. He said yesterday,

19 "ANSWER: In general you would have to
20 have the appropriate temperatures, the
21 appropriate moisture contents of the slab,
22 the appropriate materials, the appropriate
23 joint profiles, the appropriate traffic
24 control programs so you're not opening the
25 deck up to use too soon after the

1 insulation --"

2 THE COMMISSIONER: You're going awful
3 fast, Mr. Kearns. Would you start over again is
4 that what you're indicating? I'm sorry, Mr.
5 Kearns, but you were going very, very fast and it
6 could not be translated.

7 MR. KEARNS: Yes, sorry.

8 BY MR. KEARNS:

9 Q. If I could quote from Mr. Buckley's
10 transcript from yesterday.

11 "ANSWER: In general you would have to
12 have the appropriate temperatures, the
13 appropriate moisture contents of the slab,
14 the appropriate materials, the appropriate
15 joint profile, the appropriate traffic
16 control program, so that you're not
17 opening the deck up to use too soon after
18 the installation.

19 The installation has to consider how
20 the depth of installation, so that -- so
21 the depth of the installation so it's not
22 subject to abuse from snowplows, that's
23 fairly broad statement of the
24 requirements."

25 You've told us today that your idea of a

1 phased-in approach was two years at maximum, two
2 summers. Will you agree with me that all of the
3 things that I've just described, including your
4 remarks today, are things that Retirement Living
5 had no idea about?

6 A. I have no idea what they knew or
7 didn't know.

8 Q. Would you agree with me that
9 certainly Halsall did not ever say any of those
10 things to them?

11 A. Those -- sorry, that entire list?
12 Possibly some of those things were contained in
13 the report. But in fact no, there's a reference
14 here to -- where is that in the executive summary.
15 Sorry, what tab is my report at? Tab 4? So let's
16 see.

17 We say, "Those costs include contractors
18 mobilization and site protection, engineering
19 fees --

20 Q. Mr. Buckley, just for a second --
21 Mr. Truman, sorry. Can you tell us where you are?

22 A. Sorry, sure. That's tab 4 for me.
23 It's page 2, and the document is 4645. The last
24 paragraph.

25 MS. KUKA: Exhibit No. 70.

1 BY MR. KEARNS:

2 Q. Oh here it is. Hmm hmm.

3 A. So we quite clearly talk about a
4 contractor, we talk about engineering fees for
5 specification tendering and construction review
6 and contract administration. I would say we quite
7 clearly told them about it.

8 Q. What did you tell them about that I
9 -- out of that list I just read to you? Can I
10 read it to you again? Because I didn't hear --
11 that's not there.

12 A. Read it, yeah.

13 Q. Mr. Celli last week talked about
14 prequalifying contractors, there's a reference to
15 contractors. Moisture content of the slab. Is
16 that --

17 A. Specifications.

18 Q. Moisture content of the slab, is
19 that in your report?

20 A. It's in the specification about how
21 to apply sealants, that's what specifications
22 means.

23 Q. Do you have a definition in you
24 report for specifications that sets out all of
25 these things that I just went through?

1 A. No, it does not.

2 Q. So they wouldn't know that would
3 they?

4 A. I think the fact that we're telling
5 them to use a contractor, and an engineer to
6 specify tender and perform the construction
7 review, wouldn't lead them to think something
8 different. Why would they think they could do it
9 themselves if they mention contractor?

10 Q. I'm not talking yet about them
11 thinking they can do it themselves. We'll get to
12 that in a second. What I'm saying is that
13 Halsall, you and Mr. Buckley and Mr. Celli, have
14 had a great conversation about all of these things
15 that should have been done.

16 What I understand is the only thing that
17 Retirement Living got from you guys was this
18 report. So if it's not written in this report in
19 the detail that it needs to be there how do they
20 know what you're talking about?

21 A. Because we mention contractor.
22 Under the catch-all of contractor comes quality
23 control. Under the catch-all of specification
24 comes joint detailing, temperature restrictions,
25 et cetera. Under the catch-all of construction

1 review comes engineering review of the completed
2 repairs.

3 Q. Does Retirement Living know that,
4 Mr. Truman?

5 A. I can't tell you what they know. I
6 would hope that being a building owner with
7 experience owning buildings that they would have
8 the knowledge.

9 Q. But you don't know that they have
10 that knowledge, right?

11 A. It's not up to me to ask that
12 question.

13 MR. PERRIER: Mr. Commissioner, I'm
14 going to rise again. And my concern is Mr. Truman
15 cannot say what's in someone else's mind. He said
16 that it's his reasonable expectation that the
17 owners, being owners of a number of properties in
18 Elliot Lake, would be aware of this. That's the
19 best he can do. He can't say what specifically is
20 in anybody's mind, that calls for speculation and
21 I'm not sure how that helps anyone.

22 MR. KEARNS: The problem is, Mr.
23 Commissioner, he is telling us what's in other
24 people's minds. He's telling us that by using the
25 word "contractor", by using the word "tendering"

1 and "construction review", that the reader of this
2 report understands all of these things that we've
3 heard about in the last three days. He
4 understands traffic, I won't go through the list.

5 THE COMMISSIONER: Well he understands
6 that that's what it means to him. I agree that he
7 can't know what it means to someone else, and I
8 think he said that. And I don't think we can go
9 any further down this road.

10 It's clear to me in any event that the
11 witness cannot know what is on someone else's
12 mind. What he can tell us is what was on his mind
13 and what's in there.

14 What you're doing with the witness is
15 something that you -- is an exercise that you can
16 do with me when the time comes for submissions.
17 And you can submit to me that this amount of
18 information was insufficient to alert an owner to
19 a particular situation, and that will be for me to
20 gauge.

21 But at this point this gentleman, the
22 witness, has told you essentially all he knows
23 what it meant to him. And he doesn't know what it
24 meant to someone else. At least it's not there in
25 detail. I accept that.

1 MR. KEARNS: Thank you.

2 BY MR. KEARNS:

3 Q. With respect then to the report,
4 Exhibit No. 70, the executive summary.

5 MR. KEARNS: Perhaps can you call that
6 up, Ms. Kuka, please.

7 BY MR. KEARNS:

8 Q. What's the purpose of this section?

9 A. The provide a high level review of
10 the report.

11 Q. Is this to be read by anyone in
12 particular?

13 A. Sorry, I don't understand.

14 Q. Well I mean why is -- why have you
15 segmented your report into the first portion which
16 is "Executive Summary". Just explain to me why
17 you've done that?

18 A. Because I was taught to in
19 university.

20 Q. And what's the purpose of that?

21 A. The purpose of an executive summary
22 is to give someone a high level overview of the
23 report without flipping through every single page.

24 Q. Now as I read this two questions
25 jump out at me. The first is what are the guys

1 doing it now doing wrong? Is that answered in the
2 executive summary?

3 A. No, that was just a description of
4 what was happening. It wasn't drawing any
5 conclusions.

6 Q. And the second question that jumps
7 out to me is why would I need a contractor and an
8 engineer and pay them \$433,000 to do it right?

9 A. Because an engineer advised them to.

10 Q. Is that in -- is the reason for
11 that, the answer to that question in the executive
12 summary?

13 A. I don't know how to answer that. I
14 really don't know how to answer that. We provided
15 a recommendation. I'm not sure what you're asking
16 me.

17 Q. What I'm asking for, like, if this
18 is the first time I'm reading the report and I'm
19 going through it?

20 A. Yeah.

21 Q. I'm going to see that there's
22 leakage through the cracks and the construction
23 joints.

24 A. Right.

25 Q. There's corrosion of the steel

1 beams .

2 A. Hmm hmm.

3 Q. And there's debonded and
4 freeze-thaw. Those are the things you find that
5 are wrong?

6 A. Right.

7 Q. So my first question is what are my
8 guys -- what are the guys that are doing it now
9 doing wrong? And will you agree with me that it
10 doesn't say that in the executive summary?

11 A. Not in the executive summary, but if
12 you flip back through the report it does mention
13 the fact that the joints are cut in a Vee groove
14 which is not appropriate.

15 Q. Yes. What were they doing wrong
16 other than joint profiling?

17 A. I can't tell you because I didn't
18 observe what they were doing and I don't recall
19 all the specifics on that procedure they had.

20 So, for example, if they weren't waiting
21 long enough after a rain, that would be a problem;
22 if they weren't grinding out the joint properly,
23 that could be a problem; if they weren't applying
24 the right primer, that could be a problem; if they
25 weren't waiting long enough to drive over it, that

1 could be a problem.

2 So these are all things I would have no
3 idea how they were implementing the repairs.

4 Q. Right. So the only thing you can
5 tell is when I look at these cracks and control
6 joints some of them, maybe all of them, maybe most
7 of them, have an improper joint profile, is that
8 correct?

9 A. Correct.

10 Q. Okay. How difficult is it to
11 understand what the proper joint profile needs to
12 be? How complicated?

13 A. It's 2-to-1.

14 Q. Right.

15 A. But based on all the work that I do
16 it appears to be very difficult to understand.

17 Q. It's 2-to-1 and there can't be
18 three-sided adhesion?

19 A. Right.

20 Q. What else is there to the joint
21 profile that the person doing it needs to know?
22 Just the profile?

23 A. Just the profile?

24 Q. Yes.

25 A. Well what you've described is the

1 profile. So how do you eliminate three-sided
2 adhesion?

3 Q. Well how do you eliminate
4 three-sided adhesion?

5 A. How would they have done it?

6 Q. No, I'm asking you. How do you
7 eliminate three-sided adhesion?

8 A. Number of different ways. You need
9 a bond break in the base of the joint.

10 Q. Because when Commission Counsel
11 asked Mr. Snow, who had been doing it for ten
12 years before you got there, he said clearly he
13 understood the 2-to-1. He said clearly he
14 understood the backer rod and the breaker. He
15 understood clearly the three-sided adhesion. He
16 knows all of that. What else does he need to
17 know?

18 A. Temperature, surface preparation,
19 proper materials, the right primer with the right
20 sealant --

21 Q. Do you tell Retirement Living --

22 A. -- cure time.

23 Q. -- anywhere in this report that they
24 need to know that stuff as well?

25 A. When we do a repair specification

1 that level of detail is in the repair
2 specification. This is not a repair specification
3 nor is it a maintenance instruction. This is a
4 report outlining the potential costs to maintain
5 the structure, it's not how.

6 Q. It's not how?

7 A. This is a general how. This isn't a
8 specific how. What we expect the owner to do is
9 come back to us and say, Okay, we like Option X
10 can you help us implement it? And then we design
11 it and all those specifics that you're referring
12 to they become important.

13 Q. Okay. But when I look at what it is
14 that you're -- and I'm looking now at page I the
15 same one. "Our objective was to", fourth bullet
16 down, "develop a repair and maintenance strategy
17 that will minimize current and future repair
18 costs."

19 Okay, so we're paying for that. You're
20 going to give us that right as part of the \$10,000
21 that we're paying you for this report. Where is
22 the repair and maintenance strategy that we paid
23 for?

24 A. So the repair strategy is the two
25 options, the maintenance is going to depend on

1 which option is selected. We mention that Option
2 1, on the next page to this. If we could forward
3 a page. So the last paragraph says, "Option 1
4 will require annual ongoing maintenance."

5 Q. It doesn't jump out at me as some
6 detailed list that I can decide about whether or
7 not this is the strategy. Is there a
8 misunderstanding here and that is --

9 A. I think there is.

10 Q. -- that you are just saying, Here's
11 the first report you need. If you're interested
12 in either of those then you need to buy another
13 report from us?

14 A. This isn't a repair specification.
15 We were contracted to provide a prepurchase
16 inspection, that's not a detailed repair
17 specification which would include things like
18 detailed maintenance instructions.

19 Q. Well does this -- develop a repair
20 and maintenance strategy, that's what you were
21 paid to do. I don't see a strategy here. You
22 talk about a phased repair but you don't tell us
23 phased over what? Phased over five years, ten
24 years?

25 A. We provided two repair options and

1 it's up to the owner to select either one of
2 those. Once they select one of those a lot more
3 details come from that.

4 Q. Is that in here anywhere? In this
5 report is it clear -- show me where it's written
6 in this report that you need more information for
7 us to -- for you to decide?

8 A. The owner needs to select an option.
9 It's not that we need more information. The owner
10 has to make a choice at this point. We've given
11 the report to the owner now it's up to them to
12 come back to us with questions or instructions on
13 how to proceed. And in fact the covering letter
14 mentions that.

15 Q. Well the covering letter, and I
16 think this is Exhibit No. 70. Maybe it's Exhibit
17 No. 69, tab 3 for you, Mr. Truman. The letter is
18 Exhibit No. 71. Is this what you're referring to?

19 A. Yeah. So the middle paragraph it
20 says, "If required, we would be pleased to prepare
21 specifications or provide construction review for
22 the required work."

23 We as consultants we don't say things
24 like, You need to hire us to do the next phase.
25 We say, We would be pleased to prepare the

1 specifications and provide the structural review
2 for the required work. So when you call us and
3 tell us what you need we'll be happy to do that
4 work for you.

5 Q. Okay. And that wasn't included in
6 what you paid me for in the ten grand?

7 A. It is not.

8 Q. When I read the second paragraph,
9 "Though leakage through the parking deck
10 has been an ongoing problem, we have found
11 no evidence of structural deterioration
12 compromising the integrity of the
13 structure."

14 When I read that I get the sense that
15 despite the fact that this is a building that's
16 been exposed to water leaks over a long period of
17 time it's still doing just fine, is that fair?

18 A. That's correct.

19 Q. So for Retirement Living to find out
20 what the shortcomings are with their maintenance
21 program, the proper way to do it, your
22 recommendation, your strategy, they need to retain
23 you to provide that information to them?

24 A. Sorry, repeat that.

25 Q. In order for Retirement Living to

1 find out what their guys are doing wrong, and to
2 find out how to do it right, they need to retain
3 you to provide the specs for that?

4 A. Those are two separate things.
5 Telling them what they're doing wrong requires us
6 to specifically watch what they're doing and do a
7 review of that, then I can tell them what they're
8 doing wrong. Sorry, what was the second part?

9 Q. The second was tell us what we're
10 doing wrong?

11 A. The specifications part. And yes,
12 you do pay for specifications for repair as a
13 separate thing from doing the review. They are
14 completely separate things.

15 Q. I'd like to take you to Exhibit No.
16 3007 which is the NORR report. This is the new
17 one, Mr. Truman, which you've told us you have not
18 read. Page 45 of the report.

19 A. Do I have it?

20 Q. It's actually page 330 at the
21 bottom. I'm going to refer you to paragraph (b),
22 the second first full. I know you haven't read it
23 so I'll give you a moment to read it.

24 THE COMMISSIONER: Why don't you read it
25 out.

1 BY MR. KEARNS:
2 Q. Okay.
3 "In the period of 1998-1999, Halsall
4 observed the corrosion which had likely
5 progressed in the five years since Trow's
6 inspection. Halsall measured a corrosion
7 product of 3mm and correlated that with
8 less than 1mm of section loss. This is
9 again within the corrosion scenario that
10 is hypothesized here. Halsall did not
11 find the 1mm loss of section as warranting
12 more extensive inspection of steel and
13 they did not inspect connections where
14 corrosion would be more critical.
15 Additionally, Halsall did not call for an
16 inspection program to be carried out
17 systematically until the leakage problem
18 is resolved. They did not adequately
19 provide a cautionary warning that future
20 corrosion could potentially lead to the
21 development of a critical condition if
22 left untreated."
23 So going up to the second last sentence
24 starting at "Additionally".
25 "Additionally, Halsall did not call for an

1 inspection program to be carried out
2 systematically until the leakage problem
3 is [fixed]."

4 Do you agree with that statement?

5 A. Yeah. Well we didn't expect -- that
6 seems to connote that there would be a time
7 between our report and the leakage problem would
8 be resolved. If we felt there would be a long
9 period of time I think we would have talked about
10 that.

11 The systematic review is until the
12 problem is resolved, is part of the do-nothing or
13 as-is option. And as mentioned previously we
14 didn't give that option. We gave two options to
15 repair.

16 Q. Yeah, but I just asked you is it
17 true that you did not call for an inspection?

18 A. That's correct.

19 Q. Then I'll ask you what I think you
20 want to say, Do you agree that that's a
21 shortcoming in your report?

22 A. No, we don't.

23 Q. And why is that?

24 A. Again because we weren't aware that
25 there would be a time until the leak would be

1 resolved. We expected that -- and again based on
2 my experience as well, when owners buy a new
3 building they tend to implement these repairs they
4 plan to do. So I think that's what we
5 anticipated.

6 Q. Does your report say anywhere when
7 these repairs need to start by?

8 A. No, I don't believe so. Well I
9 would have to go through it to say.

10 And I think the implication is that if
11 there's leaks and corrosion that you want to fix
12 those. I don't think there's any -- it seems to
13 be stating the obvious to say that you should fix
14 leaks as soon as they happen. I don't think we
15 need to tell them that.

16 Q. But do you agree with me though that
17 report that you gave them, the May 1999 report you
18 gave eventually to Retirement Living, does not set
19 out in there any date that this work should start
20 by?

21 A. I don't think we ever say you must
22 do the work this summer, or next week, or this
23 year. Unless we see a particular condition which
24 would cause us concern that we felt needed to be
25 addressed. When we were reviewing the mall it

1 wasn't at that state. There was no urgency to
2 this.

3 Q. So they could have put it off --

4 A. From a structural perspective there
5 was no urgency to it, but you don't continue to
6 let your mall leak. You don't let your roof leak.
7 So it's not like you can put it off because we
8 didn't put a date, and that's what I meant by our
9 expectations. There is an inherent expectation
10 that you're not going to let your roof leak.

11 THE COMMISSIONER: Well it will go a lot
12 faster, sir, if you just answer yes or no. He
13 asked you whether you specified a date in there.

14 THE WITNESS: No, we didn't.

15 THE COMMISSIONER: That's the end of
16 that.

17 BY MR. KEARNS:

18 Q. And then the last sentence,
19 "They did not adequately provide a
20 cautionary warning that future corrosion
21 could potentially lead to the development
22 of a critical condition if left
23 untreated."

24 Does the report contain such a
25 cautionary warning?

1 A. I don't believe it specifically
2 sates that, no.

3 Q. It doesn't even remotely say that
4 does it?

5 A. It talks about corrosion on steel.
6 I don't recall what Mr. Celli's first report
7 speaks to. This report, no, I don't think it
8 does. And again we're -- we're not seeing
9 something that is potentially leading to a
10 critical condition.

11 When we make statements like this it's
12 -- there's rust on a connection, maybe there's an
13 active leak on it. And then we say, Okay you've
14 got to get at this. To me that's what this
15 sentence really means. And the conditions were
16 not at the state where we needed to raise the
17 alarm and talk about things like critical.

18 Q. So it brings me back to the fact
19 that the report seems to give to Retirement Living
20 latitude in when and potentially even if they do
21 the repairs that you're recommending.

22 A. I don't agree with that.

23 Q. We've seen in the reports from Trow
24 sections on repair priority in which those reports
25 have dealt with what things need to be done and

1 during what time frame they needed to be done.

2 A. And we didn't give a priority. It's
3 fix it or fix it.

4 Q. Pardon me?

5 A. And we didn't give priorities.
6 Here's your package, do it. So what we're -- what
7 we're saying is there's no you can put this off.

8 Q. But there is no here's your package
9 do it is there? Because what you told me earlier
10 was this doesn't include the package. You've got
11 to buy the package from us, right?

12 A. I think you're confusing the terms
13 so I'm just going to degree with your statement
14 and that's it.

15 THE COMMISSIONER: They made
16 recommendations to their clients eventually to go
17 to that client's client. And the recommendations
18 are there. There were two options, one included a
19 membrane the other one didn't.

20 BY MR. KEARNS:

21 Q. Did you work out what the -- I know
22 that \$300,000 is the number that you use for the
23 contractor. Are those calculations somewhere in
24 that -- in the paperwork that you've been
25 presented to by Counsel? I just wonder where that

1 number came from?

2 A. We saw some of it.

3 Q. Yes, we saw some of it. It was the
4 rest of it I was wondering about.

5 A. I don't know.

6 Q. Thank you, Mr. Truman, those are my
7 questions.

8 A. Thank you.

9 THE COMMISSIONER: We'll take our lunch
10 break, start again at 2:00 this afternoon.

11 --- Luncheon break taken at 12:45 p.m.

12 --- Upon resuming at 2:00 p.m.

13 THE COMMISSIONER: Mr. Shoemaker, you're
14 next.

15 MR. SHOEMAKER: Thank you, your Honour.

16 CROSS-EXAMINATION BY MR. SHOEMAKER:

17 Q. Good morning, Mr. Truman. My name
18 is Matt Shoemaker. I'm one of the representatives
19 for the City of Elliot Lake. I have a few
20 questions for you.

21 MR. SHOEMAKER: Ms. Kuka, if we could go
22 to document PEO_E000000968. This has been
23 referred to several times. I'm not sure it's an
24 exhibit. And page 9 I believe.

25

1 BY MR. SHOEMAKER:

2 Q. Down at the bottom right. Before
3 that could I go to page 11. Mr. Truman, you are a
4 professional engineer, correct?

5 A. Yes.

6 Q. And are you familiar with the
7 Professional Engineer Code of Ethics?

8 A. Yes.

9 Q. And have you read these sections
10 before specifically section 1 and 2?

11 A. I have in the past. Not recently
12 but I have.

13 Q. Are you aware that it is a
14 professional -- for the record, of regulation to
15 the Professional Engineers Act which encapsulates
16 the Code of Ethics in the regulation itself. And
17 it states that, "It is the duty of a
18 practitioner," professional engineer in this case,
19 "to ensure that at all times the fidelity to
20 public needs is paramount."

21 A. Yes.

22 Q. And section 2 similarly states that,
23 "a practitioner shall regard their duty to the
24 public welfare as paramount"?

25 A. Yes.

1 Q. You're aware of those obligations?

2 A. Yes.

3 MR. SHOEMAKER: And now if I could go
4 back to page 9, Ms. Kuka. And down at the bottom
5 right.

6 BY MR. SHOEMAKER:

7 Q. And you're aware of the definition
8 of professional misconduct which states that,
9 "Failure to act to correct or report a situation
10 that the practitioner believes may endanger the
11 safety or the welfare of public life constitutes
12 professional misconduct"?

13 A. Absolutely.

14 Q. And I would take this to mean that
15 if a client is not following your recommendations,
16 or is taking your recommendations out of context
17 and not performing them in a way that protects the
18 public safety, you'd have an obligation to report
19 that to the appropriate agency?

20 A. If there was a risk to the public,
21 yes.

22 Q. And in the circumstance if there was
23 a risk to the public the appropriate agencies to
24 report it to would be whom?

25 A. The building officials.

1 Q. And in this case after your review
2 of the Algo Centre Mall did you report the
3 situation of the mall to the building officials?

4 A. No, it didn't require it.

5 Q. And you state that in -- because of
6 what evidence?

7 A. Because any deterioration that we
8 saw was not significant. There were no situations
9 that posed a danger to the public.

10 Q. Did they not pose an immediate
11 danger, or did they not pose a danger at all?

12 A. There was no immediate danger to the
13 public. It's only if there's an immediate danger
14 is when we notify the building officials. We
15 can't quantify long-term danger.

16 Q. And if a building like this, I
17 believe the report was done in 1999, if you knew
18 that ten years afterwards the repairs had not been
19 completed?

20 A. I would be a much more successful
21 consultant.

22 Q. Would you have an ongoing obligation
23 to report the situation?

24 MR. PERRIER: I'm a bit concerned about
25 the line of questioning. The questions being

1 posed are legal in nature as opposed to
2 engineering responsibilities. They're based on
3 hypotheticals, on a situation of which he was ten
4 years removed. So for those reasons I'm objecting
5 to this line of questioning.

6 BY MR. SHOEMAKER:

7 Q. I suppose I could rephrase it in the
8 sense, is there a continuing need to report even
9 after you are complete with the project?

10 A. No.

11 Q. Okay.

12 A. There is an obligation of an
13 engineer to report situations that he perceives as
14 being dangerous to the public. So if there were
15 knowledge of that perhaps, but I left Halsall and
16 I wasn't in contact with the mall so no.

17 Q. And your assessment of it not being
18 an immediate safety concern?

19 A. Yes.

20 Q. Is that -- did you come to that
21 conclusion as an expert in your field or would any
22 engineer be able to come to that conclusion?

23 A. Someone as experienced as I was,
24 yes, would come to the same conclusion.

25 Q. And this question has been asked of

1 others, more of a policy question than a question
2 specific to the Code. Would it be helpful if it
3 was required that engineers provide their reports
4 to the City? Or we have also seen other
5 professions, but would it be helpful if reports of
6 this nature were given to the City?

7 A. It could definitely address two of
8 the concerns that have been spoken about here
9 today, yes. One is the continuity, in other words
10 that fact that we weren't able to get these
11 reports.

12 And the second is the ability for a
13 building official to track it through multiple
14 owners. So I would say, yes.

15 MR. SHOEMAKER: Those are all my
16 questions, your Honour.

17 THE COMMISSIONER: Thank you. Mr.
18 MacRae.

19 MR. MACRAE: Thank you, Mr.
20 Commissioner.

21 CROSS-EXAMINATION BY MACRAE:

22 Q. Good afternoon. My name is Rob
23 MacRae and I represent Bob Wood, who is -- was an
24 engineer with M.R. Wright of Sault Ste. Marie. I
25 have two areas of questions and I don't believe

1 I'll have much more than that with respect to
2 questions.

3 And in advance I'll advise you I don't
4 have questions with respect to your report. Your
5 testimony today I'd like to talk to you about the
6 beams, the location of the beams and the core
7 slabs from a draining perspective.

8 And then secondly I have some questions
9 with respect to the environment. There's some
10 suggestions in the NORR report.

11 MR. MACRAE: So I'll start first if I
12 might have the Coreslab drawing which is Exhibit
13 No. 184.

14 BY MR. MACRAE:

15 Q. For your information this is the
16 original Coreslab drawing from 1979, one of the
17 shop drawings.

18 A. Okay.

19 Q. And I'm using it because of the
20 dimensions just so that we can be clear.

21 MR. MACRAE: Could you enlarge this area
22 please? I'd like this left on it if you could
23 bring it back there. All right.

24 BY MR. MACRAE:

25 Q. So my understanding this is the

1 layout of the actual planks of the core slabs.
2 And they would be -- they're all, as I understand
3 it, 4-feet wide. And the first one is 29-feet
4 long, the second one is 30 and then they seem to
5 be 30-feet all the way along.

6 And then the span between the columns
7 that -- and I'm going to go to the structural
8 drawing in a moment, appears to be 39, and then 40
9 and then it's 40 throughout. So if we can just
10 keep those numbers in mind?

11 A. Okay.

12 Q. I have some questions with respect
13 to the structural steel.

14 Before I leave this picture though, my
15 understanding of your evidence would be -- I'm
16 showing gridline 3, 4 and 5 as an example. As I
17 understand your evidence, because of the
18 prestressing in the concrete slabs the highest
19 point of the concrete slab would be probably
20 mid-point between gridline number 4 and gridline
21 number 5, is that correct?

22 A. The slabs would be cambered from end
23 to end, yes. So they would be higher in the
24 middle.

25 Q. And so it would be reasonable to

1 assume that they would shed water and that this
2 would be the low point directly on top of the
3 beam, and that's what you were talking about
4 earlier this morning?

5 A. Yes.

6 Q. And my question is with respect to
7 another dynamic involved in that process.

8 MR. MACRAE: And if we can go, Ms. Kuka,
9 to S4, which is Exhibit No. 1876. If you could
10 leave this and enlarge this section please.

11 BY MR. MACRAE:

12 Q. So as I understand it I didn't have
13 the dimensions and that's why this is 39, 40, and
14 running through. So this is where an actual
15 column is. And the column -- from the column the
16 connections are made to the columns and that's --
17 so I'm showing you on gridline number 3 from the
18 outside of the building into the column that would
19 be approximately a 39-foot span for the beam?

20 A. Okay.

21 Q. And the next one would be 40 and
22 they couldn't on 40. But I'm correct that this
23 structural drawing shows that there would be a
24 steel beam between those two?

25 A. Yes.

1 Q. And then that beam actually is what
2 the end of the core slab sits on as well?

3 A. Correct.

4 Q. So I have some questions with
5 respect to deflection in that the cores have
6 camber to them as well too?

7 A. Yes.

8 Q. But there was an engineer who gave
9 evidence, Mr. Meyer last week, and he used the
10 expression that I think I'm paraphrasing, but
11 leave it to the engineer to put the drain directly
12 beside the column. Because he seemed to be
13 indicating that, my understanding is, that there's
14 deflection that occurs over that span is there
15 not?

16 A. You would account for that in the
17 design. The beams are often cambered. Drains at
18 columns are standard procedure. Where else would
19 you run the pipe? So they often run the drains
20 down beside the columns. It's not an uncommon
21 thing. And engineers don't typically select the
22 locations for the drains.

23 Q. Right, they don't. Who would
24 normally select the location?

25 A. Often the architect does.

1 Q. So there's some evidence before the
2 Commission that the drains -- that the roof wasn't
3 draining properly and that there was ponding of
4 water in certain areas. And so going back to my
5 question, is it possible that there would be a low
6 spot in the center of that beam as well too as a
7 result of the deflection?

8 A. My understanding is that the steel
9 structure was designed for loads much higher than
10 it was currently under so I would say no, that's
11 not likely.

12 Q. Okay, thank you. My last question,
13 if I could go to Exhibit No. 3007 which is the
14 NORR report. And within the NORR report it's
15 Roman numeral 8, page 10282. And if I might have
16 the last paragraph shown.

17 Under the "Forensic Analysis" this
18 report that was completed about a month ago talks
19 about in the second sentence, "The weld corrosion
20 rate was accelerated drew to the 'marine' like
21 environment."

22 And my question is, when you examined
23 the building at the time that you did on behalf of
24 Halsall would you have described the environment
25 as a marine like environment?

1 A. No. No. Marine like suggests a
2 much more aggressive corrosive environment.
3 There's a whole field of engineering surrounding
4 sea water and corrosion and ocean engineering that
5 deals with this type of corrosion. Splash zones
6 make a huge difference, and marine doesn't
7 properly describe it. Many garages have water and
8 salt we don't call those marine.

9 Q. You used the term "splash zone"?

10 A. Yeah. Tidal zone, splash, waves.
11 Constant wetting and drying or splashing. Wetting
12 and drying has a greater impact than actually
13 being constantly immersed so it's completely a
14 different environment I would say.

15 Q. All right. Thank you very much.
16 Those are my questions.

17 THE COMMISSIONER: At least that was not
18 the environment that you encountered.

19 THE WITNESS: Right.

20 THE COMMISSIONER: Mr. Bisceglia.

21 CROSS-EXAMINATION BY MR. BISCEGLIA:

22 Q. My name is Joe Bisceglia, Mr.
23 Truman. I'm the lawyer for Mr. Greg Saunders who
24 was with M.R. Wright and Associates at the time of
25 this particular incident. I have a few questions

1 for you. Firstly with respect to the process that
2 you described, after consulting with your
3 colleagues at your company, in terms of selecting
4 the areas of review or investigation either above
5 the roof or parking structure or below, would you
6 agree with me that that's sort of the standard
7 protocol that any engineer would have followed in
8 your situation?

9 A. What's that? The approach or
10 discussing it?

11 Q. The approach in terms of determining
12 the random sample that you decided take.

13 A. I think so, yeah. We tend to learn
14 from our experience what areas to look for.
15 There's no defined methodology.

16 Q. If there's a criticism either of
17 your review or investigation, or other engineers
18 that they didn't look at enough parts, if you
19 will, or sections of the structure, what do you
20 say with respect to that?

21 A. We do our best to select the
22 locations that will lead us to the appropriate
23 conclusions. That's not to say there won't be
24 conditions, and I believe these are in our
25 limitations. That's not to say there won't be

1 conditions that exist that we would have reported
2 but we didn't see.

3 To do enough sampling, again it's very
4 difficult. You could have selected 50 or 100
5 areas in the worst spots and miss that one. It is
6 difficult to find the exact one. I would say
7 though that if there was an ability to have some
8 continuity between the engineers maybe. I don't
9 -- and I'm just supposing here, but maybe if you
10 had a system where if you didn't feel like
11 sticking with the one engineer then at least you
12 had a system where you could inspect more
13 completely over several inspections.

14 Q. Thank you. Commission Counsel was
15 asking you certain questions that seemed to
16 suggest that you failed to make note in your
17 report of the connections dealing with the steel
18 under structure, if you will, of this roof or
19 parking garage. My question to you is this,
20 you're not stepping away from your opinion that in
21 your report you included that when you said that
22 you didn't see any real problems with the
23 structure, is that correct?

24 A. We did not specifically say that the
25 beams and connections are good. We said, We don't

1 see significant issue with the structure, and that
2 was intended to encompass the beams and
3 connections.

4 Q. And from that position I gather your
5 evidence is that there should be nothing
6 misleading to the client, if you will, or to the
7 reader. That everything was fine from your
8 perspective other than the comments that you made
9 within the report itself?

10 A. That's correct. And it's common
11 that if there are significant issues we raise
12 them.

13 Q. And also just to be clear, what
14 you've included in your report in term of your
15 observations or findings were the negative factors
16 rather than the positive factors, is that fair?

17 A. Correct.

18 Q. And if there had been anything wrong
19 with other areas that you were able to see or you
20 looked at you would have noted that, is that fair?

21 A. Correct.

22 Q. Now Mr. Kearns, on behalf of
23 Retirement Living, asked you certain questions
24 indicating that perhaps in your report you should
25 have made some comments with respect to what was

1 being done in terms of repairs. Do you recall
2 those series of questions?

3 A. Yes.

4 Q. I gather from your answers that no
5 one from Retirement Living ever called you to ask
6 you for a review or comment specifically as to
7 what was being done by way of repairs, is that
8 correct?

9 A. That's not part of our scope of work
10 to review the repair methodology.

11 Q. I appreciate it may not have been
12 part of your scope, but at no time after your
13 report did anyone contact you?

14 A. No.

15 Q. And secondly, I gather from your
16 evidence that you never saw any of the products
17 that were being used?

18 A. Correct.

19 Q. And from your observations with
20 respect to the rooftop, even if you had wanted to
21 make some comments or observations with respect to
22 either the material that was being used or the
23 process that was being undertaken, I gather from
24 your evidence you had insufficient information to
25 make comments in that regard?

1 A. Correct.

2 Q. And just so that I'm clear about
3 this, did anybody ever tell you specifically what
4 they were doing in terms of caulking and repairs
5 that could lead anyone even to think that you were
6 approving of that process?

7 A. No.

8 Q. And if we hear any evidence during
9 the course of this hearing from Retirement Living,
10 or its employees, or employees at the time who
11 were present, that you somehow or other in
12 conversation or discussion made them think that
13 what was being done was appropriate, what do you
14 say in that regard?

15 A. Absolutely not.

16 Q. Thank you.

17 A. Because it wasn't appropriate.

18 Q. Those are my questions. Sorry, did
19 you have the Pinchin report with you? Are you
20 aware of the Pinchin Environmental Assessment that
21 was done just before you did your report?

22 A. No.

23 Q. Thank you.

24 THE COMMISSIONER: Ms. Carr?

25 MR. CARR: I have no questions.

1 THE COMMISSIONER: Re-examination.

2 MR. PERRIER: Thank you, Mr.

3 Commissioner. If I might just have one moment.

4 RE-EXAMINATION BY MR. PERRIER:

5 Q. Mr. Truman, it was suggested to you
6 by Commission Counsel, and I believe by Mr.
7 Kearns, that it was possible that the owners, and
8 as I understand the owners being defined by their
9 question Retirement Living, may not have
10 understood the contents of your report. Do you
11 recall them asking you questions about that?

12 A. Yes.

13 Q. I'm just wondering, I have reference
14 to a document it's OPP under score
15 E0000003125.0195. It's an e-mail dated September
16 8th, 2003 from Randy Beltramin to Bruce Caughill.

17 MS. KUKA: Exhibit No. 85.

18 BY MR. PERRIER:

19 Q. Thank you. Do you know who Bruce
20 Caughill is?

21 A. No. I believe from reading the
22 documents that he's an architect perhaps.

23 Q. I'm just going to show you the
24 e-mail. This is an e-mail from Randy Beltramin to
25 Bruce Caughill and it states the following,

1 "I will have a report and reinforcing
2 detail tomorrow for the damaged panel. As
3 discussed earlier the panel is not in a
4 precarious state at present but needs
5 repairs to prevent water penetration and
6 to reinstated its structural integrity.

7 I don't know if you read Halsall's
8 last report, but they conducted a very
9 detailed investigation of the parking
10 deck."

11 First of all do you agree with that
12 statement?

13 A. The parts that we investigated was
14 the detailed investigation, but to say that it was
15 detailed on the deck as a whole I don't think is
16 quite correct.

17 Q. Okay.

18 "The resulting report pretty much
19 reiterates what the first one recommended
20 but with more detail. The only thing they
21 did not fully address was the 'continue as
22 is' scenario which NorDev is doing."

23 Just with respect to your report, did
24 your report have a "continue as is" or "do
25 nothing" option?

1 A. No, it did not.

2 Q. "As you and I discussed this can
3 have long term detrimental results as the
4 structure slowly deteriorates. Some of
5 the structural repairs that you have
6 already done and other visible areas of
7 concern (precast cracks) will be an
8 ongoing issue. Hopefully the areas of
9 concern can be found and repaired before a
10 failure occurs. The job of chasing down
11 and resealing cracks is also becoming a
12 larger job each successive years as
13 existing cracks are reinspected and new
14 ones found. It appears that the eventual
15 scenario will be that each precast panel
16 joint (both longitudinal and lateral --

17 THE COMMISSIONER: Excuse me, Mr.
18 Perrier. You are committing the same error as all
19 counsel do and as I have done as well. Our
20 translators can't keep up.

21 MR. PERRIER: I apologize. Should I
22 restart.

23 THE COMMISSIONER: Yes.

24 BY MR. PERRIER:

25 Q. "I don't know if you read Halsall's

1 last report, but they conducted a very
2 detailed investigation of the parking
3 deck. The resulting report pretty much
4 reiterates what the first one recommended
5 but with more detail. The only thing they
6 did not fully address was the 'continue as
7 is' scenario, which NorDev is doing. As
8 you and I discussed this can have long
9 term detrimental results as the structure
10 slowly deteriorates. Some of the
11 structural repairs that you have already
12 done and other visible areas of concern
13 (precast cracks]will be an ongoing issue.
14 Hopefully the areas of concern can be
15 found and repaired before a failure
16 occurs. The job of chasing down and
17 resealing cracks is also becoming a larger
18 job each successive year as existing
19 cracks are reinspected and new ones found.
20 It appears that the eventual scenario will
21 be that each precast panel joint (both
22 longitudinal and lateral)will be caulked.
23 In addition, students instead of
24 experienced personnel are doing the work."
25 Now first of all did you see a summary

1 of that e-mail in 2003?

2 A. No.

3 Q. Do you recall when you might have
4 first seen at least a summary of that e-mail?

5 A. Last night.

6 Q. And were you aware first of all that
7 there were students doing work?

8 A. No.

9 Q. Would you have recommended that?

10 A. Definitely not.

11 Q. I'm going to next read to you from a
12 willsay statement that was provided to us
13 yesterday from Richard Kennealy. Do you know who
14 Richard Kennealy is?

15 A. He runs Retirement Living.

16 Q. He was the CEO of Retirement Living?

17 A. I don't know his title.

18 Q. It states at paragraph --

19 MS. AUTHIER: Sorry, I'm just concerned
20 that my friend, although he is free to suggest
21 what anticipated evidence may be, I don't think
22 it's appropriate for him to read a willsay
23 statement into the evidence.

24 THE COMMISSIONER: You're familiar with
25 the Rules I take it, Mr. Perrier?

1 MR. PERRIER: I am. Let me do it this
2 way.

3 THE COMMISSIONER: Okay.

4 BY MR. PERRIER:

5 Q. If Mr. Kennealy states the
6 following, Mr. Kennealy does not recall
7 considering or discussing what would happen long
8 term if the leaks were not solved. He remembers
9 discussing which options to adopt and --

10 MS. AUTHIER: I'm sorry. This does
11 constitute reading into the record. If he wants
12 to summarize what the anticipated evidence is
13 going to be that would be far more appropriate
14 than completely reading it into the record. It
15 opens the door to Mr. Kennealy being
16 cross-examined on his willsay absent the
17 Commission.

18 THE COMMISSIONER: You can summarize
19 generally speaking, Mr. Perrier, what you see
20 there.

21 BY MR. PERRIER:

22 Q. Would it surprise you if you -- if
23 Mr. Kennealy said in evidence that he understood
24 that if the leaks were not resolved appropriately
25 it could affect the building's structural

1 stability?

2 A. Sorry, if he said that he wasn't
3 surprised?

4 Q. That he understood that if the leaks
5 were not resolved appropriately that it could
6 affect the building's structural stability?

7 A. And you're asking me if --

8 THE COMMISSIONER: I take it you don't
9 disagree with that statement?

10 THE WITNESS: No, I don't. And would he
11 have known that?

12 THE COMMISSIONER: Well that's something
13 else. Assuming that evidence is led would you be
14 surprised by the statement and you say no.

15 THE WITNESS: No.

16 BY MR. PERRIER:

17 Q. And would you be surprised if Mr.
18 Kennealy stated that that would just be a matter
19 of common sense?

20 A. No, that is common sense.

21 Q. I want to take you to -- first of
22 all I just want to refer you to your report, and I
23 don't think we need to pull it up. But your
24 report which is Exhibit No. 70 is dated May 1st,
25 1999, and it's sent to the attention of Mr.

1 Buckley, is that correct?

2 A. Yes.

3 Q. And is that because Mr. Buckley was
4 the client contact with the architects NYB?

5 A. I can't tell you why that's the
6 case.

7 Q. And I understand from the review of
8 the evidence you were taken to by Commission
9 Counsel that you attended the mall to do your
10 inspections or assessments in -- sorry, I should
11 say review or assessment on April 5th and 6th of
12 1999, that's correct?

13 A. Yes.

14 Q. And if you'll turn to -- or if I
15 could ask that Exhibit No. 121, page 196 be
16 brought up. This is a facsimile transmission
17 dated April 22, 1999 to Richard Quinn and Rhona
18 Guertin?

19 A. Yes.

20 Q. And it was sent from your office?

21 A. Yes.

22 Q. And by that point can we agree that
23 the draft of your report would have been
24 completed, subject to the addition of photographs?

25 A. Correct.

1 Q. At the second paragraph of the
2 e-mail to Richard Quinn and Rhona Guertin you
3 asked that they review the draft and provide their
4 comments regarding additions, deletions or
5 clarifications required.

6 A. Correct, standard practice.

7 Q. To your recollection, did Richard
8 Quinn or Rhona Guertin contact you to seek
9 clarification of any of the contents of the
10 Halsall draft report?

11 A. No.

12 Q. I'm going to ask if you would mind
13 pulling up Exhibit No. 3007, the NORR report.
14 Sorry, page I believe it's 330. It's page 45 of
15 the report.

16 Now you were taken to paragraph (b)
17 earlier. In the report NORR states that, "Halsall
18 measured a corrosion product of 3mm and correlated
19 that with less than 1mm of section loss." Firstly
20 is it correct that you measured a corrosion
21 product of 3mm throughout the areas of the
22 structure that you reviewed?

23 A. No, it's difficult to measure
24 1 to 3-millimeters. It is more of a category as
25 opposed to -- you have the red primer and maybe

1 that lifts off, and then you have a surface -- a
2 light surface corrosion, and then you have maybe a
3 heavier product moving on to scaling and flaking.
4 So no, we didn't measure it. What we said in our
5 report was that there was 1 to 3-millimeters as a
6 category.

7 Q. And with respect to their comment
8 that, "Additionally, Halsall did not call for an
9 inspection program to be carried out
10 systematically until the leakage problem is
11 resolved." Am I correct in my understanding that
12 you did not do that because your options --

13 THE COMMISSIONER: This is your witness.

14 BY MR. PERRIER:

15 Q. Could you tell the Commissioner why
16 you did not recommend an inspection program given
17 the options?

18 A. We typically recommend an inspection
19 program where the owner is not planning to
20 implement the repairs right away. We'll say, If
21 you don't do anything then you need to go back and
22 do reviews.

23 A great example are in parking garages
24 or balconies where there is loose concrete. So
25 we're saying if you're not going to fix it to stop

1 this now then you've to go around regularly to
2 remove loose concrete. In this case we didn't
3 feel that again the "do nothing" we didn't feel
4 that was an option. And so that we didn't feel
5 that providing a recommendation for review was
6 necessary.

7 This report was done in April or May,
8 they could have implemented the repairs that
9 summer.

10 Q. In relation to the preparation of
11 your report and your review of the building you
12 took pictures, is that correct?

13 A. Yes.

14 Q. And can you tell the Commissioner
15 whether one or more of the pictures were of
16 connections?

17 A. Many of them showed connections.

18 Q. And can you explain why you didn't
19 reference the connections in the text, the main
20 text of your report?

21 A. In every photo there's no issue with
22 the connections themselves. So we simply showed a
23 representative photo of the corrosion on the beams
24 which is what we did see.

25 Q. If there had been, from your

1 observations, significant corrosion in the
2 connections would that have been included in your
3 report?

4 A. It absolutely would have.

5 Q. In response to some questions by Mr.
6 Kearns regarding the options --

7 MR. PERRIER: And could I ask that
8 Exhibit No. 70, what I have is page I, I believe
9 it might be page 2 in the exhibit. Thank you.

10 BY MR. PERRIER:

11 Q. I'm correct on this page of the
12 report you set out at the bottom third of the page
13 the first option or Option 1 which is,

14 "Rout and seal all joints and cracks in
15 the parking deck topping and walkway
16 canopies, ensuring a proper joint profile
17 and surface preparation prior to placing
18 the sealant."

19 Is that correct?

20 A. Hmm hmm.

21 Q. And the last paragraph sets out the
22 work that needs to be done in order to do Option
23 1?

24 A. That's correct.

25 Q. If you could turn to the next page,

1 please. The top paragraph of the following page
2 deals with Option 2?

3 A. Yes.

4 Q. Which is the option dealing with the
5 membrane?

6 A. Yes.

7 Q. And the very last paragraph you set
8 out -- well I'll read it first. "Option 1 will
9 require annual ongoing maintenance of the seals
10 with full sealant replacement in or about 10
11 years."

12 A. Correct.

13 Q. And,

14 "Option 2 will require routing and sealing
15 of cracks in the asphalt as they develop
16 over time. This system can be expected to
17 provide up to 25 years of protection."

18 A. Right.

19 Q. So what are you trying to
20 communicate to the reader with respect to that
21 paragraph?

22 A. That the lower cost option will
23 require more maintenance, possibly having to redo
24 it again in 10 years. Where as the higher cost
25 option could last them up to 25 years. So if they

1 were to do say a life cycle analysis on the 25
2 year time frame they might actually choose Option
3 2.

4 Q. So if they implemented Option number
5 1 in what year might they expect to have to do
6 full sealant replacement if they did it in 1999 or
7 2000?

8 A. Then ten years later in 2009 or
9 2010. Assuming it was all done well and was
10 performing as expected.

11 Q. And my last question has to do with
12 questions put to you by Mr. Shoemaker. At the
13 time that you attended Algo Centre Mall in April
14 1999, did you observe anything in the mall that
15 caused you to consider making a report to a city
16 building official?

17 A. No, I did not.

18 Q. Thank you, those are all my
19 questions.

20 THE COMMISSIONER: Thank you. Ms.
21 Authier?

22 RE-EXAMINATION BY MS. AUTHIER:

23 Q. I just have one question in
24 re-examination.

25 MS. AUTHIER: Ms. Kuka, if you could

1 pull up Exhibit No. 874 please.

2 BY MS. AUTHIER:

3 Q. You don't have in document in your
4 book. And this relates to questions that Mr.
5 Kearns had put to you with respect to obtaining
6 copies of reports. And I appreciate that these
7 documents were neither sent by Halsall or directed
8 to Halsall before, but you'll note it is a fax.
9 The first page is a fax from Ms. Guertin -- sorry
10 from Mr. Luciw to Ms. Guertin in July of 1998.

11 A. Who is Mr. Luciw?

12 Q. Mr. Luciw was with Nicholls
13 Yallowega?

14 A. Okay.

15 Q. And you'll recall Mr. Kearns asked
16 you a number of questions with respect to whether
17 or not you had asked for reports.

18 A. Okay.

19 Q. Prior to your inspection. And if we
20 look at the second paragraph, Mr. Luciw is
21 indicating to Ms. Guertin, "It is our
22 understanding that Mr. Larry Liautaud", and we've
23 heard evidence that Mr. Larry Liautaud was with
24 Algoma Central Properties.

25 A. Okay.

1 Q. "...was to arrange to have copies of
2 the construction drawings and any other pertinent
3 reports or information forwarded to our office."
4 Would you have expected, given this request that
5 was coming from Nicholls Yallowega to Retirement
6 Living, that Ms. Guertin would have forwarded that
7 request along to Algoma Central Properties?

8 A. Not sure what she would have done
9 with it.

10 Q. Well given the fact that -- and
11 maybe I'll back up here. In 1998 were you
12 familiar -- well you were aware that Halsall had
13 done a report in 1998?

14 A. Yes.

15 Q. Which was part of a due diligence?

16 A. Right.

17 Q. For Retirement Living to purchase
18 the property from Algoma Central Properties?

19 A. Yes.

20 Q. All right. And that this appears to
21 be a request by Nicholls Yallowega to Retirement
22 Living for reports?

23 A. It seems to be a reiteration of the
24 request to me.

25 Q. Yes. It looks like there had been a

1 previous request?

2 A. Yeah.

3 Q. Okay. Would you expect that if
4 Nicholls Yallowega is asking Retirement Living to
5 obtain reports that Retirement Living would have
6 made that request to Algoma Central?

7 A. I see what you're saying. I would
8 hope so because I would imagine as owners Algoma
9 Central would have the reports where as tenants of
10 the time Retirement Living would not have them.

11 Q. And would you expect that if Ms.
12 Guertin had received those reports she would have
13 forwarded them off to Mr. Luciw?

14 A. If she was permitted to, yes.

15 Q. If she has received them?

16 A. If she was permitted to.

17 Q. And if we could turn to the next
18 page. This is yet another fax of a month later.
19 And we see again it is from Mr. Luciw to Ms.
20 Guertin?

21 A. Yes.

22 Q. And he's indicating that he's
23 received her message.

24 "I received your message of a few days ago
25 and am disappointed to report that we

1 still have not received any construction
2 drawings or other pertinent reports or
3 information from ACP."

4 And we've heard ACP is Algoma Central
5 Properties. "Could you kindly confirm the status
6 of the documents and advise.

7 Again, would you have expected under the
8 circumstances for Ms. Guertin to follow up with
9 Algoma Central Properties as to those reports?

10 A. If she was permitted to, yes.

11 Q. No, that she would follow up with
12 Algoma Central Properties.

13 A. I understand. I recall reading
14 somewhere weren't they under a nondisclosure
15 agreement? They couldn't release that
16 information.

17 THE COMMISSIONER: In any event, Ms.
18 Guertin will be a witness as will Mr. Luciw.

19 BY MS. AUTHIER:

20 Q. Yes. But you'll agree with me that
21 there were clearly requests made by Nicholls
22 Yallowega?

23 A. Sure looks like it, yeah.

24 Q. For those reports.

25 A. Yeah.

1 Q. And if Nicholls Yallowega had
2 received them --

3 A. We would have had them.

4 Q. You would have had them.

5 A. Yes.

6 MS. AUTHIER: Those are my questions.

7 THE COMMISSIONER: Thank you, Mr.
8 Truman. Thank you very much.

9 THE WITNESS: Thank you. I would like
10 to say to everyone that's here. I know this is a
11 really -- it's been a difficult thing and it's a
12 lot of technical information. You've done a lot
13 of work. And I think it's commendable to have
14 gotten it going so quickly. I know the people of
15 Elliot Lake are thankful for that so thank you.

16 THE COMMISSIONER: Thank you very much.
17 Your evidence has been quite useful. And thank
18 you, Mr. Perrier.

19 MR. PERRIER: Thank you.

20 THE COMMISSIONER: Tomorrow morning are
21 we starting with Mr. Luciw.

22 MS. AUTHIER: Yes, tomorrow morning we
23 have Mr. Michael Luciw of Yallowega Bélanger with
24 us.

25 THE COMMISSIONER: And I see there is a

1 hiatus I see looking at the list. There's someone
2 else from Nicholls Yallowega Bélanger, but is
3 there someone in the middle.

4 MS. AUTHIER: Yes, Mr. Quinn is giving
5 evidence on Thursday.

6 THE COMMISSIONER: So we're not doing
7 the two Nicholls Yallowega Bélanger back-to-back.

8 MS. AUTHIER: No, we are not and that
9 was due to availability.

10 THE COMMISSIONER: Okay. Anything else,
11 Counsel, before we rise? We'll rise until 9:00
12 tomorrow morning. Thanks again.

13 --- Whereupon the Inquiry adjourned for
14 the day at 3:45 p.m.

15
16
17
18
19
20
21
22
23
24
25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

REPORTER'S CERTIFICATE

I, HELEN MARTINEAU, CSR, Certified
Shorthand Reporter, certify;

That the foregoing proceedings were
taken before me at the time and place therein set
forth;

That the testimony of the witness and
all objections made at the time of the examination
were recorded stenographically by me and were
thereafter transcribed;

That the foregoing is a true and
accurate transcript of my shorthand notes so
taken.

Dated this 15th day of April, 2013.

Helen Martineau

PER: HELEN MARTINEAU

CERTIFIED SHORTHAND REPORTER

<hr/> \$ <hr/>	10X 4544:13	1998-1999 4673:3	272 4607:16 4615:20
\$10,000 4609:6 4668:20	11 4539:2 4541:20,21, 23 4545:21 4548:3 4585:10 4616:13 4680:3	1999 4513:19,23 4515:8,13 4522:11 4524:19 4536:20 4550:23,25 4636:13 4682:17 4702:25 4703:12,17 4709:6,14	273 4533:18
\$200 4608:17	11:05 4597:8	1mm 4596:12 4627:7 4673:8,11 4704:19	274 4534:6
\$300,000 4678:22	12 4556:5,10 4581:21	1st 4702:24	275 4621:18
\$433,000 4599:4 4664:8	121 4523:4,5 4533:16 4544:25 4578:3 4607:13 4621:15 4637:6 4640:2 4703:15	<hr/> 2 <hr/>	277 4523:25 4525:13 4537:18 4538:11,15
\$776,000 4599:5	12:45 4679:11	2 4538:23 4540:15 4541:16,17 4542:24 4543:2 4551:25 4560:23 4562:18 4586:20 4598:17 4612:19 4658:23 4680:10,22 4707:9 4708:2,14 4709:3	279 4544:24 4545:14 4578:3,8
<hr/> - <hr/>	13 4548:17 4651:6	2-foot 4538:21	282 4611:5
-.035 4582:13	13,000 4616:5	2-to-1 4607:8 4666:13, 17 4667:13	29-foot 4686:3
-.05 4582:13	13000-meters 4608:2	2.1 4517:24 4518:7	2:00 4679:10,12
<hr/> 1 <hr/>	14 4619:10,14	20 4532:8 4608:10 4626:2	<hr/> 3 <hr/>
1 4517:9 4522:6 4538:12 4540:11,13 4543:6 4544:17 4561:7 4562:9 4564:2 4578:24, 25 4586:20 4590:3,23 4597:20 4602:17 4611:10 4654:23 4669:2,3 4680:10 4704:24 4705:5 4707:13,23 4708:8 4709:5	15 4541:15 4595:12 4611:25 4623:24	20,000 4608:20	3 4539:1 4541:20 4542:4 4543:10,12 4544:15 4546:25 4562:21 4586:20 4587:24 4588:10 4670:17 4686:16 4687:17
1% 4608:7	150mm 4608:9	2000 4709:7	3-millimeter 4590:3
10 4544:13 4545:21 4548:3 4549:15,23 4585:10 4590:15 4603:5 4624:25 4708:10,24	16 4541:10	2003 4696:16 4700:1	3-millimeters 4589:4,23 4704:24 4705:5
10% 4589:13,24	16X 4541:12 4544:17	2009 4709:8	3-sided 4607:9
10,000 4608:23	17 4539:8 4542:7,8 4544:17	2010 4709:9	30 4686:4
10-15 4611:17	18 4539:8 4542:7,8 4619:7,14	2013 4512:2	30-foot all 4686:5
10-millimeters 4590:6	184 4685:13	21 4626:2 4628:4	3007 4672:16 4704:13
100 4692:4	1876 4539:19 4687:9	22 4651:7 4703:17	31 4539:1
10282 4689:15	19 4542:7 4556:13,14, 16,17 4595:12 4623:21, 24	22nd 4634:11	326 4640:2
10:45 4597:7	196 4634:6,9 4703:15	23 4538:18 4556:16	330 4672:20 4704:14
10I 4545:18 4547:25 4548:1 4583:15 4584:25 4585:2	1976 4544:10	2327 4544:8,9 4546:23 4548:25	34 4518:1
	1979 4685:16	25 4708:17,25 4709:1	36 4517:16,24 4518:6
	1991 4651:6	25.5 4539:1	39 4686:8 4687:13
	1994 4651:7	267 4637:6,10,11	39-foot 4687:19
	1995 4513:2	27 4626:13	3:45 4715:14
	1996 4512:25		3mm 4673:7 4704:18, 21
	1998 4513:16 4515:13 4550:23 4604:1 4710:10 4711:11,13		

4	7	4597:7,8	adequately 4673:18 4676:19
4 4539:7 4542:6,24 4543:2 4545:15 4547:14,15 4551:12 4566:5 4578:12,25 4579:2 4582:18 4586:20 4594:19,20 4597:12 4599:18,20 4619:12 4623:23 4658:15,22 4686:16,20	7 4539:11 4542:9 4546:11,13,14 4548:19 4549:23 4568:24 4569:7,8 4576:21 4590:22 4594:19	ability 4643:6 4684:12 4692:7	adhered 4575:1 4576:17
4,000 4608:20	7/8 4539:11	abrade 4605:17	adhesion 4607:9 4666:18 4667:2,4,7,15
4-foot 4686:3	70 4551:10 4560:23 4566:3 4594:19 4597:10 4616:13 4623:21 4628:4 4658:25 4663:4 4670:16 4702:24 4707:8	absent 4701:16	adjourned 4715:13
40 4686:8,9 4687:13, 21,22	70% 4627:5	absolutely 4528:2 4533:25 4594:17 4635:8 4681:13 4695:15 4707:4	admin 4634:17
433,000 4561:13	71 4656:17 4670:18	absorbed 4572:1	administration 4659:6
45 4672:18 4704:14	8	abuse 4657:22	admit 4626:6
4645 4658:23	8 4539:12 4542:10 4545:23 4548:11 4587:15 4597:3,10 4599:20 4689:15	accelerated 4530:19 4689:20	adopt 4701:9
5	85 4696:17	accept 4662:25	advance 4554:24 4555:4 4685:3
5 4523:2,6 4539:10 4542:11 4543:7 4566:6 4578:5 4586:21 4607:15 4621:17 4634:8 4686:16,21	874 4710:1	access 4528:21 4647:6	advanced 4555:18
50 4692:4	8th 4696:16	accidentally 4593:24 4594:1	advise 4616:23 4685:3 4713:6
50% 4627:5	9	accompanied 4563:3 4601:1 4637:17	advised 4664:9
56 4522:7	9 4512:2 4546:1,3,10,11 4598:23 4651:6 4679:24 4681:4	account 4688:16	advising 4526:24
5mm 4628:10	90 4591:15	accurate 4620:7 4624:17 4630:3	affect 4552:25 4566:19 4567:1 4590:9 4610:17, 20 4701:25 4702:6
5th 4703:11	90% 4591:17,20,23	ACP 4654:2,4,10 4713:3,4	affirmed 4512:12
6	99 4523:3,6	act 4680:15 4681:9	afternoon 4679:10 4684:22
6 4539:14 4540:10 4542:16 4543:8 4575:25 4582:3 4586:21 4603:5	9:00 4512:1 4715:11	action 4594:11	agencies 4681:23
66 4517:9 4522:7	9:45 4546:17	active 4677:13	agency 4681:19
69 4562:18 4632:6 4670:17	9:50 4546:18	activities 4536:18	aggressive 4690:2
6th 4703:11	9H 4590:18	acts 4626:24 4627:16	agree 4519:22 4522:13 4538:12 4550:17 4552:7,17 4555:22 4556:5,9,23 4557:18,24 4558:1,10 4562:9,22 4563:7,21 4564:3 4568:15 4573:5,14 4576:22 4592:4,23 4596:10,24 4599:23 4600:5 4602:25 4604:17 4615:22 4617:2,15 4618:6,9 4638:1 4639:14 4640:9 4641:6 4644:7 4658:2,8 4662:6 4665:9 4674:4, 20 4675:16 4677:22 4691:6 4697:11 4703:22 4713:20
	A	actual 4517:3 4686:1 4687:14	
	a.m. 4512:1 4546:17	addition 4587:11 4699:23 4703:24	
		additional 4531:8	
		Additionally 4673:15,24,25 4705:8	
		additions 4704:4	
		address 4597:19 4684:7 4697:21 4699:6	
		addressed 4675:25	

<p>agreed 4615:1,3 agreement 4644:16 4713:15 ahead 4607:11 aisle 4543:6 4565:18 aisles 4535:7 4543:8 alarm 4677:17 Albert 4516:17 4520:5, 7 Albert's 4551:6 alert 4662:18 Algo 4513:22 4514:15, 19,24 4515:9,12 4527:22 4529:8 4530:22 4646:1 4648:9 4649:23 4654:5 4682:2 4709:13 Algoma 4529:10 4605:11 4606:17 4654:5 4710:24 4711:7, 18 4712:6,8 4713:4,9, 12 aligned 4519:14 alkalinity 4626:23 alternative 4598:14 4638:22 amount 4557:3 4589:22 4609:1 4662:17 amounts 4615:23 analysis 4520:7 4567:25 4579:7 4689:17 4709:1 angled 4624:22 angling 4531:8 annual 4669:4 4708:9 answers 4694:4 anticipated 4606:13, 22 4636:19 4675:5 4700:21 4701:12 anybody's 4661:20 anything's 4641:13 apartment 4562:2</p>	<p>apologize 4556:17 4698:21 apparent 4521:3 appeared 4571:17 4601:1 appears 4629:25 4637:16 4640:17 4666:16 4686:8 4698:14 4711:20 application 4601:8 applied 4579:18 4641:17 applies 4553:6 apply 4659:21 applying 4665:23 approach 4529:25 4561:7,9 4563:17 4564:10,12 4593:13 4611:2 4633:1,14 4658:1 4691:9,11 appropriately 4701:24 4702:5 approving 4695:6 approximate 4566:16 approximately 4587:24 4588:10 4591:15 4687:19 April 4512:2 4515:11, 13 4535:12 4634:11 4650:25 4655:17 4703:11,17 4706:7 4709:13 architect 4688:25 4696:22 architects 4703:4 area 4534:25 4535:10 4540:2,7 4543:3 4551:5 4565:13,19 4574:22,24 4582:18 4584:19 4585:9 4586:6 4594:25 4595:5 4615:8,15 4624:12,13 4629:1,6,9, 16,24 4630:16 4631:19 4640:12 4641:5 4685:21</p>	<p>areas 4520:22 4527:3, 7 4528:24 4533:2 4534:17,19,20 4535:24 4545:11 4549:5,7 4553:14 4564:15,19 4565:22 4567:14 4571:8 4575:13 4592:7, 18,22 4593:17,20 4609:8,15 4610:12 4620:4 4622:19 4623:14,15 4628:9,13, 17 4684:25 4691:4,14 4692:5 4693:19 4698:6, 8 4699:12,14 4704:21 argue 4619:2 arrange 4711:1 arrangements 4634:15 arrive 4588:9 arrow 4526:10,13 as-is 4674:13 asks 4607:6 aspect 4519:19 4533:13 4535:16 4605:1 asphalt 4708:15 Assess 4566:11 assessment 4554:10 4557:3 4683:17 4695:20 4703:11 assessments 4514:14 4703:10 assistance 4523:25 Associates 4690:24 assume 4687:1 assuming 4579:19 4581:15 4613:23 4615:25 4620:11 4621:22 4632:17 4702:13 4709:9 assumptions 4602:9 Atmospheric 4626:19 attach 4537:5 attached 4537:11 4556:6 4570:17,21</p>	<p>4595:16 attend 4531:21 attended 4513:21 4515:9 4530:21 4532:6 4535:11 4703:9 4709:13 attending 4514:15 4515:8,12 4516:25 4529:8 attention 4551:14,17 4702:25 Authier 4512:5,13 4519:8 4533:17,20 4534:5,7 4535:23 4537:19,21 4539:4,6, 18,20,25 4540:4,17,21 4541:1,12,14,19 4542:12,15 4543:25 4544:3,6,14,22 4545:1, 2 4546:12,19 4547:1 4548:22 4549:4 4551:9, 11,24 4552:2 4556:15, 19 4558:16 4559:9,12 4560:22 4561:1 4562:16,20 4566:2,4 4568:23 4569:1 4576:21 4577:1,15,17 4578:2,4,13,15 4596:3 4597:5,9,11 4598:22,24 4599:19,21 4607:12,14 4611:4,6 4615:19,21 4616:12,14 4619:5,6,8 4621:14,16 4623:20,22 4626:1,3,12,15 4628:3, 6,22 4632:5,8 4634:5,7 4637:5,7 4640:1,5 4644:4 4647:17 4700:19 4701:10 4709:21,22,25 4710:2 4713:19 4714:6,22 4715:4,8 author 4559:3 Autocad 4537:10 availability 4715:9 average 4627:7 aware 4527:15 4532:7 4559:1 4606:19 4644:15 4652:19 4661:18 4674:24 4680:13 4681:1,7 4695:20 4700:6</p>
---	---	---	---

4711:12 awful 4657:2	beam 4518:17 4519:10 4554:14,21 4555:12 4557:14 4571:17 4572:4,12 4573:16 4574:4 4575:9 4586:6 4587:22 4588:4 4591:12 4592:1 4595:5 4619:19 4620:17 4623:16 4624:1,15,16 4625:18,25 4687:3,19, 24 4688:1 4689:6	bolts 4520:14,19 4554:6 4640:23 4641:10,12 bond 4576:9 4607:8 4667:9 bonded 4573:24 4574:2 4575:6,14,17,21 4576:7 4609:6 bonds 4656:17 book 4517:8 4523:3 4533:19 4551:12 4594:19 4597:13 4621:17 4623:23 4710:4 bore 4651:1,3 bottom 4517:11 4526:7 4542:1 4548:6 4581:25 4591:11 4594:20 4626:14 4640:3 4672:21 4680:2 4681:4 4707:12 bound 4608:15,16 box 4542:13 braces 4519:21 bracing 4519:10 break 4546:17 4577:25 4585:3 4597:6,7 4607:8 4626:25 4667:9 4679:10,11 breaker 4667:14 briefly 4577:21 4637:15 Bright 4581:22 bring 4540:18 4611:5 4629:12 4685:23 brings 4677:18 broad 4657:23 broken 4565:2 brought 4607:2 4614:3 4703:16 Bruce 4696:16,19,25 Buckley 4516:22,25 4517:5 4519:6 4521:14, 17,23 4522:9 4525:23 4526:22 4527:5,21,25	4528:17 4551:14,17 4558:23 4559:5 4581:9 4614:2 4632:13,21 4633:4 4635:6,17 4648:7 4650:14,22 4651:13 4654:2,8 4655:6 4656:16 4658:20 4660:13 4703:1,3 Buckley's 4562:25 4657:9 budget 4528:4,8,12,14 4601:10 4633:1 building 4514:13,14 4521:20 4529:25 4591:13,23 4593:10 4600:23 4602:19 4617:13 4627:11 4649:17 4650:1,17 4652:22 4653:9 4661:6 4671:15 4675:3 4681:25 4682:3,14,16 4684:13 4687:18 4689:23 4706:11 4709:16 building's 4701:25 4702:6 buildings 4514:18 4562:2 4589:9 4661:7 bulk 4528:3 bullet 4518:15 4519:9 4523:17 4578:16 4621:21 4668:15 bullets 4518:10 4519:23 4526:14,16 bunch 4632:24 4642:8 buted 4572:9 4621:4 buy 4645:3 4652:22 4669:12 4675:2 4678:11 buyer 4645:9 4652:18 buyer's 4645:5 buyers 4653:14 Bélanger 4515:19 4522:10 4531:24 4563:4 4636:8 4653:17 4714:23 4715:2,7
<hr/> B <hr/> back 4518:6 4539:11 4560:23 4563:25 4566:3 4578:1 4580:16 4585:4 4590:1 4594:18 4595:13 4599:18,22 4604:11 4610:25 4615:20 4616:13 4623:21 4628:4 4632:16,17,19 4638:1,9 4646:24 4655:9 4665:12 4668:9 4670:12 4677:18 4681:4 4685:23 4689:4 4705:21 4711:11 back-to-back 4715:7 backer 4606:25 4667:14 background 4512:16 4558:9 backing 4570:21 backwards 4518:2 balconies 4705:24 band 4624:11 base 4534:16 4667:9 based 4521:12 4527:20 4528:22 4535:6 4554:10 4565:15 4566:21 4583:4 4591:19 4602:9 4603:24 4608:14 4612:24 4613:6 4666:15 4675:1 4683:2 basically 4531:7 basing 4560:13 basis 4553:5 4567:2 4603:10 batt 4570:11,16 4572:19 4583:25 4584:6 4585:25 4598:11 BC 4514:7	beams 4515:4 4519:1, 20 4524:25 4525:20 4526:11,17,25 4552:12 4553:19,21 4557:2,17, 22,25 4558:4,7 4559:23 4570:10 4572:13 4573:1 4589:9 4590:7 4591:13 4594:4,6,21 4598:4 4616:17 4620:25 4622:12,14 4623:7 4640:18 4665:1 4685:6 4688:17 4692:25 4693:2 4706:23 bearing 4559:4 beautiful 4535:20 begin 4638:6 beginning 4521:12 4597:18 behalf 4562:24 4689:23 4693:22 believes 4681:10 Beltramin 4696:16,24 Bisceglia 4548:14 4690:20,21,22 bit 4512:16 4530:14 4535:16 4538:23 4549:24 4620:25 4649:20 4655:15 4682:24 bite 4561:16 black 4625:7 Blaine 4522:9 blow 4540:1 4566:6 4640:3 Bob 4684:23		

C			
cable 4581:15,16,17 4582:9,10,11 4583:8	carrying 4600:14	centre 4555:13 4648:9 4649:23 4654:6 4682:2 4709:13	circumstances 4555:8 4559:4 4627:21 4713:8
cables 4525:19 4582:2 4583:5	carton 4642:10	CEO 4700:16	city 4679:19 4684:4,6 4709:15
calculation 4608:10, 13	case 4581:19 4589:17 4590:10 4603:23 4649:4 4653:16 4680:18 4682:1 4703:6 4706:2	cetera 4519:21 4528:22 4586:21 4589:10 4660:25	Civil 4512:19,20 4513:11
calculations 4678:23	catch 4629:11	chance 4529:16 4630:25	clarification 4635:18 4704:9
call 4513:14 4635:17 4663:5 4671:2 4673:15, 25 4674:17 4705:8	catch-all 4571:10 4660:22,23,25	changed 4529:23 4650:18,20	clarifications 4635:15 4636:9 4704:5
called 4514:6 4551:4 4582:24 4694:5	category 4552:8 4704:24 4705:6	characterize 4554:13	clarify 4570:15 4584:3
calling 4512:6	Caughill 4696:16,20, 25	chart 4598:25	clean 4581:22 4598:3
calls 4635:15 4661:20	caulked 4569:3,12 4605:1,3 4699:22	chasing 4698:10 4699:16	clear 4640:16 4662:10 4670:5 4685:20 4693:13 4695:2
camber 4622:22 4623:15 4688:6	caulking 4605:18,19 4615:10 4695:4	check 4525:18 4526:11,17,25 4629:13 4630:10	clearer 4584:15
cambered 4621:23,25 4622:9 4686:22 4688:17	caused 4542:22 4641:14 4643:20 4709:15	checked 4576:6 4628:10	client 4522:11 4531:24 4594:14 4596:17 4616:24 4618:10,12,16 4647:22 4648:25 4649:2,5,6 4651:15 4652:4,9,14 4653:16 4678:17 4681:15 4693:6 4703:4
canopies 4597:23 4707:16	causing 4521:6 4574:8 4616:19 4639:20	checking 4576:8 4582:19 4586:9 4629:19 4631:12	client's 4601:10 4678:17
canopy 4523:19	cautionary 4673:19 4676:20,25	chip 4581:25 4629:15, 20	clients 4561:10,15 4596:24 4636:11 4678:16
capacity 4610:5,6,8	ceiling 4519:16 4535:4 4552:13 4571:2 4580:15 4581:13 4585:12 4592:19 4594:5 4598:8 4631:17	chipped 4629:21	climbed 4592:18
capture 4528:5 4540:22	cell 4582:24 4587:16 4590:18	chloride 4551:3 4567:24 4572:6 4627:24	close 4543:12,15,24 4544:15 4554:23 4647:4 4653:8
captured 4568:18	Celli 4515:14 4516:5 4517:20 4519:25 4520:14 4550:22,25 4558:22 4602:6 4646:9 4653:25 4660:13	chloride-laden 4602:18	closed 4646:22 4647:9,14
car 4543:7	Celli's 4516:1 4518:4 4551:6 4568:13 4645:20 4677:6	choice 4530:1 4670:10	coating 4616:20
carbon 4626:19 4627:17	center 4651:20 4689:6	choose 4543:15 4564:8 4618:13 4709:2	Code 4680:7,16 4684:2
carbonated 4628:9, 13,16 4629:23 4630:5	Central 4529:10 4605:12 4654:5 4710:24 4711:7,18 4712:6,9 4713:4,9,12	chose 4534:25	cohesiveness 4643:8
carbonation 4567:25 4626:8,9,17 4627:2,6, 23 4628:8 4630:9,11,23 4631:1,3,21 4632:1		chosen 4535:5	colleagues 4691:3
care 4634:18		chunks 4561:16	collect 4648:13
Carr 4695:24,25		circle 4540:7 4547:18	collecting 4620:20
carried 4600:9 4673:16 4674:1 4705:9		circumstance 4618:14 4681:22	
carry 4603:4 4617:8,11			

<p>colour 4540:6 4545:9 4547:10,11 4625:10</p> <p>column 4538:13,24 4539:2 4540:15 4541:6 4687:15,18 4688:12</p> <p>columns 4519:20 4527:3 4559:23 4686:6 4687:16 4688:18,20</p> <p>commencing 4512:1</p> <p>commendable 4714:13</p> <p>comment 4694:6 4705:7</p> <p>comments 4591:3 4621:6,9 4693:8,25 4694:21,25 4704:4</p> <p>commercial 4514:20, 23</p> <p>commission 4512:6 4532:14 4624:7 4667:10 4689:2 4692:14 4696:6 4701:17 4703:8</p> <p>Commissioner 4512:3,5,9 4519:5,7 4535:11,14,22 4540:19 4541:17 4543:23 4544:1,16 4546:10,15, 19 4548:24 4549:3 4558:24 4559:9 4562:14,17 4576:22 4596:2 4619:4 4628:18 4641:15,25 4642:9,12, 16,19,25 4643:5,8,10, 13,24 4647:20,25 4657:2 4661:13,23 4662:5 4672:24 4676:11, 4678:15 4679:9,13 4684:17,20 4690:17,20 4695:24 4696:1,3 4698:17,23 4700:24 4701:3,18 4702:8,12 4705:13,15 4706:14 4709:20 4713:17 4714:7,16,20, 25 4715:6,10</p> <p>commitments 4645:10</p> <p>committing 4698:18</p>	<p>common 4559:20 4693:10 4702:19,20</p> <p>communicate 4708:20</p> <p>communications 4531:25</p> <p>company 4514:6 4636:21 4691:3</p> <p>comparison 4530:12 4550:18 4601:14</p> <p>complete 4639:23 4683:9</p> <p>completed 4550:23 4551:19 4661:1 4682:19 4689:18 4703:24</p> <p>completely 4672:14 4692:13 4701:14</p> <p>complicated 4666:12</p> <p>component 4555:23 4610:4</p> <p>components 4520:11 4626:21</p> <p>comprising 4566:13</p> <p>compromising 4563:12 4637:25 4638:12,25 4639:7,14 4671:12</p> <p>concern 4520:17 4555:25 4573:8,13 4586:11 4617:5 4661:14 4675:24 4683:18 4698:7,9 4699:12,14</p> <p>concerned 4541:8 4589:6,15 4596:23 4604:10 4610:22 4644:2 4682:24 4700:19</p> <p>concerns 4551:3 4602:16 4604:5 4684:8</p> <p>conclusion 4683:21, 22,24</p> <p>conclusions 4579:8, 14 4613:8 4633:19 4655:11 4664:5 4691:23</p>	<p>concrete 4514:14 4517:3 4518:24 4521:19 4529:2,3 4534:22 4551:2,4 4552:14 4555:15 4567:16 4569:4,13 4615:8 4626:10,20,21, 24 4627:1,9,15,17,18, 25 4628:9 4629:15 4630:7,8 4632:3 4655:9 4686:18,19 4705:24 4706:2</p> <p>concretes 4630:12 4631:13</p> <p>condition 4518:16 4519:10 4566:11,24 4567:17,20 4575:7 4603:25 4625:6,17 4629:14 4673:21 4675:23 4676:22 4677:10</p> <p>conditions 4530:7 4533:4 4553:3 4627:9 4677:15 4691:24 4692:1</p> <p>conducted 4697:8 4699:1</p> <p>conducting 4529:20</p> <p>configuration 4623:19</p> <p>confirm 4512:17 4563:5 4575:19 4576:16 4713:5</p> <p>confirmation 4526:2</p> <p>confirmed 4620:24</p> <p>confused 4628:24 4648:23</p> <p>confusing 4649:20 4655:15,18 4678:12</p> <p>confusion 4653:15</p> <p>connected 4559:24 4640:18</p> <p>connection 4554:5,7, 15 4555:2,9,22 4556:12,13,25 4557:13 4593:3,6,8,21,25 4623:12, 4640:17,22 4677:12</p>	<p>connections 4518:18 4519:11,21 4522:3,5 4525:20 4526:11,18,25 4552:18, 21 4553:11,20,22 4555:23 4556:1 4557:17,20,21,23 4558:5,7,11 4560:3 4568:17 4592:24 4593:16 4594:4,6 4623:11 4673:13 4687:16 4692:17,25 4693:3 4706:16,17,19, 22 4707:2</p> <p>connotation 4639:15</p> <p>connote 4674:6</p> <p>conscious 4558:25</p> <p>consequence 4524:2</p> <p>consequences 4577:5</p> <p>consideration 4563:16</p> <p>consisted 4567:11</p> <p>consistent 4568:6,12</p> <p>consistently 4575:9</p> <p>constant 4631:20,25 4690:11</p> <p>constantly 4690:13</p> <p>constitute 4701:11</p> <p>constitutes 4681:11</p> <p>constraints 4561:8, 20 4563:19</p> <p>construction 4514:19 4515:1,3 4552:10 4570:1 4599:9 4659:5 4660:6,25 4662:1 4664:22 4670:21 4711:2 4713:1</p> <p>consultant 4682:21</p> <p>consultants 4670:23</p> <p>consulting 4514:5,10 4637:3 4650:14 4691:2</p> <p>contact 4635:2 4636:7 4654:9,25 4683:16 4694:13 4703:4 4704:8</p>
--	--	---	--

<p>contacted 4636:20</p> <p>contained 4636:5 4658:12</p> <p>container 4642:10</p> <p>contamination 4551:3</p> <p>content 4567:24 4656:14 4659:15,18</p> <p>contents 4654:15 4656:21 4657:13 4696:10 4704:9</p> <p>context 4525:10 4561:25 4579:15 4681:16</p> <p>contingencies 4599:9</p> <p>continue 4548:15 4549:11 4600:16 4604:13 4615:2 4618:7 4676:5 4697:21,24 4699:6</p> <p>continuing 4602:19 4683:8</p> <p>continuity 4530:3 4684:9 4692:8</p> <p>continuously 4617:14</p> <p>contract 4653:21 4659:6</p> <p>contracted 4669:15</p> <p>contractor 4536:9 4600:2,4,10 4603:19,22 4604:16 4609:6 4612:20,22 4629:15 4650:2 4656:13 4659:4 4660:5,9,21,22 4661:25 4664:7 4678:23</p> <p>contractors 4569:20 4599:8,14,25 4600:1, 22,24 4603:17 4604:20 4658:17 4659:14,15</p> <p>contrary 4576:11</p> <p>control 4656:24 4657:16 4660:23 4666:5</p> <p>conversation 4516:7,10 4614:25</p>	<p>4654:11 4656:4 4660:14 4695:12</p> <p>copies 4529:15 4710:6 4711:1</p> <p>copy 4522:17,20 4537:5,7 4538:10 4540:20 4645:13</p> <p>core 4572:3 4582:4,21 4586:2 4610:5,8 4621:25 4651:4,7 4685:6 4686:1 4688:2</p> <p>core's 4525:20</p> <p>cores 4688:5</p> <p>Coreslab 4685:12,16</p> <p>corner 4517:17 4540:2,12</p> <p>correct 4512:23 4513:18 4514:3 4516:23 4517:20 4518:12 4524:7 4527:1 4532:2 4534:3 4536:22 4537:2 4543:14 4549:18,19 4550:3,10, 11 4552:16 4553:1,2, 12,16 4554:20,21 4555:17 4559:14,21 4562:6,25 4568:18,21, 22 4570:18,22 4576:15, 18 4580:11 4584:13 4586:6 4587:16 4592:8, 25 4595:4,11,14,18 4596:6,9,16 4597:15 4598:20,21 4599:1,6, 11,14,15,17 4600:20 4602:6,7,13,15 4606:4 4611:11 4620:5,14 4622:12 4623:2 4630:1 4632:12 4640:10,11,19 4641:3,24 4643:3,12 4645:23 4646:12 4647:2,5 4653:12 4655:6,7 4666:8,9 4674:18 4680:4 4681:9 4686:21 4687:22 4688:3 4692:23 4693:10,17,21 4694:8, 18 4695:1 4697:16 4703:1,12,25 4704:6,20 4705:11 4706:12 4707:11,19,24 4708:12</p> <p>correctly 4627:23</p>	<p>4630:24</p> <p>correlate 4590:1</p> <p>correlated 4673:7 4704:18</p> <p>corridors 4592:15</p> <p>corroded 4585:13 4598:8 4619:25 4628:1 4641:7</p> <p>corrodes 4574:1</p> <p>corroding 4555:16</p> <p>corrosion 4519:24 4521:1,7 4524:25 4551:4 4552:12 4553:9, 11,14,18,19,21,22 4554:1,2,3,4,13,14,16, 21 4557:1,4 4567:22 4573:17,21 4574:1,8, 12,13,15,24 4575:16 4582:3,17,25 4583:3,7 4589:3,8,11,15 4590:2 4591:11,12 4592:1,2 4594:21 4595:13 4616:17,21 4619:22 4620:6 4624:2,8,17 4625:13,21,22 4627:1, 20 4638:21 4640:22,24 4641:2,13,20, 4643:21, 23 4664:25 4673:4,6,9, 14,20 4675:11 4676:20 4677:5 4689:19 4690:4, 5 4704:18,20 4705:2 4706:23 4707:1</p> <p>corrosions 4553:19</p> <p>corrosive 4690:2</p> <p>cost 4563:18 4564:2 4599:1 4601:20, 4607:25 4653:10 4708:22,24</p> <p>costs 4566:16,18 4599:7 4653:2 4658:17 4668:4,18</p> <p>counsel 4512:6,8 4529:14 4619:2 4667:10 4678:25 4692:14 4696:6 4698:19 4703:9 4715:11</p> <p>couple 4517:12,21,22 4561:12 4648:24</p>	<p>cover 4634:10</p> <p>covering 4670:13,15</p> <p>crack 4575:4 4615:7</p> <p>cracks 4552:10 4569:3,12 4597:21 4606:24 4609:16 4611:10,11 4664:22 4666:5 4698:7,11,13 4699:17,19 4707:14 4708:15</p> <p>cracks]will 4699:13</p> <p>create 4555:12</p> <p>creating 4631:8</p> <p>critical 4553:22 4673:14,21 4676:22 4677:10,17</p> <p>criticism 4691:16</p> <p>cross 4596:14 4647:24</p> <p>cross-examination 4647:18 4648:1,3 4679:16 4690:21</p> <p>cross-examined 4701:16</p> <p>cure 4667:22</p> <p>current 4566:11,24 4567:6 4668:17</p> <p>curve 4622:25</p> <p>cut 4665:13</p> <p>cycle 4709:1</p> <p>cycles 4557:7</p> <hr/> <p style="text-align: center;">D</p> <hr/> <p>D15 4538:24 4540:16, 18 4541:7,15</p> <p>damage 4571:23</p> <p>damaged 4552:14 4697:2</p> <p>danger 4682:9,11,12, 13,15</p> <p>dangerous 4683:14</p> <p>darker 4620:4</p>
---	---	--	---

<p>date 4626:7 4675:19 4676:8,13</p> <p>dated 4513:23 4634:11 4696:15 4702:24 4703:17</p> <p>David 4610:2,24</p> <p>day 4535:21 4580:5 4643:17 4646:21 4647:14 4655:19 4715:14</p> <p>days 4523:11 4530:24, 25 4531:2 4535:18 4536:19 4650:25 4655:16 4656:12 4662:3 4712:24</p> <p>deal 4607:19 4653:8</p> <p>dealing 4692:17 4708:4</p> <p>deals 4690:5 4708:2</p> <p>dealt 4632:7 4677:25</p> <p>debonded 4552:14 4567:15 4603:8,12 4608:7 4609:2,9 4610:12,20 4611:13 4665:3</p> <p>debonding 4641:22 4642:1,13</p> <p>decide 4528:13 4610:11 4669:6 4670:7</p> <p>decided 4691:12</p> <p>deciding 4534:14</p> <p>decision 4534:15 4645:2</p> <p>deck 4515:4 4521:5 4528:18 4563:9,14,23 4564:12 4567:13 4568:4 4597:22 4598:12 4603:25 4610:4,10 4613:15 4614:5 4620:16,24 4622:22 4637:21 4639:5, 4650:12,25 4655:12 4656:25 4657:17 4671:9 4697:10,15 4699:3 4707:15</p> <p>decreases 4570:13</p>	<p>decreasing 4577:4</p> <p>deeper 4652:8</p> <p>default 4652:25</p> <p>defect 4575:10 4586:8</p> <p>defects 4552:24 4566:19,25 4593:11</p> <p>deficiencies 4567:4</p> <p>define 4554:17</p> <p>defined 4691:15 4696:8</p> <p>definition 4559:16 4568:20 4592:21 4602:24 4626:9,13,17 4630:23 4631:22 4659:23 4681:7</p> <p>definitions 4559:13</p> <p>deflection 4554:25 4555:11,13 4688:5,14 4689:7</p> <p>deformation 4554:24</p> <p>degree 4513:10 4559:7 4678:13</p> <p>degrees 4524:9</p> <p>delay 4644:11</p> <p>deletions 4704:4</p> <p>delivered 4532:16 4558:20 4560:17</p> <p>delivery 4636:13</p> <p>density 4630:8</p> <p>depend 4524:12 4564:16 4668:25</p> <p>depending 4589:21, 24 4623:18</p> <p>depends 4553:23,25 4627:8</p> <p>depicting 4544:10</p> <p>depth 4567:24 4629:19 4657:20,21</p> <p>describe 4520:5 4598:18 4607:7 4642:23 4690:7</p> <p>describes 4520:5</p>	<p>description 4623:1 4624:17 4664:3</p> <p>design 4569:21 4668:10 4688:17</p> <p>designed 4555:1 4605:2 4689:9</p> <p>designer 4520:8 4610:1</p> <p>destination 4652:15</p> <p>detail 4537:16 4550:14 4660:19 4662:25 4668:1 4697:2,20 4699:5</p> <p>detailed 4569:5,14 4601:17 4603:16 4605:2,5 4669:6,16,18 4697:9,14,15 4699:2</p> <p>detailing 4563:17 4660:24</p> <p>details 4512:17 4654:22 4670:3</p> <p>detected 4571:2</p> <p>deteriorated 4575:21</p> <p>deteriorates 4698:4 4699:10</p> <p>deterioration 4530:18 4534:20,22 4552:4,9,19,20,23 4555:15 4563:11 4609:17,19 4615:9 4637:24 4638:4,18,24 4639:7,13 4671:11 4682:7</p> <p>determine 4521:25 4528:21 4564:15 4566:16 4581:6</p> <p>determined 4518:23</p> <p>determining 4691:11</p> <p>detrimental 4698:3 4699:9</p> <p>develop 4567:5 4632:25 4668:16 4669:19 4708:15</p> <p>developing 4620:21</p> <p>development 4676:21</p>	<p>dictate 4537:17</p> <p>difference 4602:11 4690:6</p> <p>differences 4562:12</p> <p>difficult 4525:9 4554:7 4579:22 4580:13,19 4666:10,16 4692:4,6 4704:23 4714:11</p> <p>diligence 4644:22,25 4653:22 4711:15</p> <p>dimensions 4685:20 4687:13</p> <p>dioxide 4626:19 4627:17</p> <p>direct 4570:7 4571:3 4635:2 4653:21</p> <p>directed 4623:6,10,17 4710:7</p> <p>directing 4622:18</p> <p>directly 4572:11 4620:2,10 4623:12 4629:22 4641:11 4687:2 4688:11</p> <p>disagree 4702:9</p> <p>disappointed 4712:25</p> <p>discuss 4528:10,17 4581:8 4614:3 4632:21 4633:1 4654:18,21</p> <p>discussed 4612:3 4613:23 4633:3,15 4654:12 4655:2,5 4697:3 4698:2 4699:8</p> <p>discussing 4562:1 4613:9 4691:10 4701:7, 9</p> <p>discussion 4517:2 4527:6 4561:25 4580:8, 23 4610:24 4614:1,5 4633:8 4636:23 4650:21 4695:12</p> <p>discussions 4516:5, 24 4518:22 4521:13 4526:21 4527:24 4528:3 4532:22 4533:13 4560:16</p>
---	---	--	---

4635:24 4654:14 distinctly 4614:11 4615:7 distress 4555:14 4574:16 4639:20 do-nothing 4674:12 doc 4517:10,13 4569:10 document 4517:9 4525:11 4599:20 4613:10 4616:9 4623:24 4634:9 4658:23 4679:22 4696:14 4710:3 documents 4517:8 4562:22 4566:6 4649:18 4651:24 4696:22 4710:7 4713:6 dollars 4611:20,21 4652:22 door 4701:15 dot 4517:13 double 4589:12 Doug 4648:4 draft 4577:21 4632:12, 22 4634:12,16,22 4635:5,7 4636:1 4637:16 4703:23 4704:3,10 drafted 4515:18 4551:22 4573:7 drafting 4633:23 drain 4535:2 4542:25 4557:2 4688:11 drained 4620:24 draining 4685:7 4689:3 drains 4557:5 4688:17,19,22 4689:2 draw 4539:22 drawing 4527:18 4537:10 4538:11 4539:19 4540:18 4544:9 4545:10 4650:12 4664:4 4685:12,16 4686:8	4687:23 drawings 4527:11,22 4529:8 4649:15 4685:17 4713:2 drawn 4655:10 drew 4689:20 drive 4531:6 4535:7 4543:6,8 4565:18 4646:3 4665:25 driven 4519:23 4646:5 4653:13 drives 4645:16 4652:20 driving 4646:4 drove 4531:11 dry 4535:21 drying 4631:20 4690:11,12 due 4535:2 4554:12, 14,15 4609:16 4644:22, 25 4653:22 4711:15 4715:9 dug 4652:7 durability 4552:25 4566:20 4567:1 duty 4680:17,23 dynamic 4687:7 <hr/> <p style="text-align: center;">E</p> <hr/> e-mail 4696:15,24 4700:1,4 4704:2 E0000003125.0195. 4696:15 earlier 4561:24 4588:3 4600:25 4606:6 4620:25 4624:2 4678:9 4687:4 4697:3 4704:17 early 4515:11,13 easier 4540:1,23 4561:16 east 4542:1 4545:21 4548:2,6 4585:10	east-west 4541:22 4546:21 4549:15 easy 4521:8 Ed 4521:21 4633:15 edges 4575:20 effect 4618:17 4627:24 4628:2 effected 4563:15 effective 4563:18 4564:2 4600:8 4601:12, 17 4602:18,21 egg 4642:10 EJ 4583:12 electronics 4531:18 element 4593:10 4627:11 eliminate 4667:1,3,7 Elliot 4512:21 4518:13 4525:3 4530:22 4531:2, 17 4532:10 4550:24 4610:14 4632:20 4661:18 4679:19 4714:15 else's 4661:15 4662:11 embedded 4626:22 4627:17 employees 4695:10 employment 4513:6 4514:1 encapsulates 4680:15 Enclosed 4563:6 encompass 4693:2 encountered 4690:18 end 4521:1 4524:16 4555:12 4564:18,21 4565:1 4574:14 4622:2, 16 4643:17 4649:6 4676:15 4686:22,23 4688:2 endanger 4681:10	ended 4521:5 4639:10 4648:21 ends 4519:3 4622:10 engineer 4512:18,19, 20,24 4513:14 4520:3,6 4558:9 4559:21 4601:15 4660:5 4664:8, 9 4680:4,7,18 4683:13, 22 4684:24 4688:8,11 4691:7 4692:11 engineering 4513:11 4599:10 4648:8,10 4649:8,14,22,25 4650:4,6,16 4651:20 4658:18 4659:4 4661:1 4683:2 4690:3,4 engineers 4680:15 4684:3 4688:21 4691:17 4692:8 enlarge 4685:21 4687:10 ensure 4576:8 4680:19 ensuring 4597:23 4707:16 entire 4525:2 4531:1 4658:11 entirety 4515:20 4561:13 4579:15 entry 4646:15 environment 4685:9 4689:21,24,25 4690:2, 14,18 Environmental 4695:20 epoxy 4609:14 equally 4543:23 4650:2 equipment 4605:17 erase 4546:23 error 4698:18 essentially 4662:22 establish 4553:5 4567:2 estimate 4607:25 4608:4,15 4653:2
--	--	---	--

Ethics 4680:7,16	4551:9 4560:23	4603:21 4604:3	fail 4652:23
Evaluation 4567:22	4562:18 4578:3	4626:11	failed 4534:21 4543:10
event 4550:18 4662:10	4594:19 4597:10	explain 4596:17	4603:8,12 4692:16
4713:17	4616:13 4621:15	4627:12 4663:16	failure 4554:14,15,22,
eventual 4698:14	4623:21 4628:4 4637:6	4706:18	23 4555:2,3,5,10
4699:20	4640:2 4658:25 4663:4	explained 4620:25	4681:9 4698:10
eventually 4637:17	4670:16,18 4672:15	4622:9	4699:15
4675:18 4678:16	4679:24 4685:12	explanation 4550:16	failures 4554:12
evidence 4534:21	4687:9 4689:13	expose 4519:1	4555:22
4563:11 4583:20	4696:17 4702:24	4525:19	fair 4514:24 4530:5,16
4584:4 4633:20	4703:15 4704:13	exposed 4521:7	4533:23 4535:15
4637:22 4638:4,23	4707:8,9 4710:1	4581:14 4582:1	4543:11 4545:3,10
4639:6,13 4647:21	exist 4557:8 4563:20	4584:17 4587:18	4558:13,16,21 4559:8
4671:11 4682:6	4692:1	4591:12 4619:23	4566:1 4577:14 4580:7
4686:15,17 4688:9	existing 4553:2	4671:16	4588:2 4589:21
4689:1 4693:5 4694:16,	4698:13 4699:18	exposing 4567:19	4593:15 4605:11
24 4695:8 4700:21,23	exit 4646:15	4583:4	4614:4,8 4618:24
4701:12,23 4702:13	expand 4578:14	exposure 4627:9	4671:17 4693:16,20
4703:8 4710:23	expansion 4527:18	4630:24	fairly 4521:7,8 4530:17
4714:17 4715:5	4541:10,22 4542:10	express 4621:7	4543:12 4561:14
exact 4632:23 4692:6	4543:13,15,18,24	expression 4642:5	4618:20 4657:23
examination 4647:17	4544:12,16, 4545:18	4688:10	fairness 4559:10
EXAMINATION-IN-CHIEF 4512:13	4547:24 4549:14,21	extension 4623:9	4584:18 4618:25
examine 4562:14	4550:2 4564:19	extensive 4520:8	fall 4521:6 4573:20,24
examined 4549:2	4583:13 4587:1	4573:21 4673:12	4574:3 4577:12
4689:22	expect 4630:8	extent 4521:8 4524:12	4641:14,23 4642:5
excavate 4518:23	4635:18 4644:11	4554:1	4643:20
excessive 4627:4	4645:4 4668:8 4709:5	extents 4575:1,5	fallen 4573:1,19
excludes 4592:21	4712:3,11	exterior 4592:10,12	4574:23 4575:2,5,6
excluding 4592:6,10,	expectation 4596:21	4598:3	falling 4574:14
11	4617:4 4645:9 4661:16	extremely 4589:5	falls 4521:3 4577:9
Excuse 4698:17	4676:9		4643:14
executed 4529:4	expectations 4676:9	F	familiar 4642:22
4603:16	expected 4636:6		4680:6 4700:24
executing 4529:5	4675:1 4708:16		4711:12
executive 4551:25	4709:10 4711:4 4713:7	face 4543:7 4544:2	fast 4657:3,5
4658:14 4663:4,16,21	expenses 4652:19	facsimile 4703:16	faster 4676:12
4664:2,11 4665:10,11	experience 4520:8	fact 4523:20 4525:8	fax 4634:9,13 4710:8,9
exercise 4652:21	4528:22 4617:18	4543:2 4560:4 4593:9	4712:18
4662:15	4636:10 4645:15	4605:25 4607:7	feasible 4563:14
exhibit 4517:9 4522:6	4653:13 4661:7 4675:2	4614:12 4628:16	feel 4561:17 4591:8
4523:2,4 4533:15	4691:14	4651:22 4658:13	4604:1 4643:22
4539:19 4544:7,8,9,10,	experienced 4605:8	4660:4 4670:13	4692:10 4706:3,4
23,25 4546:22 4548:25	4631:7 4683:23	4671:15 4677:18	fees 4658:19 4659:4
	4699:24	4711:10	feet along 4582:4
	expert 4642:18	factors 4601:19	
	4683:21	4693:15,16	
	expertise 4551:1,6		
	4553:15 4559:6		

<p>fell 4643:22</p> <p>felt 4520:14 4549:7 4580:12 4583:5 4591:6, 19 4601:10 4618:2 4674:8 4675:24</p> <p>fiberglass 4642:20</p> <p>fibers 4642:15</p> <p>fidelity 4680:19</p> <p>field 4519:18,20 4532:11 4683:21 4690:3</p> <p>file 4522:21 4543:20 4573:22</p> <p>filled 4615:9</p> <p>final 4636:1</p> <p>financial 4561:7,20 4563:19 4645:10</p> <p>financing 4653:3,7</p> <p>find 4534:17 4571:15 4577:25 4637:22 4639:6 4649:19 4665:4 4671:19 4672:1,2 4673:11 4692:6</p> <p>finding 4572:5,8 4609:15 4620:23</p> <p>findings 4654:12,18 4693:15</p> <p>fine 4541:5 4547:19,21 4593:8 4619:6 4671:17 4693:7</p> <p>finished 4591:4</p> <p>fire 4573:2,8 4577:6</p> <p>fireproofing 4520:20, 23 4521:1,2,6 4568:3 4572:24 4573:11,15,23, 24 4574:2,7,11,14,23, 25 4575:4,13,17,23 4576:2,14,20 4577:8,9, 12 4578:11,17,22 4579:20,23 4580:10, 4583:17,19,23 4584:1, 6,9 4586:1 4591:7 4598:6 4619:19 4640:13 4641:6,8,11, 14,16,21,22 4642:1,4 4643:11,20,21</p>	<p>firm 4655:11</p> <p>Firstly 4654:13 4691:1 4704:19</p> <p>fix 4617:21,25 4675:11, 13 4678:3 4705:25</p> <p>fixed 4618:12</p> <p>fixed] 4674:3</p> <p>flake 4625:21</p> <p>flaked 4588:23</p> <p>flakes 4574:13,15</p> <p>flaking 4574:13 4589:14 4705:3</p> <p>flange 4523:18 4524:15 4587:22 4588:4 4590:25 4591:11 4619:23,25 4624:16 4625:6,23</p> <p>flat 4625:3</p> <p>flip 4517:20 4665:12</p> <p>flipping 4663:23</p> <p>flood 4535:1</p> <p>flushed 4655:5,8</p> <p>foam 4642:24</p> <p>focus 4521:24</p> <p>foil 4570:21</p> <p>follow 4580:16 4596:25 4632:15 4636:12 4713:8,11</p> <p>follow-up 4569:23 4570:2 4645:1</p> <p>Forensic 4689:17</p> <p>forget 4586:24</p> <p>formal 4651:15,17</p> <p>formed 4641:14</p> <p>forms 4552:4,9,22 4555:14</p> <p>forward 4517:21,22 4522:7 4561:3 4669:2</p> <p>forwarded 4711:3,6 4712:13</p> <p>found 4520:21 4523:20 4561:14</p>	<p>4563:10 4573:22 4580:14 4638:3,22 4639:12 4650:1 4671:10 4698:9,14 4699:15,19</p> <p>Fourteen 4522:25</p> <p>fourth 4570:5 4621:20 4668:15</p> <p>frame 4678:1 4709:2</p> <p>framing 4590:15</p> <p>frankly 4655:18</p> <p>free 4557:5 4700:20</p> <p>freeze-thaw 4552:14 4609:17 4665:4</p> <p>freezing 4557:7</p> <p>fresh 4529:2</p> <p>Friday 4535:14</p> <p>friend 4577:13 4614:10 4647:18 4700:20</p> <p>front 4517:8 4556:7 4565:18 4585:7 4587:11</p> <p>full 4530:25 4672:22 4708:10 4709:6</p> <p>fully 4655:5 4697:21 4699:6</p> <p>future 4566:18 4567:7 4645:11 4668:17 4673:19 4676:20</p> <p>FX 4544:19</p> <hr/> <p style="text-align: center;">G</p> <hr/> <p>garage 4601:21 4692:19</p> <p>garages 4514:16 4633:17 4690:7 4705:23</p> <p>gates 4646:25 4647:11</p> <p>gather 4694:4,15,23</p> <p>gauge 4662:20</p> <p>gave 4613:10 4617:21 4674:14 4675:17,18</p>	<p>4688:8</p> <p>general 4570:3,4 4591:3,5,8, 4595:10 4632:25 4633:8 4656:19 4657:11 4668:7</p> <p>generally 4578:17 4616:21 4701:19</p> <p>generic 4650:6</p> <p>generics 4528:20</p> <p>gentleman 4610:1 4662:21</p> <p>Gerber 4640:19</p> <p>Gergis 4514:6</p> <p>girder 4524:15,16</p> <p>girders 4523:18</p> <p>girlfriend 4532:15</p> <p>give 4530:16 4645:5,9 4650:6 4663:22 4668:20 4672:23 4674:14 4677:19 4678:2,5</p> <p>giver 4563:16</p> <p>giving 4536:1 4715:4</p> <p>good 4512:4,9,11,14 4530:17 4547:19 4575:7 4597:5 4605:10 4622:2,15 4628:19 4629:2,3 4630:19 4679:17 4684:22 4692:25</p> <p>graduation 4513:6</p> <p>grained 4625:12</p> <p>grand 4671:6</p> <p>Granted 4610:6</p> <p>Gravity 4575:11</p> <p>great 4523:22 4660:14 4705:23</p> <p>greater 4601:25 4690:12</p> <p>greatest 4627:3</p> <p>greatly 4627:8</p> <p>green 4547:12</p>
---	---	---	--

<p>Greg 4690:23</p> <p>grid 4538:5 4542:7 4546:1 4549:15 4585:1</p> <p>gridline 4539:16 4549:23 4595:6 4686:16,20 4687:17</p> <p>gridlines 4550:9</p> <p>grinder 4614:15</p> <p>grinding 4614:16 4665:22</p> <p>groove 4607:5 4665:13</p> <p>grooves 4607:10 4613:20</p> <p>group 4517:3 4521:21 4633:16</p> <p>grout 4572:7 4609:11</p> <p>grouted 4572:4 4621:2</p> <p>growing 4575:10 4646:19</p> <p>grown 4532:10</p> <p>Guertin 4560:12,17 4634:11,22 4649:8,10 4703:18 4704:2,8 4710:9,10,21 4711:6 4712:12,20 4713:8,18</p> <p>Guertin's 4606:7</p> <p>guess 4533:6 4580:18 4585:23 4592:21 4648:25</p> <p>guessing 4612:12</p> <p>guys 4614:13 4615:2 4660:17 4663:25 4665:8 4672:1</p> <hr/> <p style="text-align: center;">H</p> <hr/> <p>half 4534:8 4582:24 4587:16 4590:7,18</p> <p>Halsall 4512:25 4513:5,19 4514:2,4,11 4527:10 4531:8,21 4562:23 4606:16 4618:2 4636:14,16 4656:12 4658:9</p>	<p>4660:13 4673:3,6,10, 15,25 4683:15 4689:24 4704:10,17 4705:8 4710:7,8 4711:12</p> <p>Halsall's 4697:7 4698:25</p> <p>hammer 4567:13</p> <p>hand 4517:17 4540:2, 12</p> <p>handed 4613:17</p> <p>handwriting 4637:9</p> <p>handwritten 4637:8</p> <p>hanger 4585:12</p> <p>hangers 4552:13 4586:5 4598:9</p> <p>happen 4617:17 4618:15 4675:14 4701:7</p> <p>happening 4620:22 4664:4</p> <p>happy 4671:3</p> <p>hard 4625:11 4646:16</p> <p>heading 4626:4</p> <p>health 4628:19</p> <p>hear 4659:10 4695:8</p> <p>heard 4622:22 4625:20 4656:11 4662:3 4710:23 4713:4</p> <p>hearing 4695:9</p> <p>Heat 4557:2,5</p> <p>heavier 4705:3</p> <p>heavily 4535:9 4543:3</p> <p>heavy 4645:21</p> <p>height 4646:11</p> <p>held 4579:23</p> <p>helpful 4529:21 4530:6 4684:2,5</p> <p>helping 4553:5</p> <p>helps 4525:14 4661:21</p> <p>hiatus 4715:1</p> <p>hidden 4641:20</p>	<p>4643:23</p> <p>high 4531:19 4627:15, 16 4628:21 4629:23 4645:8 4653:1 4663:9, 22</p> <p>high-density 4630:7 4631:13</p> <p>high-strength 4554:5 4630:11</p> <p>higher 4686:23 4689:9 4708:24</p> <p>highest 4686:18</p> <p>highrise 4562:1</p> <p>hire 4670:24</p> <p>hired 4564:11</p> <p>historical 4649:18</p> <p>history 4650:8</p> <p>hmm 4518:8,19 4539:9 4570:19 4579:4 4581:23 4585:11,14 4586:22 4587:17 4588:16 4594:23 4607:24 4611:12,14,16, 18 4624:4 4665:2 4707:20</p> <p>hold 4629:10 4642:3</p> <p>holding 4578:18,22 4579:10,12 4581:1</p> <p>holds 4642:13</p> <p>holes 4544:11 4651:1, 3,4,8</p> <p>homogeneous 4641:18</p> <p>honest 4525:24 4628:12 4631:23</p> <p>Honour 4679:15 4684:16</p> <p>hope 4661:6 4712:8</p> <p>hoping 4648:18</p> <p>hotel 4565:19</p> <p>hotel's 4550:1</p> <p>hour 4531:11</p> <p>huge 4553:23 4690:6</p>	<p>humidity 4627:6 4631:2,9,16</p> <p>hundred 4603:1,3</p> <p>hypothesized 4673:10</p> <p>hypotheticals 4683:3</p> <hr/> <p style="text-align: center;">I</p> <hr/> <p>I.D. 4517:10</p> <p>ID 4517:10,13 4569:10 4634:9</p> <p>idea 4657:25 4658:5,6 4666:3</p> <p>identified 4585:1</p> <p>identifies 4584:19</p> <p>identify 4534:13 4552:24 4566:15,25 4567:14 4619:24 4624:7</p> <p>identifying 4553:2 4566:19</p> <p>imagine 4635:20 4642:7 4712:8</p> <p>immediately 4632:22</p> <p>immersed 4690:13</p> <p>impact 4521:25 4535:3 4557:16 4582:19 4690:12</p> <p>impacts 4631:12</p> <p>implement 4561:12 4668:10 4675:3 4705:20</p> <p>implemented 4561:17 4605:2 4706:8 4709:4</p> <p>implementing 4666:3</p> <p>implication 4675:10</p> <p>important 4557:6 4618:13 4633:11 4651:14 4668:12</p> <p>improper 4666:7</p>
--	---	--	--

<p>improperly 4605:7 improved 4610:6 in-chief 4647:21 inch 4589:11 4590:7 inches 4538:18,19 4539:1 incident 4532:14 4690:25 incidental 4593:17 incidentally 4594:2 include 4522:2,5 4537:14 4550:13 4552:5,9 4558:11 4559:16 4560:2 4615:25 4618:3 4669:17 4678:10 included 4518:21 4519:12,19 4559:17 4598:25 4602:8 4632:10 4671:5 4678:18 4692:21 4693:14 4707:2 includes 4557:17,22 4558:4,7 4559:13 4594:4,6 including 4592:6 4606:24 4658:3 inclusion 4519:22 4537:17 inconvenience 4601:20 incorrect 4569:24 4606:18 increase 4632:1 increases 4631:2,21 increasing 4630:25 4631:16 indicating 4657:4 4688:13 4693:24 4710:21 4712:22 indication 4572:5 4628:18 4638:17 4645:6 individual 4520:11 4521:14 4580:8</p>	<p>information 4528:6 4530:10 4536:1 4566:23 4587:10 4648:15 4662:18 4670:6,9 4671:23 4685:15 4694:24 4713:3,16 4714:12 informative 4650:3 informed 4530:1 inherent 4676:9 initial 4579:14 4598:16 initiated 4627:21 inject 4609:20 Inquiry 4715:13 inside 4547:18 4628:1 insight 4530:17 insignificant 4596:14 4641:1 inspect 4518:16 4519:10,17 4673:13 4692:12 inspected 4513:22 4514:16 4519:13 inspecting 4644:9 inspection 4515:21 4517:4 4518:21 4521:24 4522:11 4529:20 4536:16 4555:23 4568:8 4574:18 4593:16 4645:2 4651:25 4652:17 4669:16 4673:6,12,16 4674:1,17 4705:9,16,18 4710:19 inspections 4523:14 4527:8 4529:23 4644:3 4645:16 4692:13 4703:10 installation 4657:18, 19,20,21 installed 4646:11 instances 4647:10 instruct 4607:1 instructed 4606:23</p>	<p>instruction 4527:4 4668:3 instructions 4603:19 4669:18 4670:12 insufficient 4662:18 4694:24 insulation 4568:2 4570:11,13,16,17 4572:1,16,19 4576:13 4577:3 4583:20,23,24, 25 4584:5,6 4585:18, 19,20,24,25 4586:1,3 4598:11 4602:14 4657:1 integral 4610:3 integrity 4524:11 4563:12 4617:1 4637:25 4638:12,25 4639:7 4671:12 4697:6 intend 4621:7,9 intended 4645:9 4693:2 intent 4566:21 interested 4669:11 interesting 4620:19 interior 4545:5 4546:8 4547:9,13 4549:1,5 4592:6 4595:9 4620:10 internal 4627:5 interpret 4558:11,14 4564:4 4620:18 interpretation 4520:13 4580:20 interpreted 4525:25 4558:19 4573:7 4606:15,20 interrupt 4528:12 4635:2 introduce 4647:21 investigated 4697:13 investigation 4571:12 4613:9 4691:4, 17 4697:9,14 4699:2 investigations 4529:25</p>	<p>involved 4687:7 involvement 4634:19 irregular 4642:2 irrelevant 4524:17 is' 4697:22 4699:7 issue 4560:5 4579:6 4583:5 4590:8 4591:9 4632:2 4693:1 4698:8 4699:13 4706:21 issues 4521:9 4530:3 4572:6 4586:10 4587:4 4591:6 4593:2 4617:1,4 4631:9 4638:11,12,23 4639:19 4693:11 item 4575:25 items 4566:15</p> <hr/> <p style="text-align: center;">J</p> <hr/> <p>J16 4538:13 4540:2,7, 11 4541:2,9 Jeff 4512:7 4536:3 4614:11 4655:20 JEFFREY 4512:12 job 4594:3 4698:10,12 4699:16,18 Joe 4690:22 jog 4584:22 joint 4525:18 4541:10, 22 4542:10 4543:13,24 4544:12,16, 4545:18 4547:24 4548:5,8 4549:15,21 4550:3 4555:14 4563:15,17 4569:21 4570:7,8 4571:17 4572:4,7,12 4583:13 4586:3 4587:1 4597:23 4601:5 4604:25 4605:1,3,17 4606:5 4607:4,7 4620:2 4621:1,3,5 4623:13,16 4631:19 4656:23 4657:15 4660:24 4665:16,22 4666:7,11, 20 4667:9 4698:16 4699:21 4707:16 joints 4525:21 4527:18</p>
--	--	--	--

4543:15,18 4552:11,15 4555:16 4564:17,20 4569:3,12 4572:8,17 4597:21 4598:2,14 4608:2,5 4611:11 4614:16,23 4616:6 4620:11,12 4621:4,9 4622:13 4633:17 4656:15 4664:23 4665:13 4666:6 4707:14	4550:19 knowledge 4516:9 4527:17 4532:12 4604:3 4661:8,10 4683:15 Kuka 4533:17 4534:6 4537:19 4539:4,18,25 4540:17 4542:12,18 4544:3,5,8,22,25 4546:22,23 4548:22 4551:9,25 4556:3,15 4560:22 4562:17 4566:2 4568:23 4576:21 4578:2,13 4597:3,9 4598:22 4599:19 4603:5 4607:12 4611:4 4615:19 4616:12 4619:6 4621:14 4623:20 4626:1,12 4628:3 4632:5,7 4637:5 4640:1 4658:25 4663:6 4679:21 4681:4 4687:8 4696:17 4709:25	lateral 4699:22 latitude 4677:20 lawyer 4648:5 4690:23 laying 4624:23 layman's 4627:12 layout 4549:20 4686:1 lead 4660:7 4673:20 4676:21 4691:22 4695:5 leading 4565:19 4677:9 leaf 4556:6 4585:3 leak 4534:18,24 4542:25 4543:10 4616:18 4617:14 4618:8 4631:18 4674:25 4676:6,10 4677:13 leakage 4535:25 4552:10 4563:9 4565:22 4570:6 4571:3 4584:5 4616:24 4637:21 4639:4,11 4664:22 4671:9 4673:17 4674:2,7 4705:10 leaked 4533:5 leaking 4525:21 4532:7 4533:3,10 4534:19 4543:16,18 4549:19 4609:16 4631:6 leaks 4520:22 4532:18,23 4549:10 4557:16 4571:2,6,13, 16,20,21,23 4572:1,2, 11 4573:23 4574:5 4579:22 4580:13 4583:20 4591:12,20,22 4601:14 4621:2,8 4622:18 4631:15 4671:16 4675:11,14 4701:8,24 4702:4 learn 4691:13 leave 4544:23 4686:14 4687:10 4688:11 led 4702:13	left 4512:22 4513:25 4514:1 4517:17 4541:16 4549:25 4636:14,16 4641:9 4676:22 4683:15 4685:22 legal 4683:1 lend 4652:21 lender 4645:6,12,14 lenders 4652:20 4653:13 letter 4522:8,15,18 4562:19,21,23,24 4563:2,3 4564:4 4601:1 4637:14,16 4638:2 4639:11 4651:19 4670:13,15,17 level 4537:16 4550:14, 15 4627:19 4645:8 4653:1 4663:9,22 4668:1 Liautaud 4710:22,23 lieing 4590:12 life 4681:11 4709:1 lifts 4705:1 light 4574:3 4705:2 limit 4603:2 4607:9 4650:3 limitations 4691:25 limited 4528:8,11,12, 14 4649:24 lines 4549:21 4550:5 lintel 4589:10 lintels 4589:9 list 4518:10 4658:11 4659:9 4662:4 4669:6 4715:1 listed 4552:21 4568:11 lived 4512:21 lives 4618:16 Living 4531:10,25 4532:4 4533:5 4537:8 4550:19 4551:15 4560:20 4561:4,19	
<hr/> K <hr/>				
K3 4542:16 Kearns 4648:2,3,5 4657:3,5,7,8 4659:1 4661:22 4663:1,2,5,7 4673:1 4676:17 4678:20 4693:22 4696:7 4707:6 4710:5, 15 Ken 4580:1 4621:21,22 4656:1,6 Kennealy 4648:19 4700:13,14 4701:5,6, 15,23 4702:18 key 4555:23 kind 4519:17 4529:24 4530:10 4547:16 4555:10 4572:12 4579:2 4614:11 4620:20 4624:22 4629:15 4638:24 4641:17 4648:19,20 kindly 4713:5 kleenex 4642:7 4643:2 knew 4534:17,18 4658:6 4682:17 knowing 4533:4	<hr/> L <hr/>			
lab 4655:9,10 lack 4622:25 ladder 4592:18 laid 4625:3 Laird 4610:2,4,24 Lake 4512:21 4518:13 4525:3 4530:22 4531:2, 17 4532:10 4550:24 4610:14 4632:20 4661:18 4679:19 4714:15 landed 4571:17 language 4522:4 large 4555:13 4561:14 4590:7 4615:8 4645:21 larger 4538:23 4571:20 4698:12 4699:17 Larry 4710:22,23 lateral 4518:17 4698:16				

4598:20 4604:6 4606:14 4635:11,25 4636:4 4644:9 4648:5 4653:20,22 4654:2,10, 19,22 4658:4 4660:17 4661:3 4667:21 4671:19,25 4675:18 4677:19 4693:23 4694:5 4696:9 4700:15, 16 4711:6,17,22 4712:4,5,10 Living's 4531:7 4645:14 loaded 4655:12 loads 4689:9 local 4631:9,21 localized 4571:18 locate 4527:8 located 4595:15 location 4524:13 4527:17 4537:1 4538:5 4542:3 4553:25 4573:17 4584:16 4587:15 4588:8 4591:11 4595:3 4596:7 4637:20 4647:8 4685:6 4688:24 locations 4525:6,18, 21 4526:8,14 4527:3 4528:1,4,7,15,19 4530:2,4,7 4533:1,4,7 4535:5 4536:8,9 4542:22 4543:9,15 4546:7 4549:9,14 4550:20 4567:17 4568:1,5 4585:2 4587:1 4591:18 4594:8,9 4616:19 4620:17 4643:18 4691:22 long 4530:23 4566:20 4574:11,16 4665:21,25 4671:16 4674:8 4686:4 4698:3 4699:8 4701:7 long-term 4682:15 longer 4574:1,2 longitudinal 4698:16 4699:22 looked 4520:15 4545:4,11 4546:7	4547:14 4549:6,14 4550:9 4586:5,6 4588:3 4591:18 4593:5,8,24 4600:25 4619:9 4693:20 loose 4596:19 4705:24 4706:2 loses 4643:6 loss 4523:18,21 4524:8,9,10,11,13,23 4589:1,5,13,16,24 4590:1,4,11,12,15 4596:13 4673:8,11 4704:19 lot 4520:7,22,24 4571:15,16 4670:2 4676:11 4714:12 lots 4543:6 low 4582:16 4583:2 4620:16 4687:2 4689:5 low-cost 4564:8 lower 4586:20 4608:16 4708:22 Luciw 4710:10,11,12, 20 4712:13,19 4713:18 4714:21,23 lunch 4679:9 Luncheon 4679:11 <hr/> M <hr/> M.R. 4690:24 Macrae 4684:18,19, 21,23 4685:11,14,21,24 4687:8,11 made 4519:15 4521:11 4523:10,13 4525:7 4533:24 4536:21 4537:15,23 4538:6 4540:8 4542:19 4546:20 4549:6 4564:18 4569:16 4577:3 4580:23 4584:12 4585:7 4594:13 4595:21 4596:20 4597:14 4607:22 4610:13 4615:18 4617:3	4632:11 4633:7 4634:15 4642:16 4644:10 4646:9 4678:15 4687:16 4693:8,25 4695:12 4712:6 4713:21 magnitude 4653:1 main 4706:19 maintain 4668:4 maintenance 4530:15 4533:6,9 4536:2 4567:5 4569:19, 23 4570:2 4598:9 4600:11, 4601:18 4603:9,13,14,18 4604:1,8,13 4605:20 4606:3 4611:15 4612:6, 9,13 4613:2,18 4614:7, 9 4620:15,23 4656:5,8 4668:3,16,22,25 4669:4,18, 4671:20 4708:9,23 major 4533:12 4534:24 4552:4,9,22 make 4528:5 4534:14, 15 4535:17,18 4540:1 4544:6 4557:19 4558:25 4559:7 4568:16 4576:6 4581:13 4586:10,12 4591:5 4599:8,14 4622:1 4632:24 4635:10 4644:8 4651:14,17 4652:3 4670:10 4677:11 4690:6 4692:16 4694:21,25 makes 4524:23 4559:3 4586:7 making 4536:10 4553:6 4567:2 4601:7 4632:11 4709:15 mall 4513:22 4514:16, 19,25 4515:6,9,12 4527:11,22 4529:9 4530:22 4531:2 4532:7, 16,17,23 4533:9 4534:8 4546:22 4547:9 4549:20,23 4560:8 4561:21 4566:12 4569:18 4580:5 4592:6	4595:5 4603:9,18 4604:7 4620:15 4631:6, 15 4645:3 4646:1 4655:16 4675:25 4676:6 4682:2,3 4683:16 4703:9 4709:13,14 man 4536:3 management 4599:10 4652:21 manager 4560:9 manner 4559:11 4573:5 4602:21 map 4533:24 March 4577:23 Marie 4684:24 marine 4689:25 4690:1,6,8 marine' 4689:20 mark 4538:10 4546:24 4547:14,16 4609:21 4612:15 4613:22 marked 4539:7 markings 4540:21 material 4590:12 4694:22 materials 4656:22 4657:14 4667:19 Matt 4679:18 matter 4516:8 4554:4, 6 4642:20 4644:21 4702:18 maximum 4658:1 Meaning 4639:19 meaningless 4524:14 means 4515:3 4582:16 4613:23 4626:9 4627:14 4629:2, 3 4659:22 4662:6,7 4677:15 meant 4662:23,24 4676:8 measure 4582:24
---	--	--	---

4588:11,15,25 4589:7, 13,16 4624:21 4704:23 4705:4 measured 4588:14 4589:2 4595:12 4624:3 4673:6 4704:18,20 measurements 4551:5 4620:15 measuring 4588:17, 19 4624:6,13,15 4625:23 mechanical 4605:17 4614:15 4650:2 mechanically 4614:23 meet 4601:9 4634:2 4648:18 meeting 4525:23 4651:12 member 4524:17 4589:22,25 4590:1,16 membrane 4563:24 4564:6 4598:16,19 4599:4 4601:8,14,16,22 4602:4,8,12 4678:19 4708:5 memory 4524:5 4525:15 4542:21 4584:22 4587:13,14 4656:8 mention 4660:9,21 4665:12 4669:1 mentioned 4521:15 4561:23 4631:13 4638:20 4642:21 4674:13 mentions 4670:14 mesh 4570:21 message 4712:23,24 met 4517:4 4529:15 4654:1 meter 4608:18 meters 4608:10 4616:6 method 4603:14	methodology 4567:10 4568:11 4575:24 4576:12 4593:13 4691:15 4694:10 Meyer 4688:9 mic 4629:11,12 Michael 4551:14,17 4714:23 mid-point 4686:20 mid-span 4527:4 middle 4535:9 4564:22 4670:19 4686:24 4715:3 Mike 4517:5 4518:22 4519:5 4521:16 4525:23 4612:4 4614:2 4634:3 millimeter 4590:4, 4624:23 millimeters 4587:24 4588:10 4625:1 million 4652:22 mind 4559:2,4 4569:22 4633:11 4639:17 4661:15,20 4662:12 4686:10 4704:12 minds 4661:24 mineral 4642:24 minimize 4566:18 4567:6 4668:17 minor 4557:1 4590:20 4592:1 4594:22 4640:24 minutes 4546:16 4597:6 misconduct 4681:8, 12 misleading 4693:6 mistake 4546:21 misunderstanding 4669:8 mixed 4583:11 mobilization 4599:8	4658:18 moist 4643:4 moisture 4521:5,25 4572:6,25 4574:7 4575:3,8 4578:18,22 4579:10,12 4581:1 4582:19 4585:20, 4602:22 4603:2 4609:17 4620:10 4622:2,16,18 4627:4 4630:25 4631:5 4656:14,21 4657:13 4659:15,18 moment 4521:11 4534:13 4543:22 4544:23 4595:8 4672:23 4686:8 4696:3 money 4602:1,3 4611:19 4652:24 month 4514:1 4712:18 morning 4512:3,4,5,6, 10,11,14 4531:11 4597:5,7 4648:4 4679:17 4687:4 4714:20,22 4715:12 mortgage 4645:7 4652:25 mouse 4540:6 movable 4647:2 move 4522:7 4540:18 4542:13 4570:5 moved 4514:7 4646:20 moves 4627:18 moving 4705:3 multiple 4684:13 multiply 4616:6 <hr/> N <hr/> named 4610:2 nature 4554:14,15,17 4555:22 4641:16 4642:3 4683:1 4684:6 near-term 4645:11 4652:19	necessarily 4520:21 4529:22 4558:8 4573:18 4595:21 4653:5,6 needed 4528:15 4535:18 4549:7 4618:2, 12 4675:24 4677:16 4678:1 negative 4693:15 Neil 4512:8 Nicholls 4515:18 4522:9,10 4531:23 4551:16 4563:4 4635:12 4636:7 4649:5 4651:19,22 4652:9,12 4653:17 4654:11,14 4710:12 4711:5,21 4712:4 4713:21 4714:1 4715:2,7 night 4700:5 nondisclosure 4713:14 Nordev 4697:22 4699:7 normal 4633:5 4651:24 NORR 4577:19 4672:16 4685:10 4689:14 4704:13,17 north 4550:1 north-south 4541:11 4546:21 northern 4618:17 notation 4581:1 note 4523:19 4536:20 4543:19 4578:9,11 4579:17 4580:21,23 4581:5 4584:8,13 4588:7 4591:8,10 4595:3 4612:25 4613:6 4622:2 4637:8 4692:16 4710:8 noted 4519:24 4568:12 4571:8 4579:18 4585:12 4586:14,18 4590:20 4598:16 4622:6 4693:20
---	---	---	---

notes 4515:10 4516:1
4523:7,9,23,24 4524:2
4525:6,11,22,23
4526:5, 4533:21
4537:23 4545:4,12
4586:10,12 4587:6
4592:5,24 4593:5
4607:16,19,23 4610:13,
24 4611:7 4614:1
4621:13 4632:11,24
4633:7 4656:1

notice 4555:19
4571:20 4580:15

notified 4517:1

notify 4682:14

nuanced 4559:7

number 4517:10,14
4528:7 4538:23 4539:1,
7,10,14 4540:10,11,15
4541:16,20 4542:6,11,
16 4545:15 4546:25
4547:14,20,22 4558:17
4561:14 4578:12,24
4579:2 4585:1 4634:9
4648:6 4651:1 4656:11
4661:17 4667:8
4678:22 4679:1
4686:20,21 4687:17
4709:4 4710:16

numbered 4547:22

numbering 4548:15

numbers 4517:13
4548:16 4561:15
4686:10

numeral 4689:15

NYB 4703:4

O

object 4602:1,3

objecting 4683:4

objective 4559:2
4566:7 4668:15

objectives 4552:24
4566:8,10,21 4567:8
4568:11

obligation 4681:18
4682:22 4683:12

obligations 4681:1

observation 4556:25
4569:17 4572:2 4579:9,
13,14 4581:2,8 4588:10
4592:16 4595:20,22
4620:9 4621:7,12
4628:8

observations
4521:10 4569:17
4581:12 4591:5,19
4594:7 4603:6,24
4620:21,23 4632:11,21,
25 4633:4 4634:2
4693:15 4694:19,21
4707:1

observe 4552:20
4665:18 4709:14

observed 4552:19
4557:3 4586:8 4593:2
4673:4

obtain 4566:23 4636:8
4712:5

obtained 4513:15
4516:9

obtaining 4636:22
4710:5

obvious 4565:16
4575:3 4576:4 4615:5
4618:20 4643:17,19
4675:13

occasion 4606:9
4646:19

Occasionally
4586:23

occur 4616:25 4621:8

occurred 4616:18,22

occurring 4530:4
4621:3 4635:21

occurs 4627:2,6
4688:14 4698:10
4699:16

ocean 4690:4

offer 4626:21

office 4516:15,18
4581:9 4611:1 4648:13
4703:20 4711:3

official 4684:13
4709:16

officials 4681:25
4682:3,14

ongoing 4563:10
4574:6 4637:22 4639:5,
12 4669:4 4671:10
4682:22 4698:8
4699:13 4708:9

Ontario 4618:17

open 4647:4,8,11,14

opening 4538:12,18,
21 4539:7,10 4540:8
4545:15 4547:14
4578:11,24,25 4579:2
4613:15 4615:18
4656:24 4657:17

openings 4518:24
4519:15 4528:16
4533:24 4534:1,10,13,
15 4535:17,18 4536:10,
13,22,25 4537:1,11,15,
23 4538:2,6 4542:19
4547:9 4549:1 4550:8
4592:7,16

opens 4701:15

opinion 4563:18
4568:10 4569:16
4603:11 4692:20

OPP 4696:14

opposed 4550:25
4564:6 4569:19 4642:9
4683:1 4704:25

option 4561:7 4562:5,
8,9 4563:22 4564:2,8
4597:20 4598:17
4599:4 4601:11,24
4602:4,17 4604:18
4611:25 4617:19,20
4618:3,5 4668:9
4669:1,3 4670:8
4674:13,14 4697:25
4706:4 4707:13,22
4708:2,4,8,14,22,25
4709:2,4

options 4561:3
4562:4,7,11,15 4563:22
4564:1 4598:19 4599:1
4602:5,8 4611:10
4612:3 4617:21

4618:11 4654:23
4669:25 4674:14
4678:18 4701:9
4705:12,17 4707:6

order 4518:25 4576:3
4587:12 4588:6,9
4600:8 4607:9 4629:13
4653:1 4671:25
4707:22

original 4569:21
4570:1 4589:10,22
4596:13 4685:16

outcome 4618:22

outlined 4613:10

outlining 4668:4

overly 4640:16

overview 4663:22

owner 4558:7
4595:19,23,25 4604:21
4617:13 4644:12,13
4648:14,16,24 4649:1
4652:23 4653:8 4661:6
4662:18 4668:8 4670:1,
8,9,11 4705:19

owners 4564:7
4661:17 4675:2
4684:14 4696:7, 4712:8

owning 4661:7

oxide 4640:25

P

P.eng. 4513:15

p.m. 4546:18 4679:11,
12 4715:14

P/t 4581:14

package 4678:6,8,10,
11

pages 4517:12,21,22
4523:23 4578:14

paid 4668:22 4669:21
4671:6

paint 4598:3

panel 4567:20 4570:8
4620:11 4626:5 4697:2,
3 4698:15 4699:21

<p>panels 4567:18,25 4569:4,13 4570:9,12,18 4572:3,17,20 4616:18</p> <p>paper 4540:20 4606:1 4613:18</p> <p>paperwork 4678:24</p> <p>paragraph 4552:3 4560:24 4562:19 4563:8 4569:2 4570:5 4571:1 4572:23 4573:6 4594:20,24 4598:14 4603:7 4616:15 4637:20 4638:9 4640:3 4658:24 4669:3 4670:19 4671:8 4672:21 4689:16 4700:18 4704:1,16 4707:21 4708:1,7,21 4710:20</p> <p>paramount 4680:20, 24</p> <p>paraphrasing 4688:10</p> <p>Pardon 4678:4</p> <p>park 4566:13</p> <p>parking 4514:16,20, 22 4515:6 4535:10 4543:7 4563:9,14 4564:12 4565:19 4567:13 4568:4 4597:22 4598:12 4601:21 4610:10 4620:16 4637:21 4639:5,12 4671:9 4691:5 4692:19 4697:9 4699:2 4705:23 4707:15</p> <p>Parsons 4536:3,4 4614:11 4655:20</p> <p>part 4518:10,21 4598:9 4615:24 4640:19 4648:13 4668:20 4672:8,11 4674:12 4694:9,12 4711:15</p> <p>partial 4555:10 4642:1</p> <p>participants 4540:23 4647:19</p> <p>parts 4691:18 4697:13</p>	<p>past 4656:12 4680:11</p> <p>path 4570:7 4591:20</p> <p>paths 4571:15</p> <p>pathway 4591:22</p> <p>patterns 4535:6</p> <p>pay 4664:8 4672:12</p> <p>paying 4668:19,21</p> <p>pedestrian 4566:14</p> <p>penetrate 4602:19</p> <p>penetrates 4626:20</p> <p>penetration 4521:5 4522:1 4572:6 4582:20 4602:22 4603:3 4620:10 4697:5</p> <p>PEO_E00000968 4679:22</p> <p>people 4533:9 4558:14,15,25 4559:23 4613:16 4655:24 4714:14</p> <p>people's 4661:24</p> <p>perceives 4683:13</p> <p>percent 4591:15 4603:1,3 4608:13</p> <p>percentages 4590:14</p> <p>perform 4518:24 4660:6</p> <p>performance 4524:17 4570:14 4577:4 4605:1 4656:17</p> <p>performed 4529:23, 24 4569:18 4603:9</p> <p>performing 4523:12 4529:6 4681:17 4709:10</p> <p>perimeter 4576:6</p> <p>period 4533:10 4565:5 4574:16 4644:22,25 4671:16 4673:3 4674:9</p> <p>permanent 4646:23</p> <p>permitted 4579:23 4712:14,16 4713:10</p>	<p>perpendicular 4572:8</p> <p>perpendicularly 4621:4</p> <p>Perrier 4512:8,9,11 4541:8 4558:12 4577:10 4618:25 4647:18,20,23 4661:13 4682:24 4696:2,4, 4698:18,21,24 4700:25 4701:1,4,19,21 4702:16 4705:14 4707:7,10 4714:18,19</p> <p>persistent 4571:21</p> <p>person 4558:20 4560:1,4 4580:12 4614:10 4666:21</p> <p>personally 4635:16 4636:7 4652:11</p> <p>personnel 4536:2 4699:24</p> <p>perspective 4528:21 4676:4 4685:7 4693:8</p> <p>pertinent 4713:2</p> <p>ph 4627:15,16,19 4628:21 4629:22 4630:19</p> <p>phase 4561:11 4670:24</p> <p>phased 4561:6, 4564:9,12 4669:22,23</p> <p>phased-in 4658:1</p> <p>phases 4565:11 4611:17</p> <p>phenolphthalein 4630:14</p> <p>photo 4557:12 4584:19,25 4588:15 4619:9 4620:13 4622:6 4624:1,5 4625:7,12 4640:9 4706:21,23</p> <p>photograph 4556:10, 20,24 4640:6</p> <p>photographs 4703:24</p> <p>photos 4516:1 4556:6, 10 4584:15 4585:1</p>	<p>4587:2,11 4619:17</p> <p>physical 4566:11,24 4631:5</p> <p>pic12 4581:20</p> <p>picked 4527:12</p> <p>picture 4581:21 4586:19,20 4587:25 4588:1 4615:15 4640:16 4686:14</p> <p>pictures 4573:22 4586:10,12,13,14 4615:17 4633:13 4706:12,15</p> <p>piece 4613:17</p> <p>Pinchin 4695:19,20</p> <p>pink 4628:9,11,14,17, 20 4629:1,25 4630:17</p> <p>pipe 4688:19</p> <p>pitting 4554:3</p> <p>pizza 4532:17</p> <p>pizzas 4532:16</p> <p>place 4513:5 4576:17 4578:18 4583:19 4646:20,22,25 4653:4</p> <p>placing 4597:24 4707:17</p> <p>plan 4535:16 4604:9 4675:4</p> <p>planks 4686:1</p> <p>planning 4604:12 4705:19</p> <p>pleased 4670:20,25</p> <p>plugged 4535:2 4542:25</p> <p>point 4524:10 4554:22, 23 4555:3 4573:10,12 4580:20 4591:8 4596:18 4600:14 4617:21 4624:9,14 4635:3 4642:22 4656:10 4662:21 4670:10 4686:19 4687:2 4703:22</p> <p>pointed 4544:17 4546:20 4615:10</p>
--	---	--	---

<p>pointing 4526:10 4624:13</p> <p>points 4620:16</p> <p>policy 4684:1</p> <p>ponding 4689:3</p> <p>poorly 4569:4,13</p> <p>pop 4627:25</p> <p>portion 4515:17 4519:12 4549:23 4573:6 4596:14 4599:13 4663:15</p> <p>portions 4536:15 4601:23,24</p> <p>pose 4682:10,11</p> <p>posed 4615:1 4682:9 4683:1</p> <p>position 4600:21 4693:4</p> <p>positive 4693:16</p> <p>possession 4527:10</p> <p>possibility 4580:9 4613:1,5,25 4618:10</p> <p>possibly 4527:6 4571:10 4588:5 4640:14 4658:12 4708:23</p> <p>post 4581:16,17 4582:1,9,10 4583:8</p> <p>post-tension 4525:19</p> <p>posted 4645:21 4646:10</p> <p>potential 4524:10 4551:5 4567:22 4571:6 4582:3,16 4595:24 4607:25 4612:3 4631:16 4645:6,9 4652:19 4668:4</p> <p>potentially 4550:21 4573:17 4591:21 4623:18 4673:20 4676:21 4677:9,20</p> <p>potentials 4582:25</p> <p>pouring 4605:19</p>	<p>powder 4525:20</p> <p>practice 4514:10 4704:6</p> <p>practitioner 4680:18, 23 4681:10</p> <p>pre-stressing 4567:23</p> <p>precarious 4697:4</p> <p>precast 4515:4 4518:18,25 4519:3 4567:18,20,25 4569:4, 13 4570:8,9,12 4572:17 4583:6 4609:9, 4616:18 4620:11 4621:1,3 4623:13 4625:25 4626:5 4629:16 4630:8 4698:7,15 4699:13,21</p> <p>prefer 4565:10</p> <p>preparation 4525:7 4597:24 4605:9 4614:1 4667:18 4706:10 4707:17</p> <p>prepare 4561:6,9 4564:12 4587:6,12 4670:20,25</p> <p>prepared 4513:22 4515:14 4517:20 4525:2</p> <p>prepurchase 4515:21 4645:2,5 4651:25 4652:17 4669:15</p> <p>prequalified 4656:13</p> <p>prequalifying 4659:14</p> <p>presence 4627:3</p> <p>present 4695:11 4697:4</p> <p>presented 4678:25</p> <p>pressure 4609:11</p> <p>prestressing 4567:21 4581:15,18 4582:11,21 4583:10 4587:19 4626:5 4629:14 4686:18</p> <p>presume 4608:12 4651:8</p>	<p>pretty 4530:24 4565:16 4697:18 4699:3</p> <p>prevent 4697:5</p> <p>preventing 4585:21</p> <p>previous 4531:17 4604:21 4648:8,10 4656:12 4712:1</p> <p>previously 4529:16 4585:18 4595:1 4605:4 4674:13</p> <p>price 4600:1</p> <p>primary 4521:24 4601:6</p> <p>primer 4640:25 4665:24 4667:19 4704:25</p> <p>principal 4516:22</p> <p>prior 4514:15 4515:7, 12 4516:20,25 4527:22 4529:8,19 4597:24 4633:23 4707:17 4710:19</p> <p>priorities 4678:5</p> <p>priority 4677:24 4678:2</p> <p>private 4514:5</p> <p>privy 4644:20</p> <p>probable 4601:17</p> <p>probing 4583:22</p> <p>problem 4560:9 4563:10 4631:14 4637:22 4639:5,12 4661:22 4665:21,23,24 4666:1 4671:10 4673:17 4674:2,7,12 4705:10</p> <p>problems 4546:16 4692:22</p> <p>procedure 4606:4 4607:3 4613:11,12,19, 20 4614:6,17,19 4632:15 4656:5 4665:19 4688:18</p> <p>procedures 4606:17</p>	<p>proceed 4647:25 4670:13</p> <p>process 4614:13 4630:21 4632:24 4633:5 4648:14 4687:7 4691:1 4694:23 4695:6</p> <p>produce 4653:22</p> <p>product 4574:1,3 4589:4,8,11 4590:2 4624:8 4673:7 4704:18, 21 4705:3</p> <p>products 4694:16</p> <p>professional 4680:4, 7,14,15,18 4681:8,12</p> <p>professions 4684:5</p> <p>profile 4597:23 4607:8 4657:15 4666:7,11,21, 22,23 4667:1 4707:16</p> <p>profiles 4604:25 4606:5 4656:23</p> <p>profiling 4665:16</p> <p>program 4563:15 4644:9 4657:16 4671:21 4673:16 4674:1 4705:9,16,19</p> <p>programs 4656:24</p> <p>progress 4530:13 4630:9</p> <p>progressed 4673:5</p> <p>project 4516:22 4517:1 4561:11,13 4599:10 4632:9,16 4683:9</p> <p>proper 4563:17 4597:23 4604:2 4606:16 4607:4,7 4614:18,20 4653:3 4666:11 4667:19 4671:21 4707:16</p> <p>properly 4569:22 4600:13 4601:16 4603:15 4605:2,5 4607:6 4617:25 4639:24 4665:22 4689:3 4690:7</p> <p>properties 4531:7,9, 12 4561:24 4654:5</p>
--	---	---	--

4661:17 4710:24 4711:7,18 4713:5,9,12 property 4711:18 proposal 4651:22 proposed 4598:20 proposing 4654:23 proposition 4576:23 4577:12 protect 4627:16 protection 4599:9 4626:21,25 4627:20 4658:18 4708:17 protects 4681:17 protocol 4691:7 provide 4512:17 4530:11 4539:22 4554:23 4598:15 4617:16,19 4618:4 4663:9 4669:15 4670:21 4671:1,23 4672:3 4676:19 4704:3 4708:17 provided 4529:14 4557:5 4562:4 4626:16 4664:14 4669:25 4700:12 providing 4706:5 prudent 4617:16 public 4680:20,24 4681:11,18,20,23 4682:9,13 4683:14 pull 4533:17 4537:20 4538:9 4539:19 4544:23 4546:22 4556:4,16 4607:13 4621:15 4634:5 4702:23 4710:1 pulling 4605:18 4704:13 purchase 4711:17 purchased 4604:7 purchaser 4595:24 purpose 4556:11,24 4557:12,13,15 4558:24 4624:19 4645:5 4663:8, 20,21	purposes 4550:18 4624:7 4626:13 put 4535:6 4536:9 4540:7,13 4541:2,9,17 4542:4 4545:9 4547:13, 17 4548:15 4561:3 4601:25 4602:6 4618:1 4638:6 4645:7 4676:3, 7,8 4678:7 4688:11 4709:12 4710:5 putting 4601:19 4606:24 4651:13 <hr/> Q <hr/> qualified 4569:19 4600:9,22,24 4604:16, 19 qualify 4601:16 quality 4627:10 4660:22 quantify 4682:15 quantity 4527:25 quarter 4589:11 question 4523:22 4558:13,16,21,22 4559:8,11 4584:23 4585:6 4609:21 4612:15 4613:22 4615:1 4638:5 4646:13 4661:12 4664:6,11 4665:7 4683:25 4684:1 4687:6 4689:5,12,22 4692:19 4696:9 4709:11,23 questioned 4633:18 questioning 4682:25 4683:5 questions 4558:17 4633:10 4644:6 4647:19 4648:6 4663:24 4670:12 4679:7,20 4682:25 4684:16,25 4685:2,4,8 4686:12 4688:4 4690:16,25 4692:15 4693:23 4694:2 4695:18,25 4696:11 4707:5 4709:12,19	4710:4,16 4714:6 quick 4630:10 quickly 4521:3 4538:9 4598:23 4714:14 Quinn 4531:15,16 4532:1,23 4533:9 4536:1,11,12 4606:13, 22 4613:1 4634:10,22 4635:24 4636:6,15 4648:22 4649:12,22 4655:1,21 4703:17 4704:2,8 4715:4 Quinn's 4606:10 4636:19 quote 4656:17 4657:9 <hr/> R <hr/> R&s 4611:10 rain 4665:21 rained 4585:18 raining 4585:15,16 raise 4677:16 4693:11 raised 4614:6 4650:15 ramps 4646:15 ran 4549:15 4648:20 random 4622:17 4691:12 Randy 4696:16,24 range 4590:3 4608:20 Ranged 4582:13 rapidly 4521:7 rate 4530:17 4616:6 4627:3,7,8 4631:3 4689:20 re-examination 4696:1,4 4709:22,24 re-sealing 4563:15 reaches 4554:22 4555:3 4627:19 reacting 4626:20 reaction 4626:22	reacts 4627:18 read 4515:23 4556:25 4560:14 4563:7 4571:13 4577:19,21,22 4606:7,9 4607:23 4628:12 4637:14 4639:4 4659:9,10,12 4663:11,24 4671:8,14 4672:18,22,23,24 4680:9 4697:7 4698:25 4700:11,22 4708:8 reader 4558:8 4576:19 4596:2,4 4600:6 4620:18 4662:1 4693:7 4708:20 reading 4560:1, 4564:4 4628:24 4664:18 4696:21 4701:11,14 4713:13 readings 4583:1 4624:23 real 4692:22 realize 4649:4 realized 4639:21 reason 4601:7 4631:11 4664:10 reasonable 4661:16 4686:25 reasons 4683:4 recall 4515:9,15,23,25 4516:3,6,11 4523:9 4524:18,22 4527:16 4528:25 4530:22 4533:8,12 4536:17 4570:23 4580:24 4581:10 4584:7,10 4588:14,24 4601:6 4605:21 4607:22 4612:11 4614:24 4615:13 4619:20 4625:5,8,9 4634:12,17, 21 4635:9,21,23 4636:22 4645:24 4646:3,4,7,14,16,19,21 4647:10,13 4648:19 4649:11 4650:23 4651:2,11 4654:10 4655:23 4656:3,9 4665:18 4677:6 4694:1 4696:11 4700:3 4701:6
---	---	---	--

4710:15 4713:13 recalled 4647:1 receive 4529:9,12 4635:15 received 4529:19 4635:17 4712:12,15,23, 24 4713:1 4714:2 receiver 4653:19 recently 4680:11 recessing 4656:15 recognize 4518:3 recollection 4522:23 4527:20 4532:18 4550:6 4553:10 4557:11 4568:7 4580:22 4613:14 4625:15 4633:22 4704:7 recommend 4565:14 4597:19 4705:16,18 recommendation 4594:14 4596:20,22 4601:4,7 4602:2 4604:19 4606:15 4617:3,6 4644:8 4664:15 4671:22 4706:5 recommendations 4553:6 4567:3 4596:25 4597:14 4599:23,24 4600:7 4646:8 4655:4 4678:16,17 4681:15,16 recommended 4562:6,7,8 4563:22 4564:1 4655:13 4697:19 4699:4 4700:9 recommending 4564:5 4677:21 record 4593:9 4680:14 4701:11,14 red 4704:25 red-oxide 4616:19 redo 4546:24 4708:23 redraw 4547:2 reduce 4627:19	reduced 4627:20 reducing 4573:2 reduction 4573:8 4626:23 refer 4524:3 4540:23 4557:24 4570:16 4592:17 4649:1 4672:21 4702:22 reference 4528:23 4536:21 4537:14 4552:18 4557:19 4568:16 4569:9 4570:1 4577:3,19 4578:1 4579:24 4586:5,7 4588:2,3 4594:24 4595:9 4599:8, 4609:14 4610:16 4612:5,8 4622:5 4626:8 4631:24 4638:15 4645:20 4655:25 4658:13 4659:14 4696:13 4706:19 referenced 4564:10 4584:25 4615:12 4619:18 4645:12 references 4536:24 4591:23 referencing 4556:21 4608:25 4620:12 referred 4528:24 4598:17 4617:24 4679:23 referring 4531:14 4560:11 4570:16 4571:25 4572:19 4583:25 4584:5 4585:6 4595:13 4621:12 4668:11 4670:18 refers 4557:21,22,25 4558:2 4579:19 4612:11 reffing 4611:23 reflected 4537:11 refresh 4524:5 4525:15 4542:20 regard 4680:23 4694:25 4695:14	Registrar 4597:6 regular 4598:9 4603:10 regularly 4636:10 4644:9 4706:1 regulation 4680:14, 16 rehabilitation 4551:2 reinforcing 4697:1 reinspected 4698:13 4699:19 Reinstate 4598:6,11 reinstated 4697:6 reiterates 4697:19 4699:4 iteration 4711:23 related 4586:19 relates 4542:25 4543:2 4710:4 relation 4559:5 4706:10 relative 4627:5 release 4713:15 relevant 4590:16 4651:23 relying 4533:5 remain 4571:4 4573:16 remainder 4625:6,18 4643:10 remained 4530:18 4623:15 remaining 4642:1 remains 4548:24 remarks 4658:4 remember 4549:20 4571:12 4613:17,18 4614:11 4615:7,16 4634:20 4635:4 4655:19 remembers 4701:8 remotely 4677:3	removal 4567:16 4568:2 4576:13 remove 4520:19,25 4574:24 4575:12,15 4576:5, 4584:9 4598:1 4619:19 4625:24 4638:14 4706:2 removed 4576:1, 4616:20 4640:13 4683:4 removing 4574:20 repair 4529:5 4551:2 4553:3 4561:6,17 4562:1,11, 4566:15,18 4567:5,7 4596:21 4607:25 4609:2,6,8,20 4610:12 4611:2,9,13,25 4615:24 4616:2, 4617:3 4652:24 4667:25 4668:1,2,16,17,22,24 4669:14,16,19,22,25 4672:12 4674:15 4677:24 4694:10 repaired 4527:3 4528:24,25 4529:2 4698:9 4699:15 repairs 4529:4,5 4535:19 4562:4 4566:17 4600:23 4605:6 4617:8,11 4644:10,12 4661:2 4675:3,7 4677:21 4682:18 4694:1,7 4695:4 4698:5 4699:11 4705:20 4706:8 repeat 4671:24 repeated 4646:9 rephrase 4577:15 4683:7 Replace 4598:8 replacement 4603:8, 11 4616:7 4708:10 4709:6 report 4513:23 4515:8, 14,18,21 4517:19 4518:4 4524:19,22 4536:21,24,25 4537:5, 12,15,17 4550:8,15,23, 25 4551:8,15,19,21,25 4556:6,17 4557:19,24
---	---	--	--

4558:8,14,19,25 4559:3,13 4560:1,5,18, 20,23 4563:3 4564:10 4566:9 4568:13 4569:8 4577:20 4587:6,7,12 4594:16,18 4595:4,9, 17,23 4596:11 4597:14 4598:16 4599:13,20 4601:2 4602:6 4603:5,6 4604:12 4606:20 4615:13 4619:10,15 4623:24 4626:8 4630:22 4631:25 4632:12,13,22 4633:24 4634:12,23 4635:10 4636:1,5,13 4637:17 4638:3 4640:10 4645:7, 8,19,20 4650:13 4651:14,20 4652:14,15, 16 4653:20,23 4654:12, 15,18 4658:13,15 4659:19,24 4660:18 4662:2 4663:3,10,15,23 4664:18 4665:12 4667:23 4668:4,21 4669:11,13 4670:5,6,11 4672:16,18 4674:7,21 4675:6,17 4676:24 4677:6,7,19 4681:9,18, 24 4682:2,17,23 4683:8,13 4685:4,10 4689:14,18 4692:17,21 4693:9,14,24 4694:13 4695:19,21 4696:10 4697:1,8,18,23,24 4699:1,3 4702:22,24 4703:23 4704:10,13,15, 17 4705:5 4706:7,11,20 4707:3,12 4709:15 4711:13 4712:25	representatives 4679:18 represents 4589:5 4590:4 4596:12,19 request 4649:24 4651:15,17,24 4652:3 4711:4,7,21,24 4712:1, 6 requests 4713:21 require 4550:15 4601:18 4682:4 4708:9, 14,23 required 4537:16 4550:14 4561:6,9 4670:20,22 4671:2 4684:3 4704:5 requirements 4597:19 4657:24 requires 4672:5 requiring 4553:3 4566:15 resealing 4698:11 4699:17 resisting 4602:22,23, 24,25 resolved 4673:18 4674:8,12 4675:1 4701:24 4702:5 4705:11 respect 4523:19 4553:18 4561:21,22 4577:6 4607:4 4648:9 4649:23 4650:17 4663:3 4685:1,4,9 4686:12 4687:6 4688:5 4691:1,20 4693:25 4694:20,21 4697:23 4705:7 4708:20 4710:5, 16 response 4707:5 responses 4559:7 responsibilities 4632:10 4683:2 rest 4629:5 4679:4 restart 4698:22 rested 4645:3	restoration 4514:13, 14 4517:2 4633:16 restraint 4518:17 4519:4 restraints 4568:17 restrictions 4561:11 4646:10 4660:24 restrictors 4646:11 result 4565:1 4569:18 4689:7 resulting 4697:18 4699:3 results 4645:4 4655:9 4698:3 4699:9 resuming 4546:18 4597:8 4679:12 retain 4671:22 4672:2 retained 4532:20 Retirement 4529:10 4531:6,10,25 4532:4 4533:5 4537:8 4550:19 4551:15 4560:20 4561:4,19 4598:20 4604:6 4606:14 4635:10,25 4636:4 4644:8 4645:14 4648:5 4653:20,22 4654:1,10, 19,22 4658:4 4660:17 4661:3 4667:21 4671:19,25 4675:18 4677:19 4693:23 4694:5 4696:9 4700:15, 16 4711:5,17,21 4712:4,5,10 retrospect 4565:15 returned 4581:9 review 4517:5 4519:2, 16,25 4520:24 4521:4 4523:12 4524:19 4525:22 4529:16 4530:6 4546:5 4564:24 4567:10,12,17 4568:4 4576:3,4 4579:16 4591:4 4594:3,8 4632:13 4637:15 4659:5 4660:7 4662:1 4663:9 4670:21 4671:1 4672:7,13 4674:11 4682:1 4691:4,17	4694:6,10 4703:7,11 4704:3 4706:5,11 reviewed 4515:10,13, 25 4519:13 4549:8 4556:2 4609:25 4613:12 4635:6 4704:22 reviewing 4515:16 4517:6 4567:19 4581:13 4594:5 4613:18 4675:25 reviews 4555:24 4579:7 4705:22 Rhona 4560:12 4703:17 4704:2,8 Richard 4531:15 4536:10 4648:18, 4655:21 4700:13,14 4703:17 4704:2,7 rigid 4642:15 rise 4661:14 4715:11 risk 4583:2 4643:23 4645:6,7 4681:20,23 road 4550:18 4662:9 Rob 4684:22 rod 4606:25 4667:14 Roman 4689:15 roof 4521:5 4535:19 4566:12,24 4570:14 4577:4 4604:2 4614:5 4617:13 4618:7 4622:21 4645:22 4646:2,3 4650:12 4652:23,24 4676:6,10 4689:2 4691:5 4692:18 rooftop 4514:20,22 4694:20 rotated 4555:10 rotations 4555:12 rout 4597:21 4599:3 4601:5 4606:24 4611:10,25 4613:2 4655:13 4707:14 routing 4562:5,9 4563:23 4564:5 4599:16 4601:10,13 4602:17 4604:7,18,20
---	--	---	--

4605:12,14 4606:15 4614:22 4615:25 4708:14	scenario 4673:9 4697:22 4698:15 4699:7,20	second-to-last 4598:13	sets 4526:5 4659:24 4707:21
Rules 4700:25	schedule 4656:8	section 4523:17,21 4524:8,9,10,13,23 4566:7 4581:25 4589:1, 3,5,7,13,16,24 4590:1, 4,6,11,12,13, 4596:15, 19 4673:8,11 4680:10, 22 4687:10 4704:19	severe 4616:21,25 4637:23 4638:6,10,11, 19,21,23 4639:6,18,21
run 4516:18 4549:24 4570:10 4579:24 4591:12 4688:19	school 4531:19	sections 4677:24 4680:9 4691:19	shed 4687:1
running 4572:13 4580:9 4591:7 4687:14	science 4521:20 4553:18	see-- 4525:4	sheet 4605:25 4634:10
runs 4541:10,22 4622:10 4700:15	scope 4517:5 4518:11 4525:8 4694:9,12	seek 4704:8	shell 4641:18
rust 4677:12	score 4696:14	segmented 4663:15	Shoemaker 4679:13, 15,16,18,21 4680:1 4681:3, 4683:6 4684:15 4709:12
rusting 4590:20	Scotiabank 4545:20 4585:9 4587:1	select 4540:6 4542:23 4545:9 4547:10,11 4549:6 4670:1,2,8 4688:21,24 4691:21	shop 4685:17
	scrape 4588:22 4589:12,17	selected 4534:19 4535:9,24 4536:8, 4543:9 4566:23 4567:14 4669:1 4692:4	shortcoming 4674:21
<hr/> S <hr/>	scraped 4640:15 4641:6,11,13	selecting 4533:1 4536:13 4691:3	shortcomings 4671:20
S4 4538:10 4539:19,23 4687:9	scrapped 4640:15 4641:6,11,13	selective 4568:5	shortly 4636:14
safety 4573:2,9 4681:11, 4683:18	scratched 4637:24 4639:22	self-employed 4514:9	show 4533:6 4556:24 4573:22 4611:19,20,21 4630:18 4670:5 4696:23
sagging 4554:25	screen 4540:22 4624:9	send 4634:22 4645:13	showed 4605:25 4656:5 4706:17,22
sale 4644:17	sea 4690:4	sending 4634:12	showing 4557:12,16 4588:15 4616:8 4624:14,16,25 4625:4,7 4686:16 4687:17
salt 4618:17 4690:8	seal 4535:19 4597:21 4599:3 4601:5 4611:10, 25 4613:2 4655:13 4656:15 4707:14	senior 4610:1	shown 4614:6 4689:16
sample 4691:12	sealant 4572:9 4597:25 4598:1 4616:7 4656:15 4667:20 4707:18 4708:10 4709:6	sense 4564:18 4620:21 4671:14 4683:8 4702:19,20	shows 4556:13 4595:12 4615:15 4656:8 4687:23
samples 4655:10	sealants 4534:21 4543:10 4564:18 4603:8,12 4659:21	sentence 4561:5 4569:3,25 4572:23 4616:16 4628:7 4639:4, 4673:23 4676:18 4677:15 4689:19	shut 4601:20,22
sampling 4692:3	sealed 4602:21	separate 4672:4,13, 14	side 4519:15 4534:2 4537:24 4550:8 4572:20 4615:18
sandwiched 4625:24	sealing 4562:5,10 4563:23 4564:6 4598:14 4599:16 4601:5,11,13 4602:17 4604:7,18,20 4605:12 4606:16 4616:1 4708:14	September 4696:15	sides 4564:22,23
sates 4677:2	seals 4708:9	series 4694:2	signage 4645:20 4646:10
Sault 4684:24	seasons 4561:12 4565:7	service 4592:15	signed 4562:23 4644:16
Saunders 4690:23	seated 4512:8	set 4550:8 4644:9 4675:18 4707:12 4708:7	significant 4532:18 4533:10 4557:4 4574:12,16 4587:21 4588:4,13 4589:8,14
save 4544:4 4548:22			
saves 4542:18			
scale 4541:4 4587:22 4588:4,11,17 4590:23 4624:21,24			
scaling 4589:23 4592:2 4594:25 4595:20 4596:8,18 4616:21,25 4705:3			
scaling...only 4596:12			
scare 4561:15			

4590:5 4596:18,19 4604:25 4632:2 4643:21,23 4682:8 4693:1,11 4707:1 significantly 4604:23 similar 4514:19 4545:8 4550:7 4558:17 similarly 4680:22 simply 4615:9 4706:22 single 4556:10 4663:23 sir 4512:4,11 4537:22 4676:12 sit 4527:21 4632:20 site 4525:22 4528:20 4599:9 4612:13 4632:10 4658:18 sits 4629:17 4688:2 sitting 4652:2 situation 4559:1 4662:19 4681:9 4682:3, 23 4683:3 4691:8 situations 4682:8 4683:13 size 4528:5 4590:16 sketch 4537:5,8 sketching 4613:25 slab 4518:18 4572:3 4581:25 4582:4 4583:1, 9 4586:2 4610:5,6 4622:25 4623:15 4629:17 4656:14,21 4657:13 4659:15,18 4686:19 4688:2 slabs 4518:24 4582:22 4583:6 4610:8 4685:7 4686:1,18,22 slash 4539:11 slight 4555:12 slightly 4555:11 4620:3 slowly 4698:4 4699:10 slows 4627:8	small 4514:10 4528:16 4589:5 4609:16 smaller 4561:16 4650:1 snorting 4614:12 Snow 4580:1 4621:22 4656:1 4667:11 snowplows 4657:22 soaking 4585:20,21 soffit 4631:20 sole 4556:11 solely 4531:2 solid 4572:4 4621:2 solved 4701:8 sort 4530:3 4691:6 sound 4653:9 sounds 4570:23 south 4542:10 4549:23,25 space 4514:20 4519:16 4535:4 4586:8 4592:19 4594:5 4595:9 4631:17 spaces 4514:23 4549:1 4592:9 spalding 4627:24 span 4686:6 4687:19 4688:14 spanned 4572:16 speak 4532:3 4536:25 4593:6 4605:20 4636:15 4649:1 speaking 4521:22 4648:21 4649:8,11 4656:3 4701:19 speaks 4524:24 4630:22 4677:7 specialization 4513:13 specialty 4513:12 specific 4516:7 4520:16 4530:4 4536:18 4543:9 4551:1	4568:16 4621:7 4637:19 4668:8 4684:2 specifically 4515:16 4520:25 4528:19 4543:17 4562:5 4566:12 4581:10 4593:21 4595:14 4600:8 4612:12 4624:21 4649:11, 4654:21 4661:19 4672:6 4677:1 4680:10 4692:24 4694:6 4695:3 specification 4603:16 4659:5,20 4660:23 4667:25 4668:2 4669:14,17 specifications 4659:17,21,24 4670:21 4671:1 4672:11,12 specifics 4516:11 4536:18 4614:24 4665:19 4668:11 specs 4672:3 speculate 4558:13 speculation 4661:20 spend 4531:1 spent 4535:15 spitballs 4642:8 splash 4690:5,9,10 splashing 4690:11 spoke 4516:13 4521:19 4624:2 4656:13,16 spoken 4521:15 4684:8 spongy 4642:4 spot 4642:6 4643:2 4689:6 spots 4620:2 4692:5 spray 4629:20 4630:2 spray-applied 4568:2 4572:24 4573:15 4576:1,13 4578:10,17,21 4579:19 4598:6	sprayed 4629:24 4630:14,16 square 4608:10,18 stability 4702:1,6 staff 4569:19 4600:11, 18 4603:10,13,18 4604:1,8,13 4605:21 4612:6,9,13 4613:2 4614:7,9 4634:17 stain 4575:3 4580:15 staining 4571:2 stand 4559:24 standard 4529:24 4648:13 4688:18 4704:6 standing 4613:15 Stands 4626:5 start 4512:15 4521:11 4565:14,22 4597:17 4657:3 4675:7,19 4679:10 4685:11 started 4512:24 4636:21 4637:3 4639:1, 23 starting 4516:18 4673:24 4714:21 starts 4552:4 4637:21 state 4599:24 4676:1 4677:16 4682:5 4697:4 stated 4567:8 4595:15 4702:18 statement 4571:9 4600:3 4618:24 4657:23 4674:4 4678:13 4700:12,23 4702:9,14 statements 4677:11 states 4680:17,22 4681:8 4696:25 4700:18 4701:5 4704:17 stating 4650:3 4675:13 status 4713:5
---	---	---	---

<p>stay 4536:4,12</p> <p>stayed 4530:23</p> <p>Staying 4522:6</p> <p>Ste 4684:24</p> <p>steel 4515:4 4518:17 4519:1 4520:24 4521:2 4523:18,21 4552:12 4557:1 4568:5,19,21 4570:10 4572:4,12, 4573:25 4577:7 4578:19,23 4579:11,13 4580:11 4581:2,22 4589:9 4594:21 4596:14 4598:4,7 4616:17 4618:18 4624:14 4626:22 4627:2,16,20,25 4644:10 4664:25 4673:12 4677:5 4686:13 4687:24 4689:8 4692:17</p> <p>step 4629:11</p> <p>stepping 4692:20</p> <p>steps 4574:19 4575:18 4588:12,25</p> <p>stick 4643:7</p> <p>sticking 4692:11</p> <p>stop 4564:18 4616:24 4705:25</p> <p>stopped 4639:22</p> <p>stopping 4601:13 4602:18</p> <p>store 4532:16</p> <p>straight 4571:14 4575:10 4580:16</p> <p>strand 4587:19</p> <p>strategy 4567:6 4668:16,22,24 4669:7, 20,21 4671:22</p> <p>stretch 4574:8 4611:24</p> <p>strictly 4653:7</p> <p>strike 4638:7,9</p> <p>stroked 4585:21</p>	<p>struck 4639:1</p> <p>structural 4512:18 4513:14 4518:17 4520:3,6 4523:18,20 4524:11 4527:10 4555:24 4557:1,25 4563:11 4574:15 4598:3,7 4617:1 4637:24 4638:4,11,12, 18,23,24 4639:6,13,19, 20 4649:15 4671:1,11 4676:4 4686:7,13 4687:23 4697:6 4698:5 4699:11 4701:25 4702:6</p> <p>structurally 4520:6 4557:4 4653:9</p> <p>structure 4515:6 4519:14,17,19 4520:10, 25 4522:1,4 4527:16 4535:3 4553:1 4557:16, 22,25 4558:2,3,11 4559:17 4560:2,6,10 4563:13 4566:12,20,25 4567:1 4568:5,19,21 4571:14 4573:3 4594:4, 6 4610:17,20 4620:22 4638:25 4639:8 4642:2 4668:5 4671:13 4689:9 4691:5,19 4692:18,23 4693:1 4698:4 4699:9 4704:22</p> <p>structures 4515:5 4520:9 4602:20</p> <p>stuck 4613:19</p> <p>student 4513:3,4</p> <p>students 4699:23 4700:7</p> <p>studies 4517:25 4518:9 4522:14 4568:12</p> <p>stuff 4584:17 4667:24</p> <p>subject 4647:17 4657:22 4703:24</p> <p>submissions 4662:16</p> <p>submit 4662:17</p> <p>subsequently 4638:6</p>	<p>success 4600:15 4601:25</p> <p>successful 4615:6 4682:20</p> <p>successive 4698:12 4699:18</p> <p>Sudbury 4516:18</p> <p>sudden 4555:4,21</p> <p>sufficient 4542:4 4610:8 4627:4</p> <p>suggest 4563:14 4578:20 4600:6 4612:24 4614:8 4692:16 4700:20</p> <p>suggested 4696:5</p> <p>suggesting 4611:24 4652:6</p> <p>suggestion 4554:19</p> <p>suggestions 4685:10</p> <p>suggests 4690:1</p> <p>summarize 4591:7 4701:12,18</p> <p>summary 4552:1 4599:7 4658:14 4663:4, 16,21 4664:2,12 4665:10,11 4699:25 4700:4</p> <p>summer 4513:1 4675:22 4706:9</p> <p>summers 4565:9,12 4658:2</p> <p>sunny 4535:20</p> <p>super 4579:18,25 4581:4 4656:1</p> <p>support 4557:2 4570:10 4594:21 4620:17 4622:12,14 4633:21</p> <p>supporting 4616:17</p> <p>suppose 4597:1 4617:12 4683:7</p> <p>supposing 4580:14 4692:9</p>	<p>surface 4521:2 4554:4 4567:12 4573:25 4592:2,7 4596:13 4597:24 4605:9 4616:20 4625:13 4629:20,21,22 4630:5, 19 4667:18 4705:1,2 4707:17</p> <p>surprise 4701:22</p> <p>surprised 4702:3,14, 17</p> <p>surrounding 4690:3</p> <p>survey 4564:14 4565:25 4566:22</p> <p>suspect 4601:9</p> <p>suspended 4552:12 4598:8</p> <p>Switch 4578:14</p> <p>system 4603:3 4640:19 4692:10,12 4708:16</p> <p>systematic 4674:11</p> <p>systematically 4673:17 4674:2 4705:10</p> <hr/> <p style="text-align: center;">T</p> <hr/> <p>tab 4517:8 4522:6 4523:2,3,6 4525:14 4533:15 4551:12 4562:21 4578:5 4594:19 4597:12 4607:15 4619:11,12 4621:17 4623:23 4634:8 4658:15,22 4670:17</p> <p>tabs 4519:4</p> <p>tailored 4561:7</p> <p>taking 4575:22 4614:15 4681:16</p> <p>talk 4612:18 4633:13 4659:3,4 4669:22 4677:17 4685:5</p> <p>talked 4607:2 4655:21, 24 4659:13 4674:9</p>
--	---	--	---

<p>talking 4552:18 4561:23,24 4578:10 4583:7 4586:2 4590:14 4610:2 4615:16 4652:2 4655:16 4660:10,20 4687:3</p> <p>talks 4677:5 4689:18</p> <p>tape 4557:2,5 4588:15 4624:6,13,15,20</p> <p>tapping 4567:14</p> <p>taught 4663:18</p> <p>teacher 4531:19</p> <p>tear 4528:22</p> <p>technical 4546:16 4714:12</p> <p>telling 4610:23 4643:1 4660:4 4661:23,24 4672:5</p> <p>temperature 4660:24 4667:18</p> <p>temperatures 4557:8 4656:20 4657:12</p> <p>ten 4528:15 4645:11 4653:3, 4667:11 4669:23 4671:6 4682:18 4683:3 4709:8</p> <p>tenant 4592:9</p> <p>tenants 4712:9</p> <p>tend 4561:15 4675:3 4691:13</p> <p>tended 4571:18 4573:24</p> <p>tender 4604:15 4660:6</p> <p>tendering 4659:5 4661:25</p> <p>tending 4621:8</p> <p>tendon 4583:10 4629:14</p> <p>tendons 4567:21,23 4582:21</p> <p>tension 4581:16,17 4582:1,9,10</p> <p>tensioning 4583:8</p>	<p>term 4566:20 4690:9 4693:14 4698:3 4699:9 4701:8</p> <p>terminate 4564:17</p> <p>terms 4521:19 4527:25 4534:12,13 4542:21 4546:7 4554:12 4558:18 4564:9 4574:20 4578:10 4603:2 4611:23 4614:22 4615:24 4627:13,24 4646:25 4649:20 4656:11 4678:12 4691:3,11 4694:1 4695:4</p> <p>testified 4577:11</p> <p>testify 4558:15 4606:13,23 4636:20</p> <p>testimony 4619:1,2,3 4622:23 4685:5</p> <p>testing 4587:16 4590:18 4651:7</p> <p>text 4706:19,20</p> <p>thankful 4714:15</p> <p>thawing 4557:7</p> <p>there'd 4535:7 4641:22</p> <p>thermal 4570:13 4577:4</p> <p>thick 4589:22,25</p> <p>thicker 4594:25 4595:20 4596:7,11</p> <p>thickness 4589:25 4590:5,9</p> <p>thing 4534:23 4571:11 4613:19 4615:6 4637:15 4638:24 4642:3 4660:16 4666:4 4672:13 4688:21 4697:20 4699:5 4714:11</p> <p>things 4655:14 4658:3,4,10,12 4659:25 4660:14 4662:2 4665:4 4666:2 4669:17 4670:23 4672:4,14 4677:17,25</p>	<p>thinking 4639:17 4655:3 4660:11</p> <p>thinks 4520:4,9,10</p> <p>thinner 4590:13</p> <p>this's 4623:12</p> <p>thought 4527:12 4532:15 4578:21 4633:14 4638:18</p> <p>three-sided 4666:18 4667:1,4,7,15</p> <p>Thursday 4715:5</p> <p>Tidal 4690:10</p> <p>tied 4519:3</p> <p>ties 4519:2</p> <p>tile 4580:15</p> <p>tiles 4571:3</p> <p>tilted 4625:3</p> <p>time 4512:21,22 4514:25 4516:16 4522:24 4527:9 4532:6 4533:11 4535:16 4536:5 4560:17 4565:5, 20 4571:21 4573:12 4574:6,16 4578:1,20 4580:19 4589:6 4597:5 4600:15 4602:10 4604:9 4612:17 4613:11 4614:8,17 4626:6 4627:8 4632:21 4635:5,25 4644:15 4650:12 4654:17 4662:16 4664:18 4667:22 4671:17 4674:6,9,25 4678:1 4689:23 4690:24 4694:12 4695:10 4708:16 4709:2,13 4712:10</p> <p>times 4586:17 4646:6 4648:24 4679:23 4680:19</p> <p>timing 4566:16</p> <p>title 4700:17</p> <p>today 4512:15 4524:20 4580:25 4588:3 4601:1 4606:7 4657:25 4658:4 4684:9 4685:5</p>	<p>told 4533:9 4534:18 4535:1,25 4543:16,17 4565:21 4579:6 4580:2, 12 4581:5 4582:18 4600:12 4606:4 4607:3 4613:8 4614:17,19 4618:11 4619:18 4648:7 4653:25 4654:2, 8 4657:25 4659:7 4662:22 4672:17 4678:9</p> <p>tomorrow 4697:2 4714:20,22 4715:12</p> <p>top 4515:6 4517:11,17 4519:15 4523:17,18 4524:15 4534:19 4537:23 4538:15 4540:2,12 4542:1 4550:7 4572:3 4587:22 4588:4,17 4590:25 4609:18 4613:15 4615:17 4619:23,25 4622:13 4624:15,16 4625:23 4655:11 4687:2 4708:1</p> <p>topping 4529:3 4567:15,16 4569:4,13 4570:7 4597:22 4598:15 4602:13 4603:12 4609:3,7,9,19 4610:3,7,9,20 4611:13 4615:23,24 4616:2,3 4621:24 4622:1,21 4623:3 4707:15</p> <p>toppings 4518:25 4603:9 4609:2</p> <p>tops 4519:1</p> <p>topside 4542:19 4544:10 4548:25 4592:16</p> <p>Toronto 4514:10 4632:17,19</p> <p>torturous 4571:15</p> <p>total 4608:5</p> <p>tour 4536:11</p> <p>track 4530:3 4540:14 4684:13</p> <p>tracking 4580:19</p> <p>traffic 4535:6 4543:7</p>
---	---	---	---

4656:23 4657:15 4662:4 trained 4520:7 transcript 4624:19 4656:18 4657:10 translated 4657:6 translators 4698:20 transmission 4703:16 transmitting 4516:9 trapped 4570:11 4573:15 4577:7 4580:10 4609:18 trapping 4572:25 traveling 4575:9 treatment 4567:3 trouble 4631:23 Trow 4529:12 4651:5 4677:23 Trow's 4673:5 true 4581:7 4597:1 4674:17 Truman 4512:7,12,14 4539:21 4540:1,5 4541:2 4544:11 4549:2 4556:4 4566:5 4577:20 4578:5 4597:12 4603:6 4607:16,17 4634:8 4637:3 4644:5 4648:4 4658:21 4661:4,14 4672:17 4679:6,17 4680:3 4690:23 4696:5 4714:8 Truman's 4512:7 Tuesday 4512:2 turn 4517:7,12,16 4525:13 4533:15 4534:5 4537:18 4538:1, 11 4539:5 4546:6 4551:24 4566:3 4567:9 4568:24 4578:3 4597:2 4598:23 4619:7 4626:2 4628:9,11,13,17 4637:6 4640:1 4651:23 4703:14 4707:25 4712:17	turned 4624:22 4628:20 Twenty 4597:6 type 4514:11 4515:1,2 4554:1,7 4600:14 4632:3 4690:5 types 4554:2,6 4633:17 typically 4570:6 4571:13,15 4590:3 4591:13 4603:22 4616:19 4620:24 4627:6 4652:18,20 4688:21 4705:18 <hr/> U <hr/> ultimate 4653:19 ultimately 4590:11 4595:25 4638:2 4639:10 Um...atmospheric 4631:2 Umm...no. 4532:5 uncommon 4688:20 underneath 4549:24 4550:9 4575:17 4641:7 underside 4519:14 4568:3 4570:12,17 4572:19 4582:23, 4590:25 4598:1,12 4609:19 4629:16 understand 4516:21 4518:20 4519:11 4559:23 4560:2 4566:10 4630:13 4641:16 4643:1,24 4652:13 4660:16 4663:13 4666:11,16 4686:2,17 4687:12 4696:8 4703:7 4713:13 understanding 4541:9 4605:8 4630:4, 21 4644:24 4685:25 4686:15 4688:13 4689:8 4705:11 4710:22 understands 4662:2,	4,5 understood 4560:5,9 4627:22 4630:23 4636:5 4667:13,14,15 4696:10 4701:23 4702:4 undertake 4518:11 undertaken 4694:23 undetected 4571:4, 22,24 4574:6 unit 4616:6 university 4512:22 4513:8 4663:19 untreated 4673:22 4676:23 update 4550:19 upper 4566:13 4608:16 urethane 4609:13 urgency 4676:1,5 used-for-parking 4543:3 <hr/> V <hr/> validating 4606:16 vary 4627:10 varying 4524:9 4591:12 Vee 4607:5,10 4613:20 4665:13 vehicles 4535:8 4645:21,22 4647:6 vermiculite 4578:18 4642:21,24 versus 4553:19 4554:15 4602:24 viable 4601:11 4618:5 view 4636:21 viewed 4579:1 visible 4534:20 4698:6 4699:12	vision 4519:18,20 visit 4648:14 visual 4567:12 4568:4 visually 4567:19 voids 4609:11,16 4610:19 volts 4582:14 VP 4517:2 4521:20 4633:15 <hr/> W <hr/> wait 4617:22 4647:23 waiting 4634:2 4665:20,25 walk 4536:6 walked 4648:12 4652:5 walking 4648:19 walkway 4597:22 4707:15 walkways 4523:19 4546:8 4566:14 4567:13 4592:7,10,11 4598:2,5 wanted 4526:2 4533:3 4535:2 4550:19 4694:20 warning 4554:24 4555:4 4617:16 4618:4 4673:19 4676:20,25 warrant 4594:8 warranties 4656:16 warranting 4673:11 wash 4609:11 watch 4672:6 watching 4605:6 water 4571:7 4572:10, 4573:14 4575:11 4577:6,11 4579:23 4580:9 4591:6 4602:18 4610:17,21 4618:17 4622:9 4623:6,10,16 4643:19 4671:16
---	---	--	---

<p>4687:1 4690:4,7 4697:5 Waterloo 4513:9 waterproofing 4563:13,23 4598:15 watertight 4602:25 4603:1 waved 4648:20 waves 4690:10 ways 4667:8 wear 4528:22 week 4606:14,23 4653:25 4659:13 4675:22 4688:9 weight 4646:10 weird 4551:18 Welch 4521:21,22 4633:15 weld 4555:10 4689:19 welds 4520:14,19 welfare 4680:24 4681:11 west 4539:2 4541:20, 25 4547:3 wet 4570:13 4577:3 4585:15,18,24 4631:19 4642:7 4643:2 wetting 4631:20,25 4690:11 whomever 4580:4 wide 4608:9 4686:3 willsay 4560:8,14 4606:7,10 4636:19 4700:12,22 4701:16 winter 4557:6 wire 4570:21 witnesses 4540:24 4558:18 4656:12 wondering 4584:21 4679:4 4696:13 Wood 4684:23 Woolco 4534:24 4549:21,22</p>	<p>word 4602:23,25 4639:21 4661:25 words 4641:18 4684:9 work 4514:6,12 4517:3,5 4531:8 4536:10 4541:4 4568:7 4569:18 4581:6 4599:25 4600:1,9,15 4605:3 4607:11 4612:9, 14 4613:21 4614:7,12, 14 4618:2 4636:22 4666:15 4670:22 4671:2,4 4675:19,22 4678:21 4694:9 4699:24 4700:7 4707:22 4714:13 worked 4513:1 4532:15 4634:1 working 4512:25 4530:15 4604:2 4620:20 works 4575:11 4633:10 worry 4630:11 worse 4530:8 worst 4564:15 4565:22 4582:18 4692:5 Wright 4690:24 write 4581:5 4593:10 4638:13 4639:2 writing 4633:2 4638:10 4651:18 written 4520:12 4553:10 4584:4 4587:10 4608:2 4637:23 4660:18 4670:5 wrong 4607:3 4664:1 4665:5,9,15 4672:1,5,8, 10 4693:18 wrote 4638:8 4639:18, 20</p> <hr/> <p style="text-align: center;">Y</p> <hr/> <p>Yallowega 4515:18 4522:10 4531:23 4551:16 4563:4</p>	<p>4635:12 4636:8 4649:5 4651:19,22 4652:9,12 4653:17 4654:11,14 4710:13 4711:5,21 4712:4 4713:22 4714:1, 23 4715:2,7 year 4512:21 4514:6 4515:11 4516:19 4565:11 4577:23 4627:7 4645:11 4675:23 4699:18 4709:2,5 years 4522:25 4531:17 4532:8 4565:3,6,7 4611:17,21 4612:1 4636:16 4653:3,11 4658:1 4667:12 4669:23,24 4673:5 4682:18 4683:4 4698:12 4708:11,17,24, 25 4709:8 yesterday 4559:5 4648:7 4654:2,8 4656:16,18 4657:10 4700:13 youth 4646:6</p> <hr/> <p style="text-align: center;">Z</p> <hr/> <p>zone 4690:9,10 zones 4690:5</p>
--	---	--