RED HILL VALLEY PARKWAY INQUIRY

TRANSCRIPT OF PROCEEDINGS
HEARD BEFORE THE HONOURABLE J. WILTON-SIEGEL
held via Arbitration Place Virtual
on Monday, May 9, 2022 at 9:30 a.m.

VOLUME 10

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Arbitration Place Virtual

--- Upon resuming on Monday, May 9, 2022
at 9:30 a.m.

JUSTICE WILTON-SIEGEL: Good morning, all. Good morning, Mr. Moore.

THE WITNESS: Morning, sir.

MR. LEWIS: Good morning, Commissioner. Counsel, Mr. Moore.

Before we begin the proceedings today I would like to open this week of hearing by acknowledging that the City of Hamilton is situated based on the traditional territories of the Erie, Neutral, Huron-Wendat, Haudenosaunee and Mississaugas. This land is covered by the Dish With One Spoon Wampum Belt Covenant which was an agreement between the Haudenosaunee and Anishinaabek to share and care for the resources around the Great Lakes. We further acknowledge that the land on which Hamilton sits is covered by the Between The Lakes Purchase 1792, between the Crown and the Mississaugas of the Credit First Nation.

Many of the counsel appearing on this hearing today are in Toronto which is on the traditional land of the Huron-Wendat, the

Seneca and, most recently, the Mississaugas of the Credit River.

Today this meeting place is still the home to many indigenous people from across Turtle Island and we are grateful to have the opportunity work on this land.

GARY MOORE; AFFIRMED

MR. LEWIS: And before we get started, Commissioner, Mr. Moore is going to be called to testify at this time twice in this inquiry. Today and tomorrow is going to largely be about the time period encompassing design and construction of the Red Hill Valley Parkway, including some matters pertaining to the Lincoln Alexander Parkway, of course the earlier part of the project, ending in late 2007, and there will be a couple of trailing matters that do extend into later years but flow directly from the construction period. And essentially in terms of the overview document, those are the matters in overview document 3, 3.1, and some of 4. And it will not encompass the matters in overview documents 5 through 10 which will be addressed in Mr. Moore's second attendance.

EXAMINATION BY MR. LEWIS:

Q. Thank you for coming, Mr. Moore. Just to go through a bit of your background, to begin with, and your work history and education, I understand that you have a bachelor of engineering degree in civil engineering from McMaster University; is that right?

A. That's correct.

Q. Obtained in 1981; is that right?

A. Yes, that's correct.

Q. And then you were employed by the City of Hamilton and its predecessor entity the Regional Municipality of Hamilton-Wentworth from 1988 to 2020?

A. Yes.

Q. And prior to joining the region in 1988 just briefly what were you doing then in that intervening period between graduating from university and joining the region?

A. I was with a consulting engineering firm.

Q. Which one was that?

A. McCormick Rankin.

Q. What kind of work were

you doing then? Road construction work, other work?

A. Mostly project management, site supervision, contract administration, on-site for roads, sewers, bridges, water mains.

Q. Did you have the opportunity in some of that work to work on projects with the MTO?

A. Not on-site, no. I did prepare some contracts as -- when you moved into the office in the winter they moved you into other, you know, assisting work, put contracts together.

Q. Contract preparation in the offseason, essentially?

A. Yes, that's correct.

Q. And then when you joined the region I understand that from 1988 to 1993 you were first a project engineer and then a senior project manager; is that right?

A. That's correct.

Q. And then from 1993 to 2001 you were the manager of the special projects office?

A. I believe that's correct, yes, those are the dates.

Q. So what was the special projects office at that time?

A. It not only included the LINC work or the freeway work, but any other major projects that required environmental assessments or a lot of (ph) consultant work and that type of thing.

Q. Major infrastructure projects? Or just roadwork?

A. No, there were infrastructure projects involved in that as well. I can't recall specifically right at this point but...

Q. Okay. And you were the manager. Does that mean you were the lead in charge of the special projects office?

A. No, there was a director in charge of special projects. I was the manager so I had some project managers and coordinating work and that type of thing.

Q. So the director, who was that during that time period?

A. I believe that was John

Vandermark.

Q. As manager were you in charge of the day-to-day of the office? Is that fair, or no?

A. It depends on what you mean day-to-day. I mean, the day-to-day of handling the projects, yes, but I wasn't really in charge of the people that -- they still reported to John and that type of thing, and the direction and administration of the office, that wasn't part of what I was doing.

Q. Right. So the HR, human resources stuff, administration of the office would have been -- were his remit, but the projects themselves, that was your side of it; is that fair?

A. That's fair.

Q. As you've said, one of the projects, a big one, I guess the biggest for the special projects office, was the design and construction of the LINC, Lincoln Alexander Parkway? It was part of the Red Hill Valley Parkway project at the time but it later was named the LINC?

A. Yeah, from 1993 to 2001,

part of that was the completion of the LINC, yes, up until '97.

Q. Right. And then there was the -- in 1999 there was the extension of the LINC to the Mud Street interchange?

A. Yeah, I believe that's the date, yes.

Q. Before you were in the special projects office -- you were there from '88 to '92, '93 when you became the manager of the special projects office -- were you involved in the LINC design and whatever construction was going on at that point?

A. Yes, I was.

Q. And then moving forward, after you left the special projects office in 2001 I understand you were the manager of design, capital planning and implementation from 2001 to 2009; is that right?

A. Yes, I believe that's a timeframe of the title.

Q. And concurrently for part of that time period you were the manager who designed for the Red Hill Valley Parkway project; is that right?

A. That's correct.
Q. That would have been early 2003 through to the end of 2007?
A. Yes, that's correct.
Q. So you were holding two positions concurrently during part of that larger time period that I was just talking about?
A. Yes.
Q. And so just briefly talk about Marco Oddi, I understand that he reported to you when you were the manager of the special projects office until he left the special projects office in 2000. Does that sound right?
A. Yes.
Q. I can unpack. When he was there did he report to you at the special projects office?
A. Yes.
Q. Okay. And then my understanding is that he -- that was the time period. Fair to say that you can't recall the specific dates off the top of your head but that sounds about right?
A. Yes, when he was there.
Q. Okay. Again on the Red

Hill Valley Parkway project, I understand that he -- Mr. Oddi then came onto that project in sort of spring 2003 and then he reported to you again?

A. I believe that's correct, yes.

Q. And on the Red Hill Valley Parkway project you reported to Chris Murray until he left to take another position in the City in June of 2007; is that right?

A. Yes, that's correct.

Q. And then in 2009 you became the director of engineering services; is that right?

A. I believe it was September of 2009.

Q. September?

A. I think so.

Q. And that was until I understand May 28th, 2018, jumping way ahead?

A. Yes, yes. When I retired.

Q. Well, actually at '18, is that when you were assigned to the LRT project?

A. Well, I retired and then took a position -- a contract position with the

City. So I did retire but then moved to the LRT project at that time.

Q. And till June 2020; is that right?

A. Yes.

Q. What about now, are you fully retired at this point?

A. Yes, I am.

Q. If we could go to overview document 3 images 10 and 11. And Mr. Moore, from time to time I'll take you to specific documents but I'll also take you to what I think you're aware is the overview document.

A. Yeah.

Q. And to the extent that we can deal with the document just by -- if it's entirely put out in the overview document we will do that, but if you need to go to the underlying document we can certainly do that if I haven't already done so. And just let me know.

In paragraph 17 of overview document 3 it sets out on these two pages the section about the job description essentially of the various individuals and positions on the Red Hill Valley Parkway project dated March 25, 2003.

And the page on the right, if you could expand the paragraph in the middle, Registrar, it starts with Gary Moore, third paragraph down. And this -- first, he was the manager of design.

Does this description accurately describe your role and responsibilities on the Red Hill Valley Parkway project from that period?

A. (Witness reviews document). Yes, it appears that that's the gist of it.

Q. I appreciate there may be details within those larger categories, but broadly speaking that's -- it's accurate?

A. That's correct.

Q. And if you could take that down, please, Registrar.

And the other team members, does it accurately describe their roles and responsibilities in the same way, broadly speaking?

A. Yes, I believe so.

Q. Was your role with the LINC design and construction and the LINC extension in the 1990s, was that similar to your

role as described here with the Red Hill?

A. Yes, I believe it was.

Q. So essentially the same role but on the earlier part of the overall project; is that right?

A. Yes.

Q. And with respect to the Red Hill portion, the north-south portion if we can call it, because I know that's what it was called in the earlier days, who on the team made the pavement design and specification decisions?

A. In terms of?

Q. Pavement structure, what each layer would be?

A. Specifically our consultant.

Q. But who made the -- those were the details, but what about the overall -- who made the decision as to what it would be? They would recommend things. Who made the decision?

A. Well, it was always a team approach. I mean, we had certain ways that we wanted to approach on overall, you know, the north-south was basically initially the same as

the east-west type of thing in terms of pavement approach.

Q. But it was a different pavement structure that was used on the Red Hill?

A. It ended up being a different pavement structure, yes.

Q. Right. And so in terms of -- forgetting about consultants for the moment, who made recommendations? Who on the team made decisions as to the pavement design and structure? Was it you?

A. I might have made recommendations to the team. We did have a very good team approach making decisions on the overall -- on any aspect of the overall project, whether it was landscaping or lighting or fencing or whatever it was.

Q. But I'm talking here about pavement design. So Mr. Murray testified that he relied on you to make pavement design and specification decisions. Do you agree with that?

A. I don't doubt that he relied on me, yes.

Q. And he also testified that field engineering and supervision of

engineering consultants during the Red Hill Valley Parkway construction was the purview of you and Mr. Oddi. Do you agree with that?

A. I don't dispute that.

Q. He also testified that it would be for you and Mr. Oddi to receive advice from external consultants in respect of pavement and construction -- pavement design and construction matters and make the decisions on behalf of the City. Do you agree with that?

A. Yeah, yes, I agree with that.

Q. And appreciating that you had consultants, but from the perspective of the City would you agree that technical and design matter decisions such as which pavement structure to use and what mixes to use for each pavement layer were part of your responsibilities?

A. While we were the office who is responsible -- I mean, most of our work was management and administration. Relying on our consultants, we did -- we were trying to be knowledgeable clients as best we could, and when they made recommendations, you know, if they said it was 60 mils we didn't dispute it or if it was

whatever mix it was, an overall approach on whether it was a rigid pavement or flexible pavement, we had more input on how we wanted to approach the overall project, but the specifics of each individual was -- we relied on -- heavily on our consultants' recommendations.

Q. But say -- and we'll get to this in detail, but for example, the decision to use -- just to divide it in the way that you've described -- decision to use a perpetual pavement structure, as I understand it from the way you described it, that would ultimately be your decision, but the specific components would be those that were recommended by the consultants; is that fair?

A. No, I wouldn't say so. The perpetual pavement approach was different than we did on the LINC and it had significant initial capital impacts to the project, so it was something that was discussed at length in the project. I mean, my recommendation was for the perpetual pavement, so -- but I wouldn't say it was my decision but...

Q. Well, we'll come to that then. Mr. Oddi testified that he was not involved

in the design of the Red Hill Valley Parkway pavement, including the decision to use a perpetual pavement structure and the SMA surface course on the main line. Do you agree with that?

A. I can't agree or disagree. I don't -- I would have -- I would have thought it was a team discussion and that he would have been involved, but I can't recall any specific discussions in that regard but...

Q. We'll come to that then.

A. Yeah.

Q. And more broadly, I very much appreciate that this would have been something that varied depending on when we're talking about during the Red Hill Valley Parkway project, but how much of your time, given that you had two roles at that point, how much of your time was devoted to it on average, like in a month, rather than your job duties as manager of design, capital planning and implementation? I appreciate that some times would have been more intense than others, but what sort of split are we talking about, generally speaking?

A. I mean, it varied from year to year even, but 30, 40 percent at times;

other times it was 50 percent or more. I don't know whether I can characterize, you know, as an overall over the six years of that project.

Q. Okay. And that's fair, but was it more or less in the early phases when it was quite contentious and there were a lot of issues about the environmental issues and so forth, or was it more during the construction phases, during the grading and the paving? Do you recall which one was more time consuming from your perspective?

A. It's my sense that I would have had more time in the early phases trying to get the contracts out and coordinating them with the approvals and those types of things. Once the contract is out it's in the contractors' hands and CAs to get it built, so yes, I would say it's a fair characterization that I would have had higher percentage in the earlier days.

Q. So having -- sort of talking in more general ways about Red Hill, if we go back to the completion of the LINC in 1997, am I correct that the LINC when first constructed had a -- what we call a dense friction course surface layer; is that right?

A. I believe it was a modified DFC. Yes, I believe --

Q. DFC being dense --

A. Dense friction course, yes.

Q. If we could go to overview document 3 image 8, please. In paragraph 10, as indicated in 1997 JEGEL, that's John Emery Geotechnical Limited, performed friction testing on the LINC between the 403 and Dartnall Road and provided the results to you. Do you recall that?

A. Prior to being shown this and through this, no, I didn't recall that testing.

Q. But through this process you now recall it having occurred?

A. I don't know that I recall. I mean, I don't doubt -- I mean seeing it there, but I don't recall the initiative of why we did or why we would do it but...

Q. Okay. So we'll come to that. Let's go to a document HAM18540. So this is a memo from you to Pat Campea, manager of construction roads, subject steel flag asphalt

Lincoln M. Alexander Parkway, November 11th, 1997. And first -- this attaches JEGEL's report which we'll look at. Pat Campea, the manager of construction roads was -- did you report to Pat or was Pat a peer?

A. Pat was a peer.

Q. So you wrote:

"Please find enclosed a copy of a skid resistance report we had JEGEL do for the parkway. The purpose of this testing was to collect initial data for tracking of both relative skid resistances between the two mixes and absolute skid resistance for future fix considerations."

So first of all, you, on behalf of the City, hired JEGEL to do this testing; is that right?

A. It appears so, yes.

Q. Do you recall at this point -- we will get into it -- specifically why you hired JEGEL to do it?

A. Well, only from the --

from the text, we did put down two mixes on the LINC. One was a test mix. I remember using steel slag asphalt that the industry wanted us to test. And so I'm not sure whether there was an agreement there that part of that there was testing involved in order to track the performance of the steel slag over the conventional aggregate. Just from the text is what I can surmise.

Q. As I understand it then, and this is in the report, that a portion of the LINC surface course in the eastbound lanes between Garth Street and Golf Links Road used steel slag aggregates from Dofasco. Does that ring a bell?

A. That does, yes, that's correct.

Q. And the rest of it used I think it's the regular trap rock aggregate for the surface course. Does that sound right?

A. Whatever the specified -- it wasn't steel slag. It was aggregate.

Q. Right. Rock?

A. Yes. Rock is a better term.

Q. And as stated in your memo to Mr. Campea, it's for the tracking of both

relative skid resistance of between the two mixes and absolute skid resistance for future mix considerations, so both a comparison and absolute test results; is that fair?

A. That's what it says, yeah.

Q. And those are your words?

A. Yeah.

Q. If we could go back to the overview document in image 8 where we were before. In paragraph 11, summarizing -- we'll go to the report but just for the summary purposes.

JEGEL used the British pendulum skid tester ASTM E303 to measure frictional resistance by way of a British pendulum number, BPN, and the sand patch test method, ASTM E965, to measure surface macrotexture. The JEGEL report dated November 4th, 1997, stated that BPN values greater than 50 generally indicate a pavement capable of providing adequate frictional resistance properties for normal traffic conditions.

And then there's that additional excerpt from the report stating:

"The initial results of

British pendulum testing indicate BPN values ranging from 62 to 75, which is considered to be very good. Sand patch surface texture depths range from 0.28 millimetres to 0.70 millimetres, which is considered to be fair. At this time the BPN and texture depth values for both the steel slag and the non-steel slag sections are similar (Table 2). As the traffic and environment wear and polish the pavement surface, the BPN numbers are expected to decrease. The changes in texture depths are dependent on hot-mix materials and properties. A substantial increase in texture depth, over time, may be indicative of a ravelling pavement surface."

So again, there's the reference here to comparing the sections for the steel slag aggregates and non-steel slag aggregates that we were talking about, right?

And just so we have the geography, we can look at it, but Garth Street and Golf Links Road where the steel slag aggregates were placed, is that the stretch between the two westernmost interchanges on the LINC before it ends at the 403?

A. Yes, it is.

Q. Okay. And that's the difference between those two sections, one used the Dofasco steel slag and the other used the regular stone aggregate; is that right?

A. Correct.

Q. And essentially what's being interrogated here is which aggregate had better skid resistance; is that right?

A. I believe it came down to the aggregate. I believe the mixes were the same so you're basically testing what the aggregate will do.

Q. Right. In terms of skid resistance?

A. In terms of overall wear of the mix.

Q. Okay. But what they are testing -- well, overall wear of the mix, they are -- I mean, it says the wear and polish of the pavement surface in that excerpt. Is that what you're referring to?

A. Yes.

Q. Now, if we could go to HAM18541. This is the actual report from JEGEL. In the first paragraph here on image 1 it indicates what we were talking about about the portion between the Garth Street and Golf Links Road in the eastbound lanes used the steel slag aggregate supplied by Dofasco, and then the purpose of this testing, in the second paragraph, was to set up test sections on the expressway and collect initial pavement performance data to be used as a baseline for future pavement monitoring. In total, 19 test sections were selected for monitoring.

And so again the purpose as described here was to collect this data and then monitor it going forward; is that fair?

A. That's what it says, yes.

Q. If I could go to image 3, Registrar.

The people at JEGEL who sign the report are Mark Berkovitz and David Hein. And do you know those gentlemen?

A. I know of Dave. I don't know Mark, no.

Q. Dave, you know of Dave. Do you know him other than through this report? He later was in another company called ARA.

A. Yeah, that's -- I've been at conferences and seen him present so that's why I'm aware of him.

Q. Did you, on behalf of the City, at any point hire Mr. Hein to do work while he was at ARA?

A. Not that I recall.

Q. You can't say for sure?

A. I don't remember hiring ARA at all, no.

Q. If we could go back up to image 2. And the portions on this page are what are excerpted in the overview document that we already looked at. And as we discussed, JEGEL that performed these tests reported that the

British pendulum number was very good and that British pendulum number values greater than 50 generally indicate a pavement capable of providing adequate frictional resistance properties for normal traffic conditions.

Did you accept these conclusions?

A. I wouldn't know the numbers or the BPN. I mean, we accepted the report that they gave but...

Q. That's what I mean, you're saying that you didn't know -- you didn't have the expertise to know what 50 in BPN meant so --

A. Yeah, that's correct.

Q. And that's what you hired JEGEL to tell you, to do the testing and to tell you what the results meant; is that right?

A. That's correct.

Q. So you didn't question these conclusions; is that right?

A. I had no basis to question them, no.

Q. Right. And they also similarly concluded that the macrotexture depths

as measured were, and the words are, considered to be fair. Did you also accept that conclusion?

A. Again, it's in the report. I wouldn't know what -- whether it was correct or incorrect or fair or unfair.

Q. Right. So you accept -- right. And you didn't have any basis to question what they were saying and so having hired them to do that work you accepted their conclusions; is that fair?

A. That's correct.

Q. Now, can we go to overview document 8, image 8, back to 8. Paragraph 12. And actually maybe 8 and 9. Thank you.

And so JEGEL did do further friction testing on the LINC in 1999 and issued a second report to you on July 12th, 1999. Again they used a (indiscernible) of 12, they used the British pendulum skid tester and the sand patch test method to measure surface macrotexture.

The JEGEL report dated July 12th, 1999 addressed to Mr. Moore reiterated that BPN values greater than 50 generally indicate a pavement capable of providing adequate friction

resistance properties and summarized the testing results as follows.

And then if you could call out the paragraphs 1 through 4 over the two pages, Registrar.

THE REGISTRAR: Sorry, Counsel, which paragraph?

MR. LEWIS: So within paragraphs 12 the excerpted paragraphs 1 through 4. 1 is at the bottom there and then 2 through 4 at the top. Number 1 is at the bottom. We'll start with that.

So first thing is that the 1999 BPN values are generally good but have decreased by about 10 to 15 percent. 1, 1999 sand patch surface texture depths have increased by about 18 to 37 percent. 3, steel slag aggregate fatality concrete sections have about equal skid resistance BPN as non-steel slag aggregate asphalt concrete sections. And 4, steel slag aggregate asphalt concrete sections have slightly less textural depth than non-steel slag aggregate asphalt concrete sections indicating slightly higher resistance to wear caused by the traffic and environment.

You can take those down Registrar, thank you.

And so am I correct this is the follow-up monitoring to the 1997 report that we already discussed; is that right?

A. It appears to be, yes.

Q. And the report says -- and we'll get to it -- this is the second report on an ongoing monitoring program with the initial data collected in 1997.

Now, again, what's the reason for comparing those two sections that use the different aggregates? We've talked about -- a bit about that before, but did you recognize that the qualities of the aggregates in any asphalt mix are largely what determines the skid resistance qualities of the pavement?

A. It's my sense that it was more of a tracking between the two aggregates. There was a very big push from Dofasco to use the steel slag aggregate within mixes and I think this provided an opportunity to do a more formal address of those aggregates not only for us, but they were -- I think they were lobbying the province for -- to use it in other mixes outside

of Hamilton. So that's my recollection on what was happening and why this -- the major reason this was being done.

Q. Okay. So when -- you said that the main purpose is to compare the two?

A. Right.

Q. So let's assume that's the case. The purpose then of comparing the two is to determine then which has better skid resistance properties. That's what's being compared; is that right?

A. Well, I believe you are correct that the -- the push for the steel slag was that it provided a better aggregate in that regard and that's what they were trying to show.

Q. Better skid resistance properties?

A. Yeah, for better aggregate properties overall. I mean, that's only one small property of any mix, but this initiative here dealt with the skid resistance. I believe that --

Q. I appreciate there's lots of other stuff. There's rutting, there's overall durability, there's like length of life, lots of

different stuff. But just to be clear, this is about comparing the skid resistance qualities of those aggregates; is that right?

A. Yes, sir, this initiative was that, yes.

Q. Okay. Thank you. The skid resistance qualities of the aggregates, what's the importance of knowing that?

A. I'm not sure I understand the question.

Q. Well, it's not an academic exercise, right? So you agree that the purpose was largely to determine the relative skid resistance properties of the two aggregates that had been used in the surface course on the LINC. What's the reason that we want to find out what the skid resistance properties are?

A. In this case it was to determine the suitability of the steel slag aggregate for use in certain high quality mixes.

Q. Right. Suitability in what way though? So that it has good frictional assistance qualities. And what is the impact of having good or poor skid resistance qualities in an aggregate?

A. I guess there would be a number of different aspects to that. The life of the pavement, the suitability within the mix depending on whether you're talking about high speed roads and those types of things but...

Q. Ultimately skid resistance about traffic safety?

A. Skid resistance about traffic safety.

Q. That's why you want to know what it is?

A. I mean, it's not the only aspect of -- it's a component of that but, I mean, it's the design of the road, it's the speed of the road, it's the overall type of mix. You can put a high quality aggregate in a poor mix or vice versa to try and address what you're trying to achieve, but, I mean, it's -- you're just measuring one component of all the things that go together for that.

Q. Right. And so safety of a road has many components. You're talking about there's the geometry, there's other aspects of the mix design, there's of course driver behaviour, all those things, but one of the things that goes

into the safety of a road are the frictional qualities of the pavement. You agree with that? It's one of the things?

A. Yeah, I don't know whether -- you know, we weren't that sophisticated in picking mixes for that. I mean, we would look to the MTO and say these are our highway-type mixes and they meet what we're trying to achieve in those regards. If you have a certain speed and if you have a certain volume and a certain amount of trucks these are the types of mixes that you would use and these are the aggregates.

There's -- I don't think I'm aware of anything that says -- that specifically relates to the friction of the mix or a number. There's no number on a mix that says this mix gives you this friction.

Q. Right, but that's -- I appreciate that, but that's not the question. The question is whether as a matter of traffic safety that the frictional qualities of the aggregates and therefore the frictional qualities of the pavement are one of the many things that go into the safety of the road. One of them. Do you agree with me there?

A. Yes, I would agree that it's one component of the overall components that go into the safety of the road is the mix -- the type of mix and the aggregate in that mix, yes.

Q. And that's why one test for skid resistance, is in relation to that issue, traffic safety. There isn't any other purpose of testing for skid resistance, is there?

A. I think that these tests are -- a proxy for -- I mean, if you have a certain level of skid resistance or friction or whatever you're measuring, it will tell you whether your road is breaking down in that component and then you have to assess that with all the other components. You know, is there cracking, is there potholing, is there delamination and those types of things. But there's no measurement for that that says when your road gets to this you need to replace, at least not any initiative that I was aware of that the City was doing.

Q. You mean any particular friction number or British pendulum number or skid number of --

A. Or any standard by which

you would say this road must be this.

Q. I understand that, but nonetheless, you are -- you already agreed friction is a component of road safety, and so then the second part of that I suggest to you is that the purpose of measuring friction is only in relation to road safety. It doesn't mean it's the only thing. Doesn't mean -- in forgetting about whether (indiscernible), but that's why you measure friction. You don't measure the skid resistance of a road is in relation to the issue of road safety. Do you agree with me?

A. No, I wouldn't agree with that.

Q. What is the other purpose specifically for measuring the skid resistance or frictional qualities of a road other than in relation to road safety?

A. The condition of the road. It goes to the condition of the aggregate; is it breaking down, is the road breaking down, is it -- it's an indicator of how the road is performing.

Q. It's the indicator of how the skid resistance qualities of the road are

performing. Does it have any other meaning that you're aware of?

A. I think -- my only thought is in this case it was comparative purpose between the two aggregates, not really an absolute, because we had no way of -- you know, if it got to a certain number it didn't -- there was no magical number for us to compare that to.

Q. Well, okay. So you hired JEGEL to do this testing, right?

A. It appears so, yes.

Q. And JEGEL in their report expressed opinions that we already said that you didn't take issue with, that you didn't have any expert to disagree with, right?

A. Correct.

Q. So JEGEL said for example, BPN, British pendulum number, values greater then 50 generally indicate a pavement capable of providing adequate frictional resistance properties for normal traffic conditions. So they weren't saying that there's a standard but they are applying their professional expertise to tell you that if you're over 50 for the BPN that usually means adequate frictional

properties. Do you agree with that?

A. I agree that's what it said, yes.

Q. Yeah. And you didn't have and you don't have the expertise to disagree with that, correct?

A. That's correct.

Q. And when you talk about looking at the relative performance of the two, there's still a reason for wanting to know what the relative performance is, and I suggest to you it's which one has better frictional qualities. Do you agree with that?

A. I don't know whether we were looking for better or whether that one would perform -- or that they would perform as well. I mean...

Q. Perform better in terms of its frictional -- its skid resistance quality.

A. Well, again this was only one component of what the aggregate was being compared for.

Q. Well, okay. So if we could go to HAM61641.

THE REGISTRAR: Do you mind

giving me that number again.

MR. LEWIS: Yes. HAM61641. This is the second report dated July 12, 1999, also Mr. Hein and Mr. Berkovitz. And you see in the first paragraph it refers to it being the second report of an ongoing monitoring program with the initial data collected in 1997. And it goes on to say 19 sections were selected for monitoring, and that those are set out later, and four of the test sections were within the steel slag aggregate asphalt concrete testing.

And if you go on to image 2. At the bottom, those numbers, number 4, those are the things we already looked at in terms of the overall conclusions?

A. Right.

Q. And it's indicated. So JEGEL characterizes the British pendulum test numbers, saying that they were very good in 1997 -- well, they say that they are generally good but have decreased, right?

A. Correct, that's what it says.

Q. And that the macrotexture which had started out in 1997 as fair had

increased somewhat, right?

A. That's what it says, yes.

Q. Right. And so from your perspective, you are receiving this report as the City's representative and the person who commissioned these reports, are these results okay from your perspective?

A. I don't know whether it's about okay. I mean, it's a report. That's what -- it is what it is.

Q. Right. And you didn't question again what JEGEL said about it. So when JEGEL says the 1999 BPN values are generally good you accepted that; is that right?

A. That's what it says, yes. I didn't -- I didn't reject the report.

Q. Right. Because again, if I understood what you said correctly, you didn't have the friction testing and friction result interpretation expertise to reject the report; is that right?

A. That's correct.

Q. And similarly, on the macrotexture, which had started out in 1997 as fair and indicating that it increased somewhat, I

take it you also accepted that result for the same reason and that characterization for the same reason; is that right?

A. Okay, I'm....

Q. You didn't reject it?

A. I didn't reject it, no.

Q. And nor did you, if I understand you correctly, have the expertise to reject it; is that right?

A. At that time, no.

Q. And JEGEL did not make any recommendation to take any further investigative or remedial action, correct?

A. Not that I'm aware of.

Q. There's nothing --

A. Nothing here that would indicate that.

Q. Right. Right. And presumably you did not take any further action in response to this report -- any further investigative or remedial action; is that right?

A. Not that I recall. I don't believe so.

Q. Okay. And at that time what was your level of knowledge about -- having

received these two reports, what was your level of knowledge about skid resistance and the methods of testing at this point in time, 1999?

A. Very low. Other than what -- you know, what a -- BPN, what it looked like, them doing it, and what it involved. I believe I observed them being done in the field, but their relationship to and the numbers that they would generate and what they mean was very remedial.

Q. That's what you hired them for?

A. That's correct.

Q. And you say remedial. Does that mean that you did have some education on this when you were in university but, you know, on the basics of road friction; is that right?

A. On, well, the basics of doing these tests, but -- how you do a sand patch test and that type of thing but, you know, relating it to, you know, real world indices is nothing. I wouldn't know what that was.

Q. And but as a result, given your knowledge, if JEGEL had stated in its report, in one of them, in its report that the

skid resistance, as measured, was low and recommended a more detailed investigation be conducted, would you, not having the expertise yourself, have taken their professional advice and acted accordingly?

A. I would have at least questioned it anyways, you know, would have had a discussion on it on what it -- you know, where we were going with it and the basis for it to --

Q. So you could understand it?

A. That's correct.

Q. Right. But if they said that they recommended that further measures be taken, not having the expertise I just assume that you would follow their recommendations; correct or not?

A. You don't just blindly follow consultants' recommendation. You know, you might've sought out other information from other sources in order to try to determine -- it depends on what they were recommending as well. I mean, if it was just further testing then, you know, in some sort of specific way then we may or may not have proceeded, but I can't say now whether I

would have or not.

Q. But you wouldn't have any basis other than other experts providing counter-advice if -- to reject whatever advice you were provided with; is that right?

A. May not have been counter-advice, but it could have been different. It would have been do something different or follow something different but....

Q. I think what you're -- you sort of trailed off a bit, was to say well, if they were just recommending further measuring, further testing to confirm the results or to not confirm the results that that would have been something reasonable to do in such a circumstance; is that right?

A. It's very difficult to postulate what I would have done -- you know, what was happening at the time and what were all the other circumstances, I can't say definitively I would or wouldn't have.

Q. Right. But what framework would you apply in deciding whether or not to follow the expert advice on technical engineering matters that you don't have expertise

in?

A. I would have followed up more with the consultant and tried to determine exactly what were they trying to determine and what were they going for, and how was this going to help me manage the road and was there any specific outcome as a result of this additional testing.

Q. So let's go to overview document 3 paragraph 9 -- sorry, it's at page 9. In paragraph 13, this is a week after the second JEGEL report.

On July 20th, 1999, JEGEL sent you an excerpt from the Transportation Association of Canada, also known as TAC, the pavement design and management guide, and it's a part of a chapter respecting friction measurement and methods. And it indicates -- briefly explains the phenomenon of skidding, skid resistance, microtexture, macrotexture, and the various methods and devices used to measure friction.

And you'll see there's an excerpt there from section 2.6.1 from the report, and in the first paragraph it indicates that it's a very."

"...skidding is a very complex interrelationship between pavement factors, vehicle factors, mainly the tires and brakes, environmental and driving factors."

And the second paragraph indicates what we were talking about, about the resistance to skidding on a road surface was largely determined by the microtexture of the surface aggregate as illustrated in figure 2.11.

And then it describes the issue of wet versus dry pavements and the effect on skid resistance. And then -- and when it's wet it says:

"In this situation drainage routes provided by macrotexture, together with the tire tread, helps to get rid of most of the water. But penetration of the remaining film of water is only possible when sufficient macrotexture, i.e., sharp edges to allow high pressure buildups as the

tire passes over."

So just following up on what you said in relation to my last line of questioning was well, if you had questions about a report or anything in it that you would follow up with the consultant. And I'm wondering is this -- is that what was happening here, did you follow up and ask for some interpretive information for the report that you just received?

A. Not that I specifically recall, but this appears to be something -- I mean, I don't know why they would have sent it to me out of the blue other than as a follow up to some discussion that I wasn't understanding what they were saying and they were trying to help give me an idea of what was happening out there.

Q. Right. I mean, that makes sense. Consultants aren't usually in the habit of just sending stuff out of the blue. They usually do it as a request from the client or if they think it's relevant to the work that they have conducted, right?

A. Right. I wouldn't disagree with that.

Q. If you could take that

down, please, Registrar. If we could go to HAM10055.

And so this is the covering memo 1999, so it's old school facts from Mr. Hein at JEGEL to you, dated July 20, 1999. And the message is general pavement surface friction information, and then he says:

"Gary, attached is some general information on pavement surface friction and testing devices. Our invoice for the work has been re-issued. Please destroy the one you have. Dave."

And then the attachment to it, Registrar, is HAM10056. If you could go to that.

And this is the cover page for the attachment, which is the cover of the pavement design and management guide by TAC. I take it that manual or the guide is something that you're familiar with?

A. It is.

Q. And TAC is something you're familiar with. You attend conferences, you've written papers for them, all that sort of

stuff?

A. Correct.

Q. If we could go then to -- just scroll through the images, please, Registrar. There's a couple of -- stop there. Image 3, please. So image 3, that's 2.6.1, that's the paragraph we just looked at from the overview document.

And then if you could go to image 4 please. There we go. Are you able to expand the two figures there? The handwriting.

And so these are figure 2.10 and 2.11 and there's some handwriting on it, on figure 2.10, it says we probably tested them here and here, with a couple of arrows. And then in figure 2.11 there are notes pointing to the microtexture part of the diagram, it says "measured by British pendulum," and then pointing to the macrotexture part of the diagram it says "measured by sand patch."

Now, is that your handwriting or is it Dave Hein's? Do you know?

A. I don't think it's mine.

(Speaker overlap)

A. Well, at that point in

time I don't think I would have known. I think Dave is trying to tell me something here.

Q. Fair enough. But would you not recognize it if it was your own handwriting? No?

A. There is nothing here that leads me to believe this is mine.

Q. All right. So you think then it's probably Mr. Hein since he faxed it to you?

A. I believe so.

Q. If you can keep it up, expand it, Registrar, please. Thank you.

And so the handwriting on the top, this appears to be explaining the testing that was -- one aspect of the testing that was done. Do you understand looking at it at this moment what he's talking about?

A. On which?

Q. The top one, figure --

A. The top one.

Q. Yeah. We probably test it here and here with the arrows pointing.

A. Surface friction skid number. I mean, looking at it now, I mean, it

appears he's pointing to a point on the high polish resistant aggregate line or -- I'm not sure whether it's on the surface life. I'm not quite sure where he is -- what he's indicating other than here and here.

Q. Okay. But -- so the y-axis, that's the surface friction skid number, SN, right? From zero to 100, that's the scale, right?

A. Yeah.

Q. Okay. Skid number. So that's the measurement of skid resistance, whichever one it is, right? You would have understood that at that time?

A. I don't -- I don't know that I would have but...

Q. Well, not necessarily which device, but you knew what a -- you know, you've already got two reports on what British pendulum number was. I'm going to suggest to you that you, at least directionally, understood that a y-axis there was showing zero friction up to 100; is that fair?

A. Zero friction, that one is the SN number and we were talking about BPN

number, British pendulum. I don't know whether they relate to each other or how they relate to each other.

Q. All right. The x-axis is time and traffic.

A. Yeah, I think that's --

Q. That's top over time, and it shows that it's time. So as you go to the right time is passing and it talks about the surface life, right?

A. Yes.

Q. And so isn't he -- I'm going to suggest to you what he's pointing to is where probably along those curves the testing in 1997 and 1999 occurred. He's showing over time, the first one is the left, just right after the opening of the LINC, and then the second one is in 1999. Isn't that what it shows?

A. Could be -- that could be correct.

Q. And as part of that directionally, it's showing that skid resistance reduces over the surface life of the road, right?

A. The friction number reduces over the surface life of the road, yes.

Q. Right. And I mean, that's something that Mr. Hein wrote in -- Mr. Hein and Mr. Berkovitz wrote in JEGEL's second report, that friction -- that it reduces over time. Do you recall it? We can go back to it. That's what they said?

A. Friction numbers reduce over time, yes, I believe that's correct.

Q. Right. And it's something you would have understood at the time, at the very least from having read their report and having looked at this, right?

A. Yeah, I don't know how much of an appreciation I had for it but -- Understand the basis for it, yes.

Q. Well, and you did read their reports, right?

A. Well, reading the report and understanding it entirely are not exactly the same thing.

Q. Okay. And on the y-axis, I just note on the right-hand side it reproduces the y-axis on both sides for ease of reference, I think. You see it refers to riding safety with a rudimentary drawing of a car. Do you see that?

A. I see that.
Q. What do you take from that?
A. I don't know.
Q. It's not that the higher the skid number, directionally speaking, the better the safety?
A. Well, the numbers decreasing as you go down are confusing 11, 55, 66, if that's what that is. Or -- I don't know, are they numbers?
Q. You mean the handwritten numbers below that?
A. Yeah.
Q. I don't know what those are. Could you interpret them?
A. No, I can't.
Q. I don't know either. And then at the bottom from figure there 2.11 the handwriting indicates -- on the left it says "measured by British pendulum" with an arrow to microtexture. Do you see that?
A. I do.
Q. Did you appreciate from that explanation he's saying that's what the

British pendulum test measured, that's microtexture? As distinct --

(Speaker overlap)

A. I see that and that I understand now. I don't know how much I understood at the time but...

Q. Well, again, they explain it in their report. So you read the reports and you're an engineer and a senior person, so it is fair to say that you -- even if your understanding wasn't at an advanced level, that you understood the points that they were making?

A. That the BPN tested the aggregate and the sand patch tested the, for lack of a better term, the openness of the mix.

Q. Right. And both being related to the aggregates, microtexture entirely and the macrotexture as also a function of the mix but --

A. Yeah, the macrotexture I believe now is more of the mix, not just the individual aggregate.

Q. Just on the right-hand side of figure 2.1, would you agree that those show the drive path, the highest one across from

the number 80 showing a straight drive path, and then the second one showing a swervy drive path and then the bottom one showing an out of control drive path. Does that make sense to you?

A. I thought they were numbers. I mean, when you point that out I suppose they could be interpreted like that but --

Q. But you're not sure?

A. I'm not sure, no.

Q. If you could go to images 5 and 6. And this is on two pages, starts in the middle of the first page, section 2.6.2, friction measuring devices. And then below it it shows a bunch of different measuring devices onto the second page. And maybe if we could, Registrar, just focus on the second page and expand it. Thank you.

So the first one at the top of the page is skid trailer and it refers to the ASTM 2674 skid trailer, refers to it as being a locked wheel with a water supply and so forth. And is that a device that you were familiar with at that time in 1999?

A. No, it was not.

Q. You said earlier that you

had done some work in terms of contracts and so forth with the MTO. Were you aware that it was a device that the MTO used at that time?

A. I don't believe so.

Q. Then the next item is the British pendulum tester which we've just been discussing, and then the ASTM sand patch below that. Those are the two methods that JEGEL was using to measure friction, correct?

A. Yes.

Q. Actually if you could take that down briefly. It's just the handwriting I want to see. It's cut off in the expanded version. There's that bracket around it and handwriting.

You think it's fair that Mr. Hein was just indicating hey, this is what we did in the reports that we just sent you?

A. It appears that that's happening.

Q. And then at the bottom it refers to SCRIM and grip testers, two other devices. Were those devices you were familiar with at that time?

A. No, they were not.

Q. If we go to image 7. And section 2.6.3 if you could expand that, please.

And this is -- he sent you this paper. Do you think you would have read this as well since Mr. Hein sent it to you?

A. I can't say. I don't -- I may have, I may have skimmed through it, I don't -- I don't recall.

Q. You don't recall specifically?

A. No, I don't.

Q. In the second paragraph it says:

"With the app time or the application of wheel loads most pavements show a continuous decrease in friction as shown in figure 2.13. These time/traffic/climate-based changes in friction should be monitored by periodic measurements."

And then: "Changes in the pavement surface which are

possible contributors to these friction changes include the following."

And then it lists off a number of things:

"One. Porosity of the pavement layers; 2, surface wear; 3, polishing of surface aggregates; 4, rutting; 5, bleeding or flushing of bituminous binder; 6, contamination."

Are those things that you were cognizant of at the time whether or not you read this? Or whether you read it carefully.

A. Was I cognizant?

Q. Well, in particular of the friction -- I think we already said that friction reduces over time as function of the road wearing generally?

A. I believe I understood that.

Q. Okay. And as a result of that did you understand that that's why you have ongoing friction monitoring like did you in 1997,

and the second one in 1999, is to see what the decrease is?

A. I'm sorry, I'm just trying to make sure I answer the question. What were you looking for specifically?

Q. Did you understand that was at least part of the purposes of having the two JEGEL reports two years apart, was to monitor the ongoing frictional performance of the road, how much it decreases over time?

A. The JEGEL, yes. Not necessarily how much it decreased over time, but did it or what the rate was or what was the differential between the two pavements I think was I think the more important thing.

I think at the time I don't know that the absolute was something in our minds because it wasn't something that we measured or had any other program on any other road in the city at the time. So I think the freeway and the two mixes and the trial and between those aggregates was what generated our interest in this regard.

Q. Right. But again the comparison between them is again for a purpose, to

determine which is better, has better frictional qualities and performs better over time, is it not?

A. It was for the marketing of the -- or the applicability of the steel slag in other projects. If we were going to use it -- you know, was it something we would want to use maybe on the north-south or other major roadways or there's other interest in it provincially.

So that was -- it's my feeling on what was happening with that. I mean, we weren't doing any other skid resistance testing on any other road in the city to my mind that we knew to assess high quality aggregates.

Q. We'll come to that then. If you could, Registrar, highlight the next section, 2.6.4.

This section and under "Uses of Friction Data," would you agree with me that it is specifically in these sections it's in the section talking about public safety? That's the purpose of it?

A. Uses of friction data. Friction-related problems. Reaction basis. In terms of carrying out pavement maintenance and

rehabilitation.

Q. The last sentence:

"Friction test data may be used in a pavement management system to rank safety related rehabilitation treatments."

A. It's something that could have been used; that's what it says, okay.

Q. Then in the last paragraph there it says:

"The actual designation of surface friction standards, such as a minimum skid number, SN, is not commonly practiced by provinces/states or local agencies in Canada in the United States. One reason is the risk of litigation arising from skidding accidents on low surface friction locations. Rather, some agencies have developed criteria for identifying low friction pavement surfaces such as the example given in table 2.6 for

Pennsylvania."

Is that something you appreciated at the time?

A. I don't know whether I appreciated it at that time, no.

Q. Well, because you did refer a number of times when I was asking about the JEGEL reports to a lack of standards and so forth, so I was wondering if you were averting -- again if you read this, that's something you would have appreciated?

A. I may have at the time. It may have entered my mind. But I can't say specifically there was an aha moment in reading this or anything. You know, did it add to my overall knowledge of what friction was doing and standards, possibly, but I can't say yes right now that that was -- I don't know that I knew any of it before that.

Q. And similarly, when it refers to one reason for a lack of such standards is a risk of litigation, is that something you appreciated?

A. At that time no, I don't believe so.

Q. At some point later?
A. Possibly.
Q. Now, this is a City production as I'll -- and so forth. So I'm wondering did you keep this along with the reports?
A. I believe I saw a stamp on it that showed a file number so I believe -- I don't keep it personally, it would just go in files.
Q. Just one moment, please. If we could jump ahead for a moment. It's on a related topic but it's a 2006. Registrar, if we could go to overview document 3 images 21 and 22. It's paragraph 42 at the bottom of the first image and the top of the second one that I'm concerned with.
So this is January 26, 2006, and there's some communications back and forth initiated by Councillor Braden e-mailing Mr. Murray about concerns he had with asphalt deterioration on the LINC and asking how that would be addressed on the Red Hill Valley Parkway. And Mr. Murray replied, suggesting it should be addressed at the next parkway implementation

committee meeting. And then there's some back and forth which I don't think we need to go to.

But then you write on February 6 to Mr. Murray, Wray Oakes, Bryan Shynal, Bryan Towers and Marco Oddi. And you write at the start of that excerpt:

"Gentlemen, we will be using an SMA mix on the north-south Expressway surface, we will be using premium aggregates, premium polymer-modified asphalt cement and following the most stringent rules for paving, as we did when we built the LINC. The asphalt mixes that went into the LINC were state of the art at the time. The DFC" -- that's dense friction course which you described -- "used premium aggregates and we have skid tests for the first few years that showed little difference, if any, between steel slag and the DFC."

And then you go on to talk about crack sealing and segregation and ravelling and so forth.

And so first thing is when you're talking about the north-south Expressway surface using SMA that's of course the Red Hill -- the north-south portion of the overall project that you're talking about, right?

A. That's correct.

Q. And then in the fourth line down:

"The DFC used premium aggregates and we have skid tests for the first few years that showed little difference, if any, between the steel slag and the DFC."

And you're -- certainly with respect to the JEGEL tests we're looking at, that they were looking at, that there were similar results as between them. That's overall what those reports said, right?

A. I think so, yes.

Q. But it did the British pendulum testing and the sand patch testing so I'm

wondering what the skid tests are that you're referring to on the LINC. Do you know? Was there other friction testing done on the LINC prior to this e-mail that you recall?

A. Not that I can recall. I believe that that would have been the testing that JEGEL did.

Q. So we anticipate that Frank Marciello, who is the individual at the MTO who operated the MTO skid trailer and including the skid testing that was done on the Red Hill in 2007 and subsequent years, that he'll testify that he conducted skid testing on the LINC on one occasion. Do you recall that, the MTO conducting skid testing on the LINC using its ASTM locked wheel tester?

A. I do not.

Q. And we anticipate that he'll testify that he believes this took place a number of years before testing the Red Hill Valley Parkway. Does that assist you at all?

A. No, it does not.

Q. If that did occur would -- who have been involved -- I'm not going to ask that. You don't recall it so I won't ask

it.

Coming back then to the JEGEL tests and the TAC guy that JEGEL sent you to, at that point, mid-1999, how would you describe your level of knowledge about friction and friction testing at that time?

A. I don't know how I would characterize it. I mean, I've learned a lot since then and -- I don't think I'm able to just go to 1999 and say this is what I knew at that time. You know, other than couple of ways to measure it, there was some other ways according to the article, but other than being a little bit familiar with it, and I don't know whether there was any appreciation of its actual use for us in our -- other than the -- other than as comparative.

Q. But it's comparative for a reason though. It's not an academic exercise. You recognize that, right?

A. Well, not for the City. I mean, it's 6,000 kilometres of road, but the freeway was the first freeway or higher speed road that the City or region was involved in. So these types of things were learn as you go, nothing that

we were familiar with or had any program with, you know --

Q. I can appreciate that. But I'm again asking that it's -- even without a program there was a purpose behind it, and the purpose behind it was that ultimately to determine whether or not relatively those aggregates provided better frictional qualities, one then the other, and therefore directionally provided a safer road. Is that not the case?

MR. LEDERMAN:

Mr. Commissioner, just a moment. The question that has been put to Mr. Moore has been put to him a number of times and asking about his understanding as to the purpose for which the JEGEL tests were carried out. He's answered the question. I've got several times from my notes to that. And I'm not sure I understand that latest question that Mr. Lewis is putting to him to talk about directionally or otherwise. So at a certain point I'm just asking for a little bit of clarity here as to the purpose of the question or the nature of the question in light of the answers that Mr. Moore has testified.

JUSTICE WILTON-SIEGEL:

Mr. Lewis, I agree with Mr. Lederman that the question as just put now, which actually had two parts, was previously put separately in the respective parts a couple of times earlier. I think you may be going towards something a little different and I'll allow you to rephrase the question if it addresses something further.

MR. LEWIS: I think I can move on. Thank you.

JUSTICE WILTON-SIEGEL: Okay.

BY MR. LEWIS:

Q. If we could go to overview document 3 image 12. And in paragraph 18, if we can call that up, Registrar, there's meeting notes from June 19, 1999 meeting titled "Regional Municipality of Hamilton Wentworth, Red Hill Creek Expressway Management Plan." And the attendees as you, Cassandra Bach, who was at the regional municipality of Hamilton Wentworth, and Bob Hodgins, president of Ecoplans, and stating, among other things, under the heeding "Design Criteria" that "pavement is SMA, shoulders will be fully paved."

And we'll go to the -- in a second, but Cassandra Bach, what was her role at

the region at the time? It was environment planning assistant, but what was she doing?

A. I believe she was, for lack a better term, stick handling the environmental components to make sure we were following what was set out in the EA decision and giving us directions on what we needed to address in those types of things.

Q. So Bob Hodgkins at Ecoplans, as the name suggests, are they environmentally focused?

A. Yes, they were one of the consultants or the consultant that was helping create the document, although there are several documents for the -- to meet the approvals to proceed with the (indiscernible) ourselves underway again.

Q. On the environmental side of things?

A. On the environmental side, yes.

Q. So neither of them are pavement engineers or consultants?

A. No, they are not.

Q. And about a maintenance

management plan. What was that?

A. Didn't say maintenance -- it's the expressway management plan.

Q. Oh, the management. Okay. Let's go the document itself and pull that up.

MR. CHEN: If you could go to that it would be much more helpful.

MR. LEWIS: It's HAM19342. It says there "Red Hill Creek Expressway maintenance management plan." And then --

THE WITNESS: (Witness reads document.) Okay.

BY MR. LEWIS:

Q. So I would ask you to describe it. I didn't realize you might have the wrong wording. So can you just describe what that is about, the maintenance management plan.

A. I believe there was a requirement to have a document that showed how we were going to maintain what we were planning to build to satisfy certain environmental impacts that -- how would you deal with the storm water, how would you deal with the runoff, how would you deal with tree removal or grass cutting and all of

those types of things.

Q. And then it's under point 3 is the passage that I already referred to under design criteria. If you could expand that whole number 3 bullet.

So it starts with the expressway will be two lane undivided; second bullet, the pavement is SMA, shows it will be fully paved, and then it goes on to talk about the median widths, shoulder widths being grass to the edge of the shoulder, and it says "discussed crossfall" and talking about the crossfall of 2 percent.

So this is first reference that you're aware of in the inquiry database to SMA stone mastic asphalt pavement. Do you know why it's being raised at this point in time?

A. The SMA was chosen for one of its primary aspects that it mitigates the noise, which was a finding in the original decision and direction. Initially I think they were -- the commission had identified things such as what they call carpet seal asphalt, which was a very low noise, open-graded asphalt, but it wasn't really -- it hadn't -- it wasn't in favour at the

time.

There was a number of years between the decision and when we were actually building so there was actually -- this SMA was an improvement on that in terms of its noise reduction capabilities as well as its ability to handle the large truck volumes and as well as being a premium mix for this type of facility.

Q. Okay. So when you refer back, I think you said the original document --

A. The original EA decision by the consolidated hearing board.

Q. So if I understood you correctly, it wasn't referring to SMA specifically but referring to noise mitigation?

A. It identified noise mitigation as a major issue down through the valley and set out certain -- you know, whether we use attenuation and monitoring as well as the type of pavement to be used.

Q. So here when it says pavement is SMA, shoulders will be fully paved, who is bringing that forward?

A. Are these notes from the meeting or are these --

Q. Yes, they are. Meeting notes.

A. There would have been -- I was just noting that that is what we're proposing to use.

Q. But is that what you would have said at the time?

A. I believe so, yes.

Q. So here we have it in mid-1999. Do you recall where you came -- where you brought that idea from? I appreciate what you said already about the noise reduction qualities generally always having been a goal, but specific to SMA?

A. Yeah. I don't know whether that was knowledge from a number of conferences or from recommendations from various consultants in order to resolve the issue with noise. I know at one time we were looking at carpet seal and OFC but I think we set our minds that the SMA was the best way to go.

Q. It appears to be stating here, stating it as a fact, that pavement is SMA, shoulders will be fully paved? Is that --

A. At that point I believe

that is the direction we were going, yes.

Q. Okay. If you can take that down, please, Registrar.

And at that point in time, June '99, when you say "the direction we were going," within the City whose decision is it to go in that direction?

A. Well, the -- I guess it's the special projects office at that time.

Q. Right. You're the manager of it?

A. Correct.

Q. So does that mean it was your decision?

A. I fully supported it, yes.

Q. You fully supported it, but whose idea was it other than yours?

A. I don't know where the idea -- whether it came from a consultant and we supported it or whether I brought it forward as a possibility. I can't say now definitively that I put up my hand and said that hey, let's use SMA, and explain to everybody why we should do that. We had a full roster of consultants that --

Q. I know. It's just that we don't have any report from a consultant suggesting that anyone at that point was recommending its use, so that's why I ask the question. Is it likely it was you, that that is where the original idea came from?

A. I don't know. I don't know whether I knew pavements that well to be able to do that. I mean, I was getting more familiar with the types of things as we went through and analyzed, but I do remember that there were conversations because I remember these other mixes being discussed. So I don't know whether there was an analysis of SMA or how it came to be, but other than that was the way that we decided to proceed.

Q. Fine. There aren't any supports that suggest otherwise. I'm going to come to the Burlington Street in a minute, but there's no reports in the inquiry data that has been provided that suggests there was any external or internal consultant -- any external consultant or internal City analysis on that point. So you can't say for sure; is that fair?

A. I can't say for sure that

I, you know -- either way there was or wasn't my idea. It very well may have been but I just don't -- you know....

Q. Don't recall at this time?

A. Yeah.

Q. Okay. If we could go to overview document 3 image 12 -- actually, Commissioner, I'm going to start on another topic so I wonder if this might be a good time for the morning break. I see it's 11:23.

JUSTICE WILTON-SIEGEL: Sure. That's fine, let's return at 20 to 12:00. 11:40. Stand adjourned until that point.

--- Recess taken at 11:23 a.m.

--- Upon resuming at 11:40 a.m.

MR. LEWIS: Okay, we're back. May I proceed, Commissioner?

JUSTICE WILTON-SIEGEL: Please, proceed.

BY MR. LEWIS:

Q. Just before the break, Mr. Moore, we were just talking about the -- in June 1999 and the meeting with Ecoplans where SMA was discussed. And at that time you were still

the SPO manager, the special projects office manager. Do you recall -- you said you didn't recall who or if anyone other than you was involved in that decision. You didn't have a specific recollection at this time. But who else could have been involved on the City side at that point? Who was still in the SPO?

A. I'm not sure. I know Chris was the environmental management manager at that time I believe in the office beside me, and -- I mean, even though we had separate jobs after the LINC followed up --

Q. Mr. Murray wasn't on the Red Hill Valley project, though, at that point in time?

A. No, but he was the environmental manager for special projects as well, I believe. Yeah, he was a manager on his own at that time, I believe. So I mean, I wasn't -- in 2000 -- what? 1999?

Q. Yeah.

A. I guess John Vandermark must have been the director of special projects at that time.

Q. He was still at that

time?

A. At that time he was the director special projects.

Q. Right. And you did -- described earlier his -- a little bit his and your roles. It sounded like the way you described that that -- you know, he was -- we talked about that, that he was on the -- sort of the administrative side, HR side, and you were on the technical, operational side of things. So it didn't sound like the kind of thing that he would have had a decision in, but are you saying otherwise?

A. Well, I mean, we did work very collaboratively as a team. I mean, there was nobody that just went away and made a decision on their own. Hey, we're going to use this. It was very much a team; as well as the consultants that were still working on it at -- you know, at that time. We had a number of consultants. I mean, at 1999 I think we were, you know, pretty actively working with the province and everything else on trying to get approvals and funding reinstated and those types of things so....it's not like we had a technical team to begin with. The technical team was the consultants. We were -- we were the

management and administration of those. So if -- you know, if they brought forward a recommendation, you know, this is the way you should proceed or if we had a question to them, how do you think we should proceed, then, you know, it was brought forward and looked at and discussed, and, you know, how we decided. -- some discussions were shorter than others, but I wasn't by my stretch of the imagination running the technical show at that point in time by myself.

Q. I understand. But we don't have any, as I said, reports that the deal with that. So I'm just asking inside the City who could have been involved in that decision. You said possibly Mr. Vandermark and possibly Mr. Murray?

A. And Mr. Oddi because, I mean, he was -- he was available to us. His title may not have been that, but he was still -- he was still involved.

Q. Well, I think Mr. Oddi was still there at the time in the special projects office in 1999?

A. Yeah, because 1999 was the end of the City and the beginning of the

region, and it was a -- it was a very fluid time on who did what.

Q. Okay. But again, you don't have any specific recollection of that. You're just saying that those are people that may have had input on the decision; is that right?

A. Yeah. That's -- that's -- you're correct.

Q. Okay. If we could, Registrar, go to overview document 3, image 12 and 13.

And while he's pulling that up, you recall -- this is dealt with in paragraph 19 that straddles the two pages -- that in October 1999 the City of Hamilton placed SMA on Burlington Street between Victoria Avenue and Wellington Street. Do you recall that project, Mr. Moore?

A. I do, yes.

Q. Okay. And am I correct you were the City's lead on that project, as part of the special projects office?

A. I believe so.

Q. Okay. And again, by -- it's late in 1999 now, but you're still the

special projects office manager at that point, correct?

A. Right.

MR. CHEN: Mr. Lewis.

MR. LEWIS: Yes.

MR. CHEN: Never mind. We had lost the commissioner for a couple seconds, and I was curious to know if he's still there.

JUSTICE WILTON-SIEGEL: I'm still there.

MR. LEWIS: Okay.

BY MR. LEWIS:

Q. And you're listed as the co-author of a 2002 CTAA paper which is titled "Stone Mastic Asphalt SMA: A Solution to Mitigate Rutting at Heavy Traffic Intersections and Bus Lanes."

And do you recall that paper?

A. Somewhat. I remember the title. I remember the issues, yes.

Q. Okay. And we'll go to it in detail, but just looking at the subparagraphs at the top of page 13 there, the paper indicates:

"The purpose of the placement of SMA on Burlington Street

was to evaluate the use of SMA to mitigate running in high traffic areas and to assess the potential of SMA for use on a proposed multi-lane expressway." (As read)

And, secondly, that:

"The MTO performed skid resistance testing on that SMA placement using its ASTM E274 break force unit, obtaining measurements by lane between FN44 and FN51." (As read)

Which they did twice in November 1999 and May 2000.

And the third (c):

"Hamilton also had British pendulum testing conducted on this SMA placement obtaining average measurements of 67 in February 2000 and 69 in May 2002." (As read)

So just generally speaking, do you recall those topics being covered in the paper?

A. Not with any great detail, no.

Q. Okay. So we'll go to the detail. Could we go to Golder 1567.

And this paper is part of, as I gather, the CTAA does, they publish their proceedings from their annual conference. Is that --

A. That's correct.

Q. Yeah. Okay. And this is one of the papers from their 2002 conference. Go to the next image, Registrar.

Yeah, in Calgary. Did you go to that one? Do you recall?

A. I believe so. I believe that was one of the first ones I went to.

Q. Okay. And image 3, Registrar. And here's the paper. "Stone Mastic Asphalt a Solution to Mitigate Rutting in Heavy Traffic Intersection and Bus Lanes," and listing as authors, Paul Anderson, President Landtek in Hamilton, Keith MacInnes at the Canadian Asphalt Industries in Markham, and you.

So first of all, Landtek, what are they?

A. Landtek was a geotechnical consulting firm that was heavily used by the City to look at our pavements, you know, and they did a lot of our testing and mixed designs and analysis of our pavements on our road -- in our road program.

Q. Okay. So someone that you dealt with quite a bit?

A. Yes.

Q. Okay. And the Canadian Asphalt Industries, what's that?

A. Yeah, I didn't know Keith at the time.

Q. Okay. So you knew --

A. Canadian Asphalt Industries is a marketer of asphalt cement.

Q. Okay. So you only became aware of or familiar with Mr. MacInnis through this paper?

A. Yeah, I think the first time I met him was probably at CTAA.

Q. At the actual conference?

A. Yeah.

Q. Okay. And did you write any of the first draft of this paper as the

primary author?

A. My only involvement would have been in background, or, you know, why we did it or support, none of the technical. I don't recall specifically what actual sections I may or may not have had input on.

Q. Right. Okay. So could I call that a review-and-edit capacity? There may have been some sections that you edited --

A. Sure.

Q. -- but you don't recall specifically?

A. Possibly, yes. For -- you know, in terms of, you know, where and when and, you know, what did we do it, or why did we do it, or those types of things or background information that, you know, may or may not have been included or correct in the first draft that Paul submitted around.

Q. Right. And so as part of that you would have to, then, review the original draft in order to provide whatever input you were then going to provide, right?

A. Okay, yes.

Q. And as well you said

"support." By that you mean also providing information to them that was in the possession of the City?

A. Yes. If Paul needed, you know, background information on other roads or other uses or other results from other -- that, you know, provided him context to what he was reporting about, then I would be the lead. I may not have provided it, but I may have directed him to the place where we had it or if we had something in that regard.

Q. Right. Or had someone else send it to him --

A. Correct.

Q. -- depending on what it is?

Right. But you were the contact for that and would have made the directions in order to provide the information that he requested or needed?

A. Correct.

Q. And is it fair that having -- you know, being in a review-and-edit capacity as you've just described, you're generally -- your involvement, that if there were

any factual inaccuracies that you were aware of, that's also something that you would have corrected?

A. If I was aware of it, yes.

Q. Right. You can't correct something that you're not aware of being incorrect, but if you were aware of it -- of an error, you would correct that factual error?

A. Yes.

Q. Okay. And overall is it a fair summary that the purpose of this project on Burlington Street as outlined in this paper was to first evaluate the use of SMA, to mitigate running in high traffic areas, and, secondly, to assess SMA for use on the still to be built Red Hill Valley Parkway?

A. I believe that -- that was the initiative behind the placement of the SMA on Burlington Street.

Q. Right. That's why you were doing it?

A. That's why we were doing it. We wanted some -- you know, we had heard that it was difficult to place, and, you know, we

wanted some experience observing a contractor placing it, and what we might run into when we did place it in the future, and what it looked like and how it performed. And specifically we -- I remember that we were having a great deal of problems with our current mixes in areas where buses stopped, and this was -- we were looking to this mix in order to address that rutting problem.

Q. Right. And -- right. And so then the rutting being the one part and the second one for the Red Hill, to assess it for use on the Red Hill?

A. Yeah.

Q. Okay. And were you the person from the City who directed this placement, to evaluate the SMA for these purposes that we just described?

A. How do you mean, "directed it"?

Q. Well, someone had to -- someone had to direct the project.

A. We put the tender out. We put the tender out for it or -- I don't know whether we had probably Paul's help in deciding on the mix and the parameters and those types of

things. And yes, I was the -- it was basically I was the initiative behind doing this project and --

Q. That's what I mean. I don't mean, you know, coming up with the mix design and so forth that you hired the people to do, but the overall initiative to do the placement for these purposes, that was, if I'm correct, you.

A. That was me, yes.

Q. Okay. Thank you.

And if we could go to image 8 of the paper.

And each of these images are two pages from this hard copy document. And looking at section 5 on the page on the right, page 209 of the CTAA proceedings titled, "SMA Performance and Monitoring Results." And it's the first paragraph I'd like to look at first, if you could call that out.

And this paragraph indicates that skid resisting testing using the British -- British pendulum tester, it's the British portable skid resistance tester was undertaken in February 2000 and again in May 2002, and it resulted in British pendulum numbers. So that's the first

thing. They did British pendulum testing in those two occasions; is that right?

A. That's what it says. I don't -- I didn't recall that but...

Q. Okay. But you must have known it at the time. You don't have a specific recollection of it now.

A. It's very likely.

Q. Well, and you edited the paper. You're listed as an author, so you must have been aware of it?

A. I may very well have been aware of it, yes, but I don't...

Q. All right. You're saying that you -- you may very well, but you don't recall now?

A. I don't.

Q. Okay.

A. I mean, I think they did a whole lot of testing on different things, so whether this was just one little thing. I mean, that was what Paul was doing, was testing it in whatever the relevant regard was that we, you know, needed to do.

Q. Right, and you'll see in

the -- it refers, though, in the middle of that paragraph that:

> "The values for Burlington Street's SMA section are given the table 5 along with historical skid resistance data for other asphalt mixes used in Hamilton that include trap rock aggregate and steel slag aggregate." (As read)

So that's what we were talking about before on the LINC, right?

A. I believe that. I don't know where else any of that information might come from, but that -- so that would be the only place --

Q. Right, and it wasn't Landtek that did that testing. It was JEGEL, correct?

A. Correct.

Q. So you must have provided this information information to Mr. -- sorry --

A. Paul.

Q. Yes. Yeah. At Landtek --

A. Yes.

Q. -- in order to, then, write this paper and compare it to the SMA results, right?

A. I don't disagree with that.

Q. Okay. And then, Registrar, if you could call up the next three paragraphs and actually -- it's those three and then -- might be hard -- can you also call up the first paragraph on the next image at the same time. Thank you.

So these paragraphs indicate that the Ministry of Transportation of Ontario did skid testing on the Burlington Street SMA in 1999 and 2000 using the MTO's ASTM E274 break force unit, and the paper then explains how that device operates and how it was conducted and refers to the ASTM standards about how to conduct the tests. And then at the bottom of the third paragraph it indicates:

"The skid trailer test measurements indicate friction numbers of 45 to 51 at 50 kilometres per hour. The skid

testing" -- sorry -- "the skid trailer numbers cannot be compared directly to British pendulum numbers. However, skid trailer friction numbers at 50km per hour of 45 to 51 are regarded by the MTO to be consistent with mixes having excellent skid resistant properties. Figure 7 and 8 indicate that the SMA is performing as expected at the two test sites." (As read)

So again, you were involved in the review and edit of this paper. Is this something that you were aware of at the time, at the very least having reviewed the original draft?

A. I may have read it at the time, yes, but I would have had nothing to add or edit from that, so how deeply I looked at that, I don't know.

Q. Right. And again, in terms of what the MTO -- what its view of of friction numbers and the characterization of it as excellent, am I correct, that that is something

that you at the time would not have had insight into, so you just would've have accepted it?

A. I wouldn't. The fact that it was at 50 kilometres an hour, I mean, I don't even know that there was, you know, numbers related to speed. I mean, is it 45 at 50 or 45 at 90 or 45 at 120. It doesn't -- it wouldn't have meant anything to me at that point in time.

Q. Okay. And then therefore, and the characterization, though, of it as being consistent with excellent skid resistance properties, it's not something that, then, you would have had the expertise to disagree with it? You would have just accepted that that's the case; is that fair?

A. That's what Paul wrote, and that's -- you know, he was the expert in the field in asphalt, and, you know, he was the one coordinating with the MTO. I don't remember any discussions I had with MTO in this regard at all.

Q. Okay. When you said to us that you must have been aware that the MTO at least was conducting the testing at the time, would you not have -- permission would have had to have been given for this to be conducted?

A. Yeah, they -- Paul might have called me and said something to thing effect MTO wants to do some testing out there, and I would have put him onto our traffic department or our roads department. You know, if they needed closures or signage or something like that, they would have been the relevant groups to coordinate that. You know, so what time of day or what day, or, you know, is it night or the weekend. I don't know. But whether I facilitated that, I don't recall.

Q. Right. Yeah, I'm not suggesting that you went and rode with him or anything.

A. Yeah.

Q. But you think you're likely aware that it was facilitating and maybe facilitated it happening, but not more than that?

A. There's nothing more than that. I mean, there was a thousand other things happening so...

Q. Okay. And it goes on in that -- bear with me for a moment.

Which is image 8, Registrar? Sorry, I'm just lost on that. Could we go to

image 8. Okay. If we could go to -- try image 9 now. Image 10. Just give me one moment, please. Yeah. Okay. So if we could go back to image 8, I found it. I apologize.

So in the first paragraph under paragraph 5, as we discussed, it talks about the values given in table 5 along with historical skid resistance data for other asphalt mixes used in Hamilton that include trap rock, aggregate and steel slag aggregates. And then it says:

"The results indicate the SMA has high skid values that are consistent with new pavement surfaces, and the values are significantly higher than those found for old trap rock mixes and polished limestone aggregate mixes." (As read)

And then if we could go to table 5 which is at image 9, the next page, the bottom there. If we could call that out.

It's a summary of British pendulum skid resistance test data. And so as I read this shows the test results from SMA on Burlington Street on the far left column there.

It shows the range and -- of that testing. Do you see that? On the left side.

A. Okay.

Q. All right. And then the other columns there on historical data. First it's the -- so the second column from the left is "pavement skid numbers for various pavement types less than one year old," and it gives a range and an average there.

And then the one in the middle, the column in the middle is "pavement, historical data, pavement skid numbers for trap rock aggregate mixes in service over three years," and gives the range and the average.

And then "historical data of pavement skid numbers for steel slag aggregate mixes in service over three years," gives the range and the average.

And then lastly, "historical data pavement skid numbers for limestone aggregate mixes in service over three years."

And so this appears to be as we discussed, at least in terms of the trap rock and steel slag aggregates, at least it would include the LINC results that we talked about

earlier today, right?

A. Possibly, yes.

Q. Steel slag's not -- I think you said that that --

A. Well, we used steel slag -- we used steel slag on a lot of city streets and had historically, you know, for, you know, well before my time at the City and region. So it was a common use, so I don't -- you know, it's not the only place it was used. That's all I'm saying.

Q. Okay. That's fair.

And then the limestone, so that's certainly not from the LINC. That -- as we discussed, that's another category, right?

A. That's typically the standard aggregate that's available in the area. I mean, you have to go outside of the area to get anything but limestone. It's quarried material. I mean, Hamilton is the centre of all of the limestone quarries in Ontario, you know, for that --

Q. Right, and then --

A. -- stuff.

Q. And then -- and this

data, though, as stated earlier this is Hamilton's data. This is -- these are test results on Hamilton's roads, right?

A. That's what it says, yes.

Q. Right. And so it does appear that there was skid resistance testing that was done by Hamilton other than on the LINC, right?

A. I can't say that either way from --

Q. Well, that's what it says, and you would have corrected it if it was incorrect, would you not?

A. If I knew at that time, but...

Q. Well --

A. I mean --

Q. But you --

A. I don't know. Like Paul --

Q. You would have been providing this information to him. You told us that you were the one that would have been directing that information from Hamilton be provided to Paul, so --

A. If he was looking for that information like the stuff off the LINC, that wouldn't have been available to him because he wasn't involved. But like I said, he was the City's tester under contract for a number of years historically, so -- in fact, he used to work for the City at one point in time, so he could have access to other numbers that I didn't provide him. That's all I'm saying.

Q. Okay. But in any event it's information that was the City of Hamilton's information, respecting the City of Hamilton's roads, right?

A. Okay. I'm not sure --

Q. You disagree with that? I mean, that's the paper that you were a co-author of says.

A. Historical data for trap rock mixes and service. I assume these are in relationship to City of Hamilton roads.

Q. Okay.

MR. CHEN: Mr. Lewis, if I could just point out that there's reference to footnote 8 to get some traction to this.

MR. LEWIS: Yeah.

BY MR. LEWIS:

Q. Yeah. And so if we go to the next image, 8 is at the bottom of the right-hand side. Skid resistance of -- Krakowski, E., "Skid Resistance of Urban Streets," internal report commissioned by region of Hamilton-Wentworth, 1976; is that right? Do you know who E. Krakowski is?

A. No, I do not.

Q. Okay. Okay. Thank you. Thank you, Mr. Chen.

And as we said just when we started to talk about this paper, Mr. Moore, the -- one of the two purposes of this SMA placement was to evaluate this road -- this placement of SMA for use on the Red Hill Valley Parkway, correct?

A. Yes.

Q. And as part of that skid resistance testing was performed, correct?

A. No, I don't necessarily agree with that. I don't think my mind was to that, I mean, other than SMA was already a de facto high friction mix that the MTO used in that area. So we were looking specifically on its

placement and how contractors react to it, and its resistance to the rutting from slow moving trucks. That was my primary interest. I had no ability to, you know, say it was a good friction mix or not a good friction mix. The MTO had already decided that when they had it listed in their premium asphalts as far as I knew.

Q. Well, I think that the MTO added it at some point after this to their surface course direction, but we'll ask the MTO about that.

This paper of which you are a co-author refers extensively to testing of different sorts that was done with respect to the frictional qualities of this placement. And as stated in the paper and as you've acknowledged, part of the purpose of the placement was to evaluate suitability of SMA for the Red Hill. So I'm going to suggest to you again that part of that analysis was -- part of that assessment was the skid resistance qualities of this placement.

A. I'm not sure that that's the correct characterization. We had the project to assess what was doing and the paper came -- arose out of that project. I mean, Paul being the

technical guy, he determined what testing specifically would be done in order to give us the findings we were looking for, but the -- and the initial direction that the City was looking at was, you know, our -- if we put this out as a tender, are contractors going to bid it extremely high, because it's really hard to work with or really, you know, really an unknown. So we were trying to get a cost profile and what does it take to work with and give us an indication of what we might want to refine any specifications to it in order to use it in the future.

But I think, you know, the thoroughness of the paper, you know, was enhanced with all of the friction work, but I don't know that it was something that was paramount to us at the time.

Q. So perhaps it wasn't paramount, but it was part of the assessment that was engaged in?

A. It was part of the assessment that the report looked at, yes.

Q. Right. And not just the report, though, since the purpose -- sorry, the report, you mean the CTAA paper, right --

A. The paper.

Q. Okay. That's certainly what -- part of what the paper was looking at, but as referenced in the paper, presumably it was also what the City and you were looking at as part of the assessment of the suitability of SMA for the Red Hill Valley Parkway?

A. Other than the conclusions that Paul said that, you know, it provided good friction and stood up well, I mean, other than that there was no details in there that, you know -- if he would have said, you know it doesn't hold up and it looks like it's a bad mix in what you're doing, that would have rang true. But alls it did was reinforce the fact of all of the information that we had in terms of background that had been used for years and years and years in Europe and high speed roadways, and it had all these good qualities, but, you know, we weren't aware of them.

Q. The results were good, and it had confirmed what you had understood?

A. That's correct.

Q. Okay. And I think you just referred to the conclusion. I think you're

referring to on the left-hand side under "Summary of Findings." If you could expand number 6 there, Registrar:

> "Monitoring data confirms SMA offers excellent rut resistance and skid resistance, and is therefore well suited for pavement rehabilitation at intersections with heavy volumes of commercial trucks. It is expected SMA will offer the same benefits for rehabilitation of bus lanes." (As read)

Is that the paragraph you were talking about?

A. Well, it's part of it. I think when you were -- when you took me to a previous one, there was a summary in the last sentence and a half about friction and --

Q. Okay. And if you take that down, just again to make sure we're focusing on the right thing. If you go to the previous image, Registrar. At the top of 210 there where

it says, "However, skid trailer --

A. No. Go one before that maybe.

Q. Maybe at the end of the first paragraph?

A. Possibly that's where I -- yeah.

Q. Okay. It says --

A. -- skid resistance under extreme traffic.

Q. Okay. Thank you. You can take that down. I'm going to move to a different topic. Okay.

When you go back to the Red Hill Valley Parkway project charter, and that's at image 11 of document 3. And just back to the roles and responsibilities of you in particular on the Red Hill Valley Parkway project.

In the second paragraph it refers to one of your primary responsibilities is the management and administration of the consultant team establishing the primarily engineering and design blueprint for the project.

So I'm wondering what does that mean about preliminary engineering and design

blueprint? Now, I know what a blueprint is, but it --

A. Well, I think it's -- when they are referring to preliminary -- I mean, it's the direction, the overall direction that we're going -- the 10,000-foot view of the project. You know, when are we going to build it; how are we going to build it; how are we going to cut it up into manageable sections; how are we going to manage, you know, existing traffic while we build this. You know, what is the staging; how does it -- you know, you can only build a certain part of the project. If you have to cut down vegetation, then that vegetation has to be managed during the winter in order not to affect migratory birds, and you have to stay out of the stream during certain periods of time.

So all those things went together, and we had -- I used to say we had every ologist in Ontario working on this project in order to work together to come up with a successful delivery.

Q. Okay. And in terms of the design itself, the next the sentence says:

"He's charged with developing

a design that will meet the terms for any governmental project approvals or permits that are required." (As read) So is that encompassed in what you were just talking about?

A. For the most part. I mean, we -- the approvals set out, you know, certain things with regard to drainage, so you had to give direction to a consultant. Okay. This opening for this bridge has to be this big, and, you know, you can't have any in-water work in order to fix it. So you have to think long-term on how we're going to build the bridge now so that we don't have those impacts. That's the type of direction. Then they would go away and come back and say, okay, given all that, you need this span, and because it's this sku and this wide you can only have this type of structure or you have two different -- you know, which way would you like to go. This one is this cost; this one is this cost, but these ones have these impacts. So, you know, you would have to work with them to be able to understand and make an informed decision to give them direction on how to proceed with that type of

thing.

Q. And there's a number of design reports and drawings with respect to the highway itself, and we've got the preliminary design report, different iterations of that which I'll get to in more detail, but the preliminary design report, some excerpts from a draft final design report and then detailed drawings of the design and geometric elements and features which were tendered as part of the project. And were those all elements that you were involved with?

I appreciate the detailed drawings you didn't do them, but let's start with the preliminary design report. Is that something that you had involvement in the creation of?

A. I would say yes.

Q. Okay. So -- and just generally speaking before we go to them, what's the purpose of the preliminary design report?

A. Well, it sets out parameters, whether there be geometric or, you know -- what decisions we've taken with the road. I mean, there was a number of negotiations with various levels of government agencies and certain criteria that were brought forward from the

original environmental assessment and direction from counsel. So it's sort of the snapshot, if you will, at that point in time; what decisions have we made or are we progressing forward on. It wasn't necessarily the final. I always said that, you know, in order do functional planning you had to -- to ensure that the functional planning was right, you had to do almost half of your preliminary planning, and once you had your preliminary planning, you had to be well into your final design or else you were showing, you know, conclusions that may or may not be able to prove.

So you needed to do enough engineering ahead to be able to support what you were showing in the document. But it was a snapshot at the time that said, this is how we're going to progress this project. I didn't necessarily cover everything, and there was still things to be investigated and maybe even approvals to be achieved. But it was -- it gave a good idea of the direction we were going.

Q. Okay. If we could go to a different overview document, 3.1, Registrar. Image 4. And in paragraph 4, second sentence it refers to:

"A preliminary design report was prepared on January 31st, 1990 for the whole connection between highway 403 and the QEW. The 1990 preliminary design report addressed the north-south section which became the Red Hill Valley Parkway as well as the east-west section which became the Lincoln Alexander Parkway." (As read)

And so going back to 1990 you were a project engineer with the region at that time, right? It's before you were the manager of the special projects --

A. Yeah, I might have been SPM at that time.

Q. Okay. Senior -- right. Senior project at -- and so were you involved then in -- because there's the later preliminary design reports, but this preliminary design report about the entire project, is this something you had involvement with, in creating?

A. Yes. We were a small

team. There was a director, a manager and myself and a tech, so I mean everyone was involved in the putting out of this document.

Q. Right. Sorry, you said, director, manager, you and who?

A. A technologist.

Q. Oh, technologist. Okay. Okay.

And so who is the primary drafter? Is this done by the City or this sort of primarily consultants that are drafting it? Do you recall?

A. I don't recall. I have a sense that it was put together by one of the consultants.

Q. Okay. All right. And what was your role?

A. Review and input and provide information.

Q. All right. And back at that time six lanes were contemplated for the north-south section at least; is that right?

A. Yeah, the original approval was for six lanes. The approval still is for six lanes. The only change was to build four

lanes initially.

Q. Right. And do you recall if -- what the impact was of that change on the geometric design?

A. I don't. It wasn't -- geometric design wasn't really my bailiwick at that time, or even know. There was extensive work with the consultants and MTO and with John Vandermark specifically on, you know, how could we provide everything we needed to provide within the confines of where we were being directed.

Q. And if we could go to image 5, specifically paragraph 9. There are -- well, I guess right above in paragraph 8 refers to the alignment revision in 1994, in the four lane alignment. You see that?

A. Yeah, there's nothing --

Q. That's nothing in there. Yeah, no, it's in the --

A. -- about the four lane.

Q. In the excerpt below that? It was just because we were talking about the four lane. Does that accord generally with the timing?

A. Yeah. There was a lot of

proposals that went back and forth between the province and the City --

Q. Okay.

A. -- or the region.

Q. All right. And then if we go to paragraph 9 there's -- the preliminary design report was revised in 2003, and there's actually -- there's two versions in 2003. This refers to the second one in November 10th, 2003 which supplemented the 1990 one that we were already looking at, to be read in conjunction with it, and that the November 2003 preliminary design report dealt mostly are engineering features.

Was this a document in the earlier iteration in March of -- sorry, in February of 2003 ones that you were involved in the creation of?

A. Well, I mean, I was involved in all of -- the creation of all the PDRs, you know, in some way, shape or form whether it was providing support or, you know, carrying out the preparation or direction of exhibits or those types of things.

Q. Okay.

And, Commissioner, just for

the record there's also a discussion of the February 2003 primarily design report in overview document 3, paragraph -- sorry, image 13, paragraph 20.

So do you recall -- if you could take that down, Registrar.

Do you recall the process for preparing the 2003 iterations of it and who the primary drafter was?

A. I think the -- I know the environmental team was quite involved in the preparation of all documents because they were so interrelated. I mean, you couldn't really read one without referring to -- you know, whether it was a fisheries direction or a terrestrial biology, you know, direction or storm water and -- I mean, this was sort of a summation of the direction. I don't think there was a massive change in, you know, the City, region wants to create a roadway linking 403 to QEW. That was still a -- you know, the major thing we were doing, and that's why the -- it keeps referring back to the original preliminary design, but the change mostly is the alignment, the number of lanes, the access points at interchanges, the

orientation of those ramps. I mean, there was a lot of ramps realigned to mitigate the impact on the environment. So that's primarily what that was.

So it -- I don't know the PDR really gets into reasons. It's more outcomes of results, and the discussion of why you went to a certain thing or why certain things was considered was more back in the environmental document.

Q. If we go then to overview document 3, paragraph 13. And this is on February 25th, 2003 you e-mailed Mr. Murray what we call the latest version of the preliminary design report.

And if we could go to the draft itself. It's at HAM50707. Might want to throw -- actually could we pull up the native version of that so we can show the track changes, please.

And I think you indicated you weren't sure if it was the consultants that did the initial draft of that or not; is that right?

A. Yeah, I don't know -- I don't know whether we did in-house with our -- through our environmental planner. I don't know

who was assembling the document.

Q. Okay. Right, and assembly, though, of course -- is coming from a number of -- implies that it's coming from a number of sources, the information in there is coming from a number of sources?

A. Correct.

Q. Okay. And there's a number of comments and revisions made by you.

If we go to image 3.

A. 3.

Q. There we go. Thank you.

So we see on the track changes, there's one change by Marisa and one by you there. Who is Marisa?

A. I think she was our environmental planner, but I can't be sure. We had three or four or five of them, but I can't -- Marisa?

Q. Was it your assistant?

A. At this point in time?

Q. Yeah.

A. Oh. Oh.

Q. There's a Marisa Culietta

Pugliese (ph), is that --

A. Yeah, but I -- when is this? What year is this?

Q. This is 2003, February 2003.

A. It may have been. I don't know. I don't know what comment -- where is that comment that she's made?

Q. It's right there on the right-hand side. It says, "Marisa," and then page 3, "maintenance procedures."

A. Yeah, I don't --

Q. Don't know?

A. I wouldn't have thought that she was making comments on this, but possibly on my behalf. I don't know.

Q. Right. If it was your assistant, then she would only be making them presumably at your behest; is that right?

A. I don't know.

Q. All right. And now, Mr. Oddi testified that he didn't have any role in creating this document or editing it. Do you agree with that?

A. I've nothing to show that

he did or didn't, but it seems a little surprising to me, but I thought he would have been involved in this.

Q. I think he might have joined the office after this, just slightly after.

A. Yeah.

Q. So -- okay. And you're sending Mr. Murray this as the latest version. Did he have a role in creating this?

A. So this is before he's director?

Q. No, this is in February 2003.

A. So he -- no, he's not the director yet?

Q. It's before the project charter.

A. Okay. So like I said, he was the manager of environmental planning for special projects. So just like I was the technical side of special projects, he was the environmental planning manager for special projects. So this would have been something that I would have thought that the environmental group was putting together at that time, but I can't be

sure. There was a group of people still working on the freeway. Although there was nothing in your -- you know, if it said special projects and freeway ongoing --

Q. I think Mr. Murray -- I think Mr. Murray started in July 2007 as the --

JUSTICE WILTON-SIEGEL: 2002.

MR. LEWIS: Sorry, 2002, as the acting director of the project, so....

THE WITNESS: Well, then he would've been the director. That's why I would have been sending it to him.

BY MR. LEWIS:

Q. Right. If we could go up to the index on the first page, first image. So you can see the kind of things that are being dealt with here: traffic operations, design proposals, structures, utilities and municipal services, recreational facilitates.

Then going onto the next image, rights of way requirements and corridor control, construction sequence and contract breakdown and finances. And then the -- a number appendices dealing with environmental issues, alternatives, geotechnical investigation reports,

summary of (indiscernible), CE funding and then a number of exhibits.

So is this -- as you said, you're sending this to Mr. Murray. Is this the sort of thing, though, that he would have been involved in drafting or is he receiving this for information and approval?

A. Well, I mean, as a director he's responsible for putting it out my mind so....

Q. Right.

A. You know, I'm giving my comments in whatever regard. I'm sure it's not the first time. There was, you know, several iterations and....

Q. Okay. Well, this is one of the two that we have. But you're -- there were several of these, yes?

A. We went back and forth on this a lot formally or informally.

Q. Okay. Actually there were some more. Okay.

If we can go to section 2.7, which is -- I think it might be image 9. Next image, please. And one more. Yeah, scroll up,

please. There we are. Thank you.

And then there's the section here 2.7(a) on speed enforcement. You see that in the middle, 2.7(a)?

A. Right.

Q. And it's referring to the design speed of 100 kilometres and the posted speed of 90 kilometres an hour.

A. I see that.

Q. Yeah. And do you know when this design speed was first set, of the hundred?

A. I think it's a result of the geometrics that were negotiated as a result of the province and the environmental review.

Q. All right. What do you mean " the negotiations"?

A. Well, I mean, it says in the next sentence, "the speed's been set based on the topography and spacing of interchanges." So, I mean --

Q. Right.

A. -- once -- you know, where do you have an interchange; where do you have a ramp; where don't you have a ramp; how many

lanes can you fit in. You know, are you going on this side of the creek or that side of the creek.

That sets the geometry of the roadway through the valley, and that's based on, you know, the topography of the valley and the natural features that you're trying to reduce the impacts on. And once you set that, then the curvature of the road, it fits to a -- you know, if you can only get this much of a curve in, then that's a design speed of this.

So the -- well, I mean, obviously straight parts have an unlimited design speed. The curves, for lack of a better -- determine the maximum design speed that you can have.

Q. You say that straightaways have an unlimited design speed. What --

A. Well, they are straightaway. There's no sight distance requirements because you can see. I mean, other than operationally.

Q. So you mean when there's no vertical curves or horizontal curves?

A. That's correct.

Q. Okay. And did you have any involvement in setting those speeds posted or designed?

A. No. That wasn't -- that wasn't and isn't, never, never has been my expertise or....

Q. Right. And who made that decision?

A. Well, mostly our consultants with -- Mr. Vandermark was very experienced in that regard, as well as our previous director or -- yeah, at that time it was Dale Turvey. And then I think we were leaning mostly on our consultants and our -- it's not -- it's not a decision. You don't just say the design speed is this. You lay out the alignment, and the alignment dictates what your design speed is. I mean, if you had a curve that was 90 and you wanted, you know, 100 kilometre an hour design speed, you had to flatten that curve. If you had to flatten that curve, you know, did you have to change its orientation through a bridge or make an opening wider or move the creek over to achieve that.

So, I mean, it's -- you know,

so it's a combination of this is the best orientation we can get, and this is the design speed that goes along with that.

Q. Okay. If we could go to images 14 and 15, please. Image 15 as well, please. Can that not be done on the native document, Registrar? Is that the issue?

THE REGISTRAR: It might be easier if I do it OnCue instead of the native --

MR. LEWIS: Okay.

THE REGISTRAR: -- unless you need to see a comment or something.

MR. LEWIS: Yeah, we just -- well, we just -- I do need to see the track changes.

THE REGISTRAR: I think maybe I'm going to do it one at a time on this.

MR. LEWIS: Okay. That's fine.

BY MR. LEWIS:

Q. So there's a section here on pavement design 3.5.2 which refers to pavement depths. You'll see that. It's there, and if you could continue down. There we go. Yeah, that's good. Thank you.

And continuing on to the next page, it indicates that modified HL1 or an SMA stone mastic asphalt are being considered for the surface for wearing (ph) asphalt mixes, and then goes on to -- within the track changes to have some commentary on SMA and its qualities -- include SMA has been shown to have improved surface texture and skid resistance, and also talks about the reduction in noise and a 5 to 8 percent premium in cost.

And if you could scroll down a little bit further, Registrar. Okay.

The changes, that doesn't show up there but I can tell you that the track changes show as being by ITS. Do you know what that is?

A. I don't. ITS?

Q. I'm wondering if that is maybe a generic thing for the City? You don't know?

A. I don't.

Q. Okay. I mean, there's other changes in here that are by you and Marisa and so forth, but it says by ITS. In any event, it speaks of consideration of using SMA or HL1 and including noise reduction and so forth. So does

that continue to be a consideration, is that right, the noise reduction?

A. Yeah. I don't -- I think it's consistent with everything that we were doing with regard to it, yes.

Q. Okay. Do you recall if these were your changes?

A. I don't.

Q. Can't say one way or the other?

A. No.

Q. And --

A. It very well may have been.

Q. Right. Okay. And there's no mention in here of a perpetual pavement structure yet. Am I --

A. At that point in time, no.

Q. Yeah. Hadn't been considered yet?

A. No.

Q. Okay. And then the last thing perhaps before we go to -- I would suggest a break for lunch. Registrar, if we could go to

image 12. I think it's the next one. Yeah.

And the design criteria in table 2, you'll see there's references to various highway geometry categories, and then at the bottom there are projected traffic volumes. Do you see that there? Projected traffic volumes, AADT in year 2021. What's AADT?

A. Average annual daily traffic.

Q. Right. Number vehicles?

A. Correct.

Q. All right. And at that time was that what was anticipated depending on the section of the road? 70,000 from Pritchard to Mud Street?

A. If that's what it says, I -- the planning group and the traffic group were the ones that were generating this type of information.

Q. Okay. At the time, though, that is what was in there. That's what you had assumed in your projections.

A. -- street to Brampton that 55 to 60 does ring a bell. It looks familiar.

MR. LEWIS: Okay. Would this be a good time to take a break, Commissioner, for lunch?

JUSTICE WILTON-SIEGEL: This would be an excellent time. It's right at one o'clock. Let's return at 2:15. We'll stand adjourned during that period of time.

--- Recess taken at 12:59 p.m.

--- Upon resuming at 2:14 p.m.

MR. LEWIS: Good afternoon, Commissioner.

JUSTICE WILTON-SIEGEL: Good afternoon.

MR. LEWIS: May we proceed?

JUSTICE WILTON-SIEGEL: Please do.

MR. LEWIS: Thank you.

BY MR. LEWIS:

Q. So, Mr. Moore, we were just talking before lunch about the 2003 preliminary design reports, and if we go to overview document 3.1, image 7, Registrar.

In paragraph 16, which is the description that the inquiry has not received any final design reports to date, and we'll come to

that, but there was some documents titled "Design Report" produced in 2006, and there's two sections to that, an introduction and a design part.

And if we could pull those two up. It's HAM32181. And the second document is HAM32182. And you'll see there's the dates on the bottom of each of them. And these are separate documents that are -- that they have been produced as in different sections. And they're -- have the watermark of draft on it.

Do you know if there were more chapters than these? They're titled "Design Report", not preliminary design report. Do you know if there were more chapters or sections than these two, introduction and engineering design?

A. I'm afraid I don't. I don't -- I don't know whether there was anything that's other than this. I don't recall these specifically either.

Q. Okay. So why don't we start there. Do you recall if there was -- rather than a preliminary design report, that there was then a more final design report issued?

A. I don't recall. I'm just trying to read some of the purpose and --

Q. If you want -- and we can go to the next page there as well if you would like. But as you say, it says it will prepare design report that details mitigation strategies and construction and post construction monitoring plans. This report, and its accompanying technical reports, fulfill those commitments. And then if we go to the second page, that's the introduction.

A. Yeah.

Q. And then the second document, the engineering design, is more technical. We can just do a quick -- if you go into the next image, just so --

A. Yeah, there's a -- in that one paragraph it says this document will be completed over a period of months and years as mitigation and monitoring is developed. So I'm not sure whether it was ever completed or not.

Q. Okay. So you just don't know one way or the other?

A. That's right. I don't, no.

Q. Okay. And, I mean, would it be typical to have a completed design report on

a project of this magnitude or....

A. I don't know. This is the only project of this magnitude I ever worked on so....

Q. Okay. Fair enough. And from your answers, when you say you don't recall the document itself, would it be fair for me to conclude you don't recall the process of drafting and editing these documents?

A. Yeah, that would be fair. Yeah, don't -- I don't recall any of that.

Q. Okay. And then if we could go to overview document 3.1, image 8.

And in paragraph 17 it speaks of the tender phase and the detailed design drawings. And so as indicated in that paragraph, the detailed design of the Red Hill Valley Parkway was split between three consulting engineering firms. Do you recall that?

A. I do recall that.

Q. Right. So Stantec for part A, Philips for part B and McCormick Rankin for part C?

A. I believe that's correct.

Q. All right. And then

there was a part D which included all of the signage and pavement markings for the entire length of the highway. Do you recall that?

A. Yeah, I'm not sure whether I recall that specifically.

Q. Okay. Nevertheless, you recall that it was broken up between the three --

A. There was three major consultants that did the work, yes.

Q. Right. Okay. And on the City side, who was responsible for overseeing the consultant's preparation of the design drawings, starting with the --

A. That would have been me.

Q. Okay. As manager of the design?

A. Yes.

Q. And in the footnotes 21 through 24 there, you'll see -- yeah, if we could call those out. There were for-tender versions that were -- of the drawings, the part A, B, C and D drawings that were issued, and then there were for-construction versions as well. Is that something that you recall? That there was separate versions of the drawings, the for-tender

and for-construction?

A. I don't know that I recall it specifically. I don't -- if you, you know, ask me was there different ones, I don't know whether I would have known or not. But it's not unusual to have a tender version and then a for-construction --

Q. Right.

A. -- version because sometimes the contractors asked for different approaches, and then the design is finalized or the drawing is finalized and approved because some of this had to go to the conservation authority and the MNR, DFO, Ministry of Natural Resources and Department of Fisheries and Oceans for final approval once we -- before we went to construction.

Q. Right. And so if there are any changes, they would be reflected between those two -- the tender and then the for-construction documents. Those would be reflected in the for-construction documents. That's the purpose.

A. That's the purpose.

Q. Okay. And are you aware

of any material changes that were made in between the for-tender and for-construction that's -- not going ask you to go and do a fine review of them. Is there anything that strikes you as being material?

A. Not that I can recall offhand right now, no.

Q. Okay. And then what about as-built or as-constructed drawings.

You can take that down, Registrar. Thank you.

The City has produced a very limited number of as-constructed Red Hill Valley Parkway drawings from part A and part D. Do you know if a full set of as-constructed or as-built drawings were done or if they were not?

A. I recall some red line markups that the consultant did which they typically do in the field. If there's any, you know, changes or finalizations, you move a manhole from one place to another or extend a pipe or those types of things.

Q. So like the subsurface kind of stuff?

A. Subsurface kind of stuff.

Typically you are not going to change pavement widths or locations and alignment and bridges and those types of things. So, you know, the radius of -- the final radius of a curve that tied into a crossing road might be noted, but I don't recall whether there was an as-built set or not.

Q. Well, as I said, there's some limited ones. Do you recall if there was a decision made not to do complete as-constructed drawings?

A. I don't. I don't recall.

Q. Okay. Would that have been your decision one way or the other as manager of design, about whether it was necessary to do as-constructed drawings or not?

A. I don't -- I probably would have been in the discussion, but the need for it or the timing for it, you know, as they are done at the end of a project after everything is complete, whether there were physical implications or the fact there wasn't enough changes to warrant drawings other than the construction set.

In general, as-built drawings for any project are a topic for discussion, especially in least aerial photography

availability and electronic versions. I mean in the old days where everything was, you know, done on paper or vellum, and then you, you know, you copied that, and then that was the only copy that you had. It was a different -- it was a different era and that was -- you know, as-builts were more needed.

Nowadays with the aerial photography and the ability to update any drawing with that and a digital copy of it some place is -- sometimes outweighs the need for as-built drawings.

Q. Okay. So if we could now move on to your involvement with Dr. Uzarowski and Golder Associates in relation to the pavement structure. If we go to overview document 3 and images 14 to 15.

And we know that on January 11th, 2005 you met with Dr. Uzarowski and discussed the paving and pavement on the Red Hill. And just -- you can read that paragraph. There's a few excerpts from his notes. And we'll go to his notes from that day in a minute.

But do you recall how that meeting came to be? Did you know Dr. Uzarowski

before that meeting?

A. I may have met him at CTAA, but he had never -- we had never been in a, you know, a client relationship type of thing as far as I know.

Q. Okay. So how did this meeting come about, to your recollection?

A. (Unintelligible reading). The only thing I can infer is that I was interested in the perpetual pavement in light of his presentation at CTAA. The previous November I attended that.

Q. Okay. And that's the paragraph above there in paragraph 21?

A. That's the paragraph above, yes, in Montreal.

Q. Okay. And that's where --

A. So --

Q. -- where he presented a paper called "Perpetual Asphalt Pavements"?

A. Yes.

Q. Okay. So to the best of your recollection that is what sparked your interest and probably resulted in you contacting

him to --

A. I believe so.

Q. Okay. And do you remember his presentation of that paper and specifically what was in the paper? The description of perpetual pavements and --

A. Yes. Other than, you know, the generality of perpetual pavements and, you know, after, you know, having it -- seeing the presentation, thinking about its applicability to the Red Hill, I think that's -- I don't remember anything specific from it.

Q. Okay. And what do you recall about the meeting on January 11th, 2005?

A. I don't recall anything specifically --

Q. Okay.

A. -- you know, about that meeting there.

Q. Should we go to his notes? Could that just -- and I'll ask you some questions off of that.

A. Sure.

Q. All right. So if we could go to RHV933 which is Exhibit 17.

And this is -- Commissioner, you'll recall it's a -- Dr. Uzarowski's handwritten transcription of the notes that we've seen.

So if you could go to image 3, Registrar.

And just as I said, Mr. Moore, these are Dr. Uzarowski's typewritten transcriptions of handwritten notes that are just easier for everyone else to read. Now on the right-hand side towards the bottom it says, "SMA Gary wants to use 3-DB noise attenuation." So do you recall saying that to Dr. Uzarowski?

A. I don't specifically, but that's -- I don't believe that's incorrect.

Q. Right. It makes sense that you would say it given the things that we've talked about?

A. Yes.

Q. And at that time you did want to use it, right?

A. Yes.

Q. Okay. And then you appear -- did you have a discussion about perpetual pavement at that time since that's what

you recall that you invited him for?

A. I have to assume that we did. I mean, that's what we were interested in. That's -- you know, given what I had already learned about it and what I was in the process of, you know, thinking how would it be applicable to our project and the benefits that, you know, we would gain from it. You know, that's what we were looking for.

Q. And his notes indicate, you know, certain aspects of the design of the highway and some of the economics and so forth. So on the top left there it says, you know, "Four lane expressway, 90 kilometres an hour posted speed." (As read)

Which was -- that was the intended posted speed, right?

A. That's correct.

Q. Yeah. And then it says "design DES speed" -- I take that as design speed -- "100 to 110 kilometres an hour." Was there a design speed of 110 or was it always 100?

A. I think the limiting design speed was 100.

Q. And then it says, "70,000

vehicles a day -- it opens -- a day it opens." (As read).

Is that the anticipated number of vehicles?

A. Yes. Some of this looks like it came right out of the PDR. I may have given him a copy, the preliminary design report.

Q. He didn't indicate -- Dr. Uzarowski didn't indicate that that was the case. He thought this was -- he was on receive and it was information coming from you?

A. Yes.

Q. And there's on the next -- maybe we go to the next image. Maybe if we could keep this image up and put up the next image as well.

It says he "can use Superpave mixes and SMA on the top." And then there's some other references there too:

"Do they need trap rock for SMA, steel slag, local high quality limestone." (As read).

Do you know what you would have been talking about there, options for the

aggregate use?

A. Yeah, I don't know whether these are just questions he's asking himself or putting notes down that he needs to look into. I don't know.

Q. Okay. And then further down it says "SMA is already there." Would that be about Burlington Street? Do you know?

A. I don't -- it's the only place that we used it.

Q. Right. Okay. And detour costs, is that something that you were concerned about and considering, the detour costs when a full road reconstruction would be done?

A. Absolutely. I mean, it's not only the detour costs but -- and you can put the detour costs down. You can put a number to that because you build this lane and you build this, but the problem becomes -- is the delay cost I think is -- to the public that was the big question mark that was needed to be looked at as well.

Q. Right. That if you had to do a full rehabilitation, full reconstruction every 20 years or so, the --

A. Where is 70,000 people going to go?

Q. Right. Okay. So that's the broader issue raised by that; is that right?

A. That's correct.

Q. And then for perpetual pavement if you can defer the full reconstruction with maintenance and doing milling and paving the surface layer over the years and you can differ that for some period of time, then there's both savings of money over the long-term and savings of inconvenience to drivers; is that right?

A. Yeah, I don't know whether the perpetual pavement had an impact on, you know, when you're going to do the resurfacing, but the -- there are big capital costs initially with putting in the perpetual pavement, but there's the long-term savings of having to do multiple detours and the delay to the people. Those are the --

Q. Right.

A. -- they're financial numbers.

Q. Maybe I misspoke. I meant about putting off the major reconstruction.

A. Yes.
Q. The full -- as opposed to the --
A. And if you do it right, you may never to have do it.
Q. To do a --
A. -- it becomes perpetual.
Q. At the bottom there -- we know that what comes out of this over the next -- two days later is the proposal by Golder to do a feasibility study on perpetual pavement and at the end as well a CTAA paper. And you see the second last line there is for a CTAA paper.
A. Yes.
Q. Do you see that there? Do you recall whose idea it was to do a CTAA paper on this topic?
A. It's my sense it would be Ludomir's. He was -- he was, and did a number of papers and had presented a number papers even before, you know -- it was something he did and was very interested in, you know, sharing the good news about new technologies and those types of things. So I had never -- I mean, I had only been to -- what's this '05; when did I start, '02. So,

I mean, I guess I was involved with that one with Paul, but, you know --

Q. Burlington Street?

A. Yeah, I'm sort of a side issue. I'm not the generator of the paper.

Q. Okay. Well, and we know that he was the primary author of it. He testified as to that, but your best recollection is the idea probably came from Dr. Uzarowski?

A. I believe so.

Q. Okay. And so I can take through a comparison of the documents, which would be the CTAA paper and the feasibility study, but I'm going to see if -- I'll tell you some things that Dr. Uzarowski testified to, and you can let me know if you agree to those -- to that evidence, just about those, which is that Dr. Uzarowski testified the feasibility study that he -- well, actually I should back up. Do you recall the feasibility study and him doing that?

A. I recall that we did one, yes.

Q. Yeah. Okay. And you know what, I should take you to that beforehand, and I apologize for jumping ahead on that.

And so if we just go to overview document 3 at image 14. Yeah. And it's just at the end of 22 there and onto the next page, image 15.

On January 13, Dr. Uzarowski sent you a proposal to carry out a feasibility study on using perpetual pavement on the Red Hill Valley Parkway Expressway in Hamilton, and then the next day you gave him the permission to proceed with the study. So -- and we'll look at the completed study in a bit, but I'm just going to -- now that I actually brought your attention to it, ask you if you agree with the following things.

Dr. Uzarowski testified that the feasibility study and the CTAA paper, which ultimately resulted, were based on the same information and covered the same ground being a comparison of the lifecycle costs for the Red Hill Valley Parkway of a conventional deep strength payment structure compared to a perpetual pavement structure with both options using a SMA surface course. Does that sound right to you?

A. I don't see any reason to disagree with that.

Q. Okay. And he testified that both the feasibility study and the CTAA paper concluded that the perpetual pavement option would, over its full lifecycle, be less expensive than the conventional deep strength pavement structure. Do you agree with that, over the full lifecycle appreciating that there's the upfront costs that you referred to?

A. I believe that was the conclusion, yes.

Q. Okay. And that -- he testified that the feasibility study and the CTAA paper were worked on contemporaneously. Do you agree with that?

A. I thought one was completed well before the other, but they may have been worked on.

Q. Well, there's -- we'll come to it but there's a -- you know, there's -- the abstract is done by Dr. Uzarowski in February for the CTAA paper --

A. Right.

Q. -- but that's just the abstract.

A. Yes.

Q. And then there's quite a bit of, you know, back and forth with you providing information to him about the costs as you would have to do, right, for --

A. Right.

Q. -- the unit costs and so forth --

A. Yeah.

Q. -- and all that, right? And then the -- there's a final -- there's a draft of the CTAA paper in August of 2005, and that's also the date of the final signed feasibility study. But at the same time the CTAA paper wasn't actually presented until 2006.

A. Right.

Q. But in terms of the timing of the work that they were doing on it, they were contemporaneous. Does that sound right?

A. I believe that's correct.

Q. Okay. Dr. Uzarowski indicated he was the primary author of the CTAA paper. Was your involvement in it more or less, again, the same sort of thing, review and edit, that capacity?

A. For the sections I had

knowledge of, yes.

Q. Right. Okay. And if we could go to Golder GOL3366.

And this is just for timing. August 5th, 2005 Dr. Uzarowski sends it to Michael Mahar who is another individual at Golder. Do you recall him?

A. I recall the name, yes.

Q. Okay. And Vince Aurilio, who (indiscernible) Bitomar, but he had also been involved in the 2004 CTAA paper with Dr. Uzarowski. Do you recall that?

A. Yes.

Q. All right. And he was a OMPAH person too, right.

A. Yes, I know --

Q. You know Vince?

A. Yeah.

Q. Okay. And if we go to the attachment, which is Golder 3367.

And that just shows the authors as listed.

And then if we could go to image 6. And it gives a description of -- you know, right off the top of a typical lifecycle

involving a program of routine maintenance and a major rehabilitation every 18 to 25 years. Goes on to speak of the merits of the perpetual pavement approach and so forth.

And then in the last sentence it says -- in that section it says:

"The City of Hamilton has decided to use the perpetual pavement concept on their major infrastructure project." (As read).

So at that point is it fair to say that the decision had been made to go with the perpetual pavement?

A. I believe, yeah, we had adopted concept. I mean, we were waiting for the details. You know, we didn't know how deep or how much granular or how much asphalt, but, you know, given all of the benefits we were looking at, we were just waiting for the final numbers. I mean, this -- the feasibility study was to tell us whether it was, you know, revenue neutral, or whether the -- it was going to cost us more initially and in the long-term. We may have come up with a different decision if it hadn't of, but

the good news of this was it gave us all the benefits we wanted, plus it was cheap in the long run. So it just further cemented our desire to use this approach.

Q. Okay. And I guess that would be -- if we could go to overview document 3, image 16, and -- actually 16 and 17. Okay.

And this pertains -- on July 21st, so a little earlier than that there's a submission made by Scott Stewart, who is at that point the general manager of public works, and he e-mailed Peter, Peter Crockett and Mr. Murray and Nancy Clark, what he called "Our Submission For the Top 10 Roads and Bridges in Roads and Bridges Magazine." And at that point Mr. Crockett had moved on from the City of Hamilton.

A. Yes.

Q. Right? Yeah. And it indicated, and we can go to it if you want, but it indicated that -- and there's an application -- it indicated that the flexible perpetual pavement design with SMA surface was the pavement type for the Red Hill Valley Parkway.

A. Um...

Q. And do you recall if this

was -- this submission was something that you were involved in in putting together?

A. I was likely asked for the information to put this submission in.

Q. Okay. So then if we could just go to HAM20577. And so there's a fair amount of, you know, technical information in there and measurements and types of equipment and so forth. That sort of stuff I take it would have been provided by you; is that right?

A. Or through my office, yes.

Q. Right. At your direction. I appreciate that someone else might have actually physically submitted it, but at your direction?

A. Yes, I would agree with that.

Q. Okay. And then the fifth line, that is what I was referring to, pavement type, flexible, perpetual pavement design with SMA surface.

A. Right.

Q. I take it that information would have come from you too?

A. That was the direction that we were proceeding with the project, yes.

Q. Right. But the -- right. And at this point, though, I mean, this is a submission to a publication, right?

A. Hm-hmm.

Q. That's a yes?

A. Yes. I believe Roads and Bridges is a magazine.

Q. Right. So you must've been pretty confident in what was going to happen if you're making a submission to an external third party that may publish the information. Is that fair to say?

A. I would -- it would appear so at this point in time. I'm not -- I mean, I would think that the -- I guess the general manager must have known that that was our approach and that it was worthy enough to make an application. This -- I mean, this came from one general manager to another, you know, city to our general manager, and hey, can we get something in there type of thing so....

Q. Right. And it's a notable project. I understand that. But in terms

of the specifics of it, if I've understood you correctly, that was information that you had and were providing. And so just at that point....

A. At that point I believe that was the intent or the direction we were proceeding.

Q. Okay.

A. So that was correct given the information at the time.

Q. All right. You can take that down, please. And then RHV935.

This is the signed Golder feasibility study dated August 2005. And until shortly before the public hearings we only had an electronic copy of the draft, but we received it shortly before the public hearings commenced. This is a signed version of it. Do you know you if you received a signed copy of it?

A. I couldn't tell you. No, I don't know.

Q. Okay. You don't know one way or the other?

A. No. I would assume we did, but it would be, you know, routine type of thing, but I don't know.

Q. Okay. I mean, you're right; it would be routine to do that. If you've commissioned a report, a study from a consultant, typically you would want to receive the final product that you're paying for; is that correct?

A. In most cases.

Q. Okay. Are there circumstances that you would not want to do that if you've -- you're paying a consultant to provide their advice?

A. Well, having a formal, final signed document and having the study complete and the information from that study are -- you know, it's just -- it's not necessarily not the same thing.

Q. Sorry, it's not necessarily the same thing?

A. Yeah.

Q. Right. Well, what's the --

A. Not necessarily not the same thing.

Q. Not the --

A. I mean, once you have the results that you're looking for. I mean, fine,

give me the signed copy, but if I get it in six months I don't care because I'm proceeding on the information that I've already received.

Q. Okay. But if it's -- fair enough. But if it's been done, if the report has been done and signed and so forth, typically I would assume, tell me if I'm wrong, you would want to receive the final signed report from the engineer as a general proposition; is that fair?

A. In general, yes, but it may have not necessarily been a priority to get the final copy if I wasn't giving it to anyone, if it was just going in the files. I was acting on the information from the report. We were moving quite quickly on this project, so the gist and the information in the report was much more important than receiving, you know, three final signed copies to put in the file.

Q. Okay. If I've understood you correctly, that was the chronology here. You've indicated that the direction that you were going to be taking, that the City was going to be taking was going be perpetual pavement with an SMA surface course. That was the intended direction, right?

A. Right.

Q. And then -- and I think what you said was that the feasibility study, that was going to be -- I'm not sure of the exact words so I don't want to mischaracterize it -- but that the feasibility study would be confirmation of the costs involved, but that your expectation was that you were going to be using the perpetual pavement structure with the SMA surface course, right?

A. Good. It would have given us the dotting the i's and crossing the t's on proceeding with that. If it had been $25 million more, we still may have proceeded with it given the benefits that it had on providing the perpetual pavement to the public. The fact that, you know, it was a cost-saving thing was even better.

Q. Right. And so in the spirit of dotting the i's and crossing the t's I would assume then you would want a final signed copy of the report, would you not? If that's the purpose. If the decision has effectively been made and you're just making sure that it's -- you know, that it is cost effective and so forth, don't you want to have that information from an

engineer signed?

A. I know what the outcome is. That's the important part to me.

Q. Okay. If we could go to image 19 in overview document 3, please. I'm looking at paragraph 35.

So this is on September 7th, 2005. Mr. Oddi e-mailed you asking that you:

"Please confirm the proposed payment structure for the M-S section, i.e., asphalt depth and type for each lift." (As read)

And then you replied the same day, and this is in your e-mail responding to him. You provide him with the new perpetual pavement design. You see that?

A. I see that, yeah.

Q. And that's the overall perpetual pavement structure that was ultimately placed; is that right?

A. I believe it is.

Q. Right. And Mr. Oddi testified that he believes that this e-mail is where he became aware of the SMA surface course --

just to separate the perpetual pavement from the SMA surface course -- but this is where -- that he became aware of the SMA surface layer that that's what it was going to be. Do you agree or disagree with that?

A. I can't do either. I don't know. If he says this is when he found it out then -- I would have thought he would have been aware of it before that but...

Q. But you can't say otherwise?

A. I can't say otherwise, no.

Q. All right. And he also thought that he was aware at some point in the summer, so prior to this, that there was going to be a perpetual pavement structure but perhaps not the details of it. Does that make sense to you given timing that we were just looking at?

A. Because I thought we were making changes to ongoing projects out there that had already placed granular before --

Q. Right. Well, I think that -- I mean, you do refer to that in your e-mail. You're saying "in areas where A" --

that's granular A, is it?

A. Yes.

Q. " -- has already been placed the granular base thickness will be reduced by 60 millimetres to accommodate the additional asphalt thickness while maintaining the original final profile grade. In areas where granulars have not yet been placed granular sub base depths will be reduced by 60 millimetres."

Okie dokie? So it sounds like you're directing him going forward.

A. Yes.

Q. Those are prospective, right?

A. I don't know whether this was just a -- so that he had it written down some place from me, you know, and I would just confirm, okay, here it is.

Q. Okay. Well, I don't think that was his evidence, but you don't know

one way or the other.

A. I don't, no.

Q. Okay. And you would agree that you, on behalf of the City, retained Golder to then develop the paving specifications and the special provisions for the paving tender?

A. That's correct.

Q. Okay. And as well subsequent to that Golder was retained by the contract administrator, paving contract administrator Philips to provide quality assurance services and related services for the Red Hill paving. Do you recall that as well?

A. Yes. After this was done, yes, I believe for the paving contracts.

Q. Yeah, for the paving --

A. But that is correct, yes.

Q. Yeah. First, they developed the specifications and special provisions for the tender and then were retained for the quality assurance job for the actual paving. Do you recall all of that?

A. I believe that's correct, yes.

Q. Okay. You've reviewed

the overview document 3 that sets out the timing. Have you had the opportunity to do that?

A. I'm sorry, this sets out the timing?

Q. Well, yeah. Have you had the opportunity to read -- we're going through overview document 3 here. Have you had the opportunity read it?

A. I believe I've seen it, yes.

Q. Okay. Do you have any independent recollection about how the Golder briefs came to be for the specifications and the quality assurance other than as set out in the overview document? Like, do you have any independent recollection of those, how they came to be retained?

A. No, I don't.

Q. Okay. If we could go to overview document 3, image 31. I guess 31 and 32. It seems to go on.

So the tender for the paving was issued at the end of April 2006, and then the award was made in June, July at that time, just to give you the timing here, and then we know that

the paving, to jump forward, commenced at the end of May 2007. Does that all sound like the right chronology to you?

A. I believe that's -- it was a while ago.

Q. I know.

This paragraph -- well, 61 and 62 deal something called a pavement sustainability plan for the Red Hill Valley Parkway and Lincoln Alexander Parkway. And there was a draft that was circulated -- I think there were many drafts -- but there was a draft that was circulated on September 21st, 2006, and then the final version in paragraph 62 was dated October 11th, 2007. And before we get into specifics, do you recall this document generally, the pavement sustainability plan?

A. I remember the initiative, but I don't remember the document.

Q. Okay. And when you say you "remember the initiative," what do you mean?

A. I know they wanted to prepare some document to take to council to identify, you know, how you are going to look after this roadway because it's different than

every other roadway in the City. You need to have a plan, and there is, you know, long-term financial implications, and the director and general manager at the time, I believe it was their initiative to have this document done in order to present to council or committee in order to sort of set up a financing for ongoing maintenance.

Q. Right. Because after its built, there's going to be ongoing maintenance required to keep it in shape?

A. Yes. What's the schedule for that. What's the cost for that? What's the -- you know, how are you going to do that? I believe that's what the document -- what they were trying to set up.

Q. Okay. Sorry, and who is the "they" in that, when you say "they"?

A. To my -- I think it was stick handled through the asset management group, you know. They would have to talk to everyone else, but it was an asset management initiative.

Q. All right. And in the final plan -- we can go to it if you want -- but there's an acknowledgements list, and it lists you

as being one of the major contributors to the plan. And can you recall what your involvement was it's -- you remember you said you recalled the initiative, but what your involvement was in the creation and drafting of it?

A. Sorry. They would have come to me for, you know, what did you build; where it is; what are the plans; where do we find these plans; where do we find, you know, all the specifications. Because I believe this was not only for the Red Hill, but was for the LINC and the Red Hill.

Q. Yeah.

A. So what materials did you use for the overhead signs, and what specifications. So they had to be either pointed out or, you know, given all the background data and information on that, so on which they built their premises. So it's background information and the gist of what we built.

Q. Okay. Factually speaking?

A. Correct.

Q. Okay. And what about prospectively with respect to various issues

relating to, as you said, the future, how it's going to be sustained in the future?

A. Well, I didn't have any expertise in any of that, in maintaining roads or ploughing roads or fixing -- you know, doing the maintenance-type things or the operational maintenance, like, how many times do you repaint lines, or when do you do that or any of that stuff. So that would have come from the operational groups.

Q. Okay. And in overview document at paragraph 61 there it sets out a couple of excerpts from the draft plan, the September 21st, 2006 draft dealing with skid resistance testing and conducting it on the Red Hill and the LINC every one to two years.

I can advise, Commissioner, that the precise wording that is set out here in the overview document was carried over into the final report as well as indicated in the following paragraph 62 of the overview document.

And so there's two sections on pavement safety and skid resistance. The pavement safety portion deals with skid resistance as well. And have you had a chance to review these, because

we can expand it for you if you want to have a look at it right now?

A. I believe I have seen them.

Q. Okay. Just tell me when you've had a look. If that could go below, that would be great. Thank you.

A. That's fine.

Q. And were you involved in the reviewing or providing input on these specific sections pertaining to friction testing?

A. I don't believe I was.

Q. So in any respect, not drafting, not revising, not reviewing, not approving?

A. No, I don't believe so.

Q. Okay. And who, who at the City would have been involved in that, when you said "asset management."

A. Yeah, I don't know. I don't know who was -- it was probably -- could have been the manager of asset management at the time.

Q. Do you recall who that was?

A. Maybe John Murray.
Q. Okay.
A. Could have been there at that time. I believe it was, but --
Q. Okay.
A. -- these are -- I mean, I'm not sure what these are -- in what context these are given.
Q. Well, do you want to go to the report itself? I mean, there are recommendations -- it sets out the importance of pavement surface condition and skid resistance and --
A. In terms of maintenance or operations?
Q. We can go to the document if you like. It is -- give me one moment. You know what, so we can pull up the exact location. I wonder if this would be a good time to take the break. It's almost 3:15, and that way get right to the -- it's sort of a long document, so I just want to make sure we can find the right spot.
JUSTICE WILTON-SIEGEL: That's fine. If it's 3:15, let's take a 15-minute break this afternoon, and we'll return at 3:30.

--- Recess taken at 3:12 p.m.
--- Upon resuming at 3:30 p.m.
MR. LEWIS: Good afternoon, Commissioner. May we proceed?
JUSTICE WILTON-SIEGEL: Please proceed.
MR. LEWIS: Thank you.
BY MR. LEWIS:
Q. So just before the break, Mr. Moore, I was just trying to locate the actual document that you referred to in the overview document there. And so if we could call up HAM320, please.
This is just the cover page of the City of Hamilton, Lincoln Alexander Parkway and Red Hill Valley Project sustainability plan. Do you recognize this as the final document? Are you familiar with the cover at least?
A. I'm familiar with the cover.
Q. Okay. And if you could jump to image 12, Registrar.
And this is just the page I was referring to earlier about the acknowledgements and indicating:

"Stantec, along with IDX Consulting, wishes to thank City's public works team for its contribution to the Lincoln Alexander Parkway and Red Hill Valley project sustainability plan. In particular we note the following major contributors." (As read)

And then starts with City of Hamilton, Scott Stewart, general manager of public works. Then the next group:

"Capital planning and implementation, Jerry Davis, director of capital planning and implementation, Gary Moore, manager of design, Richard Endoga, senior project manager of infrastructure and programming." (As read)

And then it goes on to note Chris Murray, Marco Oddi, James Rockwood, a whole number of other people as well.

So before I get onto the

specific stuff about friction, do you recall sitting down with the consultants, Stantec or IDX, to discuss the recommendations, to discuss any parts of it?

A. I can't say that I have a specific recollection of any meeting or who it might have been with. I think there were several meetings. There's -- you know, there's some gist of people around the table, but I don't have any specific recollection.

Q. Okay. So by the sounds of it, you have a vague recollection of meetings occurring around this topic, right?

A. Around this subject, yes, but...

Q. Okay. But not of any specific instance?

A. No, sir.

Q. All right. And so if we could go to image 99 and as well image 101.

And section -- on the left-hand image, item 2.1.1 "pavement safety" and on the right-hand image, section 2.2.1 "skid resistance," those are the same text as in the overview document that we were looking at before?

A. Right.
Q. This is under the category of 2.0 "pavement condition evaluation."
A. Yes.
Q. And I think you had mentioned something about maintenance and operations when I was asking you about this and you were referring to the context, so --
A. I just didn't know what context this was mentioned in, and it appears it's under the context of pavement condition evaluation.
Q. Right. Okay. So that's what you were looking for, was just that context?
A. That's -- yes.
Q. Fair. All right. And so I think you indicated that you don't recall, you don't think that you had any involvement in reviewing or editing or giving feedback on the sections relating to skid resistance; is that right?
A. Not in this. I mean, what we built and where we built it and those types of things, I would have provided, but this was -- under pavement conditions that's usually an

asset-management-type of an initiative.

Q. Right. But by asset managed you mean your responsibility was what, building it, and then it's handed off to someone else in asset management, just to shorthand it?

A. That's the short answer, yes.

Q. All right. But is there -- was there anyone in asset management that you were aware of that had experience in skid resistance, testing, friction, evaluation, all these things that we've been talking about for a good portion of today?

A. I don't know.

Q. Don't know one way or the other?

A. One way or the other. I mean, I wouldn't have -- there wouldn't have been anything within my -- collectively there was, you know -- you know, the operation of traffic signals or pavement marking or how you do any of that stuff and how you -- that's -- you know, I don't -- I wouldn't have been aware of what their expertise was as it was another section with their own responsibilities.

Q. All right. So let's look at some of the comments about friction and skid resistance in 2.1.1 under "Pavement Safety." First paragraph:

"Pavement surface condition and skid resistance contribute to the safety characteristics of the pavement section. Wet surface accidents may occur because of a lack skid resistance, low friction, or because of the existence of some safety-related distresses." (As read)

Is that nonetheless something that you understood from your previous involvement with skid resistance testing, particularly with JEGEL and with the Burlington Street project?

A. I mean, I think it's pretty common knowledge that pavements are slippery when they get wet. I mean, I don't think you need to be an engineer to understand that.

Q. Okay. Second paragraph, and maybe we can call it out because we've got the two ones up. Thanks:

"Pavement safety is usually evaluated in terms of the ability of the pavement surface to provide adequate skid resistance or surface friction to minimize the possibility of slipperiness of the vehicles. Although pavement safety is primarily evaluated in terms of skid resistance, other components such as rutting and roughness should be considered in the overall framework of safety." (As read)

Again, from our discussion earlier with the relationship between friction and pavement safety, is this something that you would agree with?

A. The part that it's part of an overall framework, yes, but I don't know why I would turn my mind to this. I mean, again, it's not -- it wasn't part of anything that I was dealing with at the time.

Q. Yeah, at the time in 2006

and then 2007 when this was finalized?

A. Yeah.

Q. Right. But you had dealt with it, right? That's my point. These aren't foreign issues to you. You were dealing with skid resistance issues as we were talking about this morning.

A. Well, not as problems or issues, but as some reason why you might want to measure them but...

Q. Right. Well, that's what this is talking about, though, right? This isn't talking about it being a problem. They are saying this is what -- this is about a plan to address issues that might arise. You don't agree with that?

A. I don't know whether I agree or --

MR. LEDERMAN: Well, just a moment.

THE WITNESS: -- or disagree.

MR. LEDERMAN: I'm not sure I understood the question that Mr. Lewis is putting to the witness, and I --

JUSTICE WILTON-SIEGEL: Why

don't ask you Mr. Lewis to put the question again.

BY MR. LEWIS:

Q. Specifically to this paragraph, the pavement safety is usually evaluated in terms of the ability of the pavement surface to provide adequate skid resistance or surface friction to minimize the possibility of slipperiness of the vehicles. Although pavement safety is primarily evaluated in terms of skid resistance, other components such as rutting and roughness should be considered in the overall framework of safety.

Is this something that you would agree with based on your prior experience with the skid resistance testing as we discussed this morning?

MR. LEDERMAN: So as I understand the question, he was asking the witness about whether he agreed with it in 2006, 2007, and then he said it was based on what we've been talking about this morning that dates back to 1999. So what I'm not clear about is when he says "based on your experience," are you talking about back in 1999 or are you talking about asking him to agree whether this is something that he

considered in the 2006, 2007 timeframe?

MR. LEWIS: I'm asking when this was produced in 2006, 2007, was that something that he agreed with based on his prior experience.

MR. LEDERMAN: Okay. Then I understand the question.

MR. LEWIS: Also, and I apologize, Mr. Lederman, it's when you're speaking, and it might be a microphone issue, but it's a bit like you're in the bottom of a submarine. I don't want to miss what you are saying. I did get everything that you said then, but it's been like that all day, and I think last week too. So I don't know if there's something -- we can talk about it on break, but it's just --

MR. LEDERMAN: Yeah. Well, I can move the microphone closer. I think that's probably what works.

MR. LEWIS: Okay. Thank you.

BY MR. LEWIS:

Q. Sorry, Mr. Moore, in that context we've clarified the question, but what can you say about it?

A. Well, I don't know that

pavement safety is usually evaluated in terms of skid resistance. There are dozens of parameters for pavement safety, including geometrics and environmental conditions and age of the pavement and all those types of -- that go into it, speed and vehicles and those types of things. So I don't know that pavement safety is primarily evaluated in terms of skid resistance. I can't give you an opinion on that because I don't know that that's the case. I do know that there are a number of factors that you need to review when you're looking at pavement condition, but my expertise is not on pavement safety.

Q. Understood. I mean, I read this as referring specifically to the pavement itself as opposed to the other factors that you quite rightly mention about geometric design and so forth, driver behaviour and that stuff. This is talking about pavement safety specifically.

A. Given the wording that's there, I would have to say no, I don't agree that --

Q. Okay.

A. -- pavement safety is

usually evaluated, because -- I mean, in my 30 years and looking at all of the other pavements on the City, I don't know that we ever used skid resistance as a measurement.

Q. Okay. In the next paragraph, it says "Pavement skid resistance --" sorry, if you could pull that up, the next paragraph, Registrar. Oh, sorry, that's the wrong one. Paragraph 4. I apologize. The fourth. Yeah, there we go:

"Pavement skid resistance would typically deteriorate over time due to pavement surface weathering. Therefore since skid resistance constitutes a safety concern, it is recommended that pavement skid resistance be evaluated on a regular basis to identify areas of potential hazard and that such remedial measures to improve the skid conditions of the pavement surface could be implemented." (As read)

So to start with the first --

JUSTICE WILTON-SIEGEL: Mr. Lewis, your audio has become diminished.

MR. LEWIS: What about now?

JUSTICE WILTON-SIEGEL: That's much better.

MR. LEWIS: Okay. I just -- all I did was read it out, so I won't repeat it.

BY MR. LEWIS:

Q. Then the first sentence, Mr. Moore, about the deterioration -- typically deteriorate over time due the pavement surface weathering. That is something that you were familiar with from the JEGEL reports, correct?

A. I would agree with that.

Q. Okay. And then if we could reduce that, please, and go to the image on the right, section 2.2.1, "skid resistance." The first paragraph:

"The main purpose of the skid resistance testing is to identify the areas with low skid resistance that may affect public safety." (As read).

That's something that you would have been familiar with from the TAC guide that JEGEL sent you; is that right?

A. Well, it may have been in that. I don't know whether I was entirely familiar with it or conversant with it to be able to recall it and use it, but --

Q. Okay.

A. -- I don't disagree that it was in that information that they forwarded to me.

Q. All right. And then the second paragraph:

"ASTM E274 is the most widely used method for measuring the skid resistance using a calibrated lock wheel skid trailer. Based on the current market prices, the estimate for the probable cost for performing a skid resistance testing along the Lincoln RHVP is approximately $5,000." (As read)

And by this point, in any

event, you knew that that's what the MTO used, right? That was in the 2002 paper about Burlington Street. That the locked-wheel tester, in accordance with the ASTM E274 standard, was what the MTO used, right?

A. No. I mean, I knew they used some sort of a trailer-type of thing, but to be able to quote what they used in the ASTM, I don't think I've ever been that conversant with it.

Q. Okay. Well, it is what it said in that paper. You're just saying that this is something that you weren't calling at that time?

A. It wasn't something that I wrote in the paper or was familiar with. I mean, it was probably Paul or MTO or whoever wrote that in there but...

Q. Okay. Do you know why the skid testing did not happen every two years as was recommended -- every one to two years as was recommended?

A. My vague recollection that when this program was taken to council it wasn't approved or adopted. That's my

recollection.

Q. Sorry, and that that's the -- it wasn't adopted when it went to council?

A. I think -- I have a -- it's my recollection that it was -- there was a lot of money involved and they weren't prepared to accept it at that point in time. I don't remember the details, but that's....

Q. Okay. Nonetheless you were -- again, going back to the JEGEL testing on the LINC, you were familiar with the concept of conducting friction testing, monitoring over a period of time to monitor the skid resistance qualities of the pavement; is that correct?

A. The concept, yes. I'll give you that, yes.

Q. Okay. Okay. If we could just go back to a point that I missed, and this is about the feasibility study. And I apologize for this; I should have dealt with it when I was within that document. If we could go back to RHV935.

And so this is the final signed feasibility study by Golder from August 2005.

If we go to image 3. And it's the last sentence on that page. If you could call up that. It starts in the middle of the third line from the bottom, Registrar. The whole paragraph is fine. Actually could you get the handwriting in as well, please. Thank you.

So just in the last sentence where it says:

"The perpetual pavement design can structurally support 93 million ESALS over 50 years compared to 40 million ESALS for 20 years for the conventional pavement." (As read).

And then "can" is crossed out and "should be able to" is written in. Just the ESALS that we're talking about. These numbers are also in the CTAA paper that Dr. Uzarowski primarily wrote and you provided input for. First of all, what is an ESAL?

A. Equivalent single axle load, I believe.

Q. Right. So it's a measure of the traffic loading.

A. Yeah, it's an -- it's a proportional measure of vehicles. So I mean --

Q. Right.

A. -- obviously a truck is a vehicle, but it may have six equivalent axles, and a car has two axles. So if you're doing, you know, 60,000 vehicles a day, you multiply -- you know, you take some average number. If it's only cars, it's two, and if it's 5 percent trucks, then you add in that number, and that's how you come up with the number of ESALs that you are trying to support.

Q. Right. And so at this time in 2005 when the perpetual pavement study was done by Golder, this is what was anticipated at that time. Is that fair in terms of --

A. I don't -- I assume so. I don't have anything to, you know, calculate it out. I mean, the perpetual pavement design should structurally support 93 -- I mean, that must be based on the ADT that we're looking to -- you know, to have on the roadway over a 50-year period.

Q. Right. But that's what it could withstand?

A. It's what it was designed to handle, yes.

Q. Right. Okay. Thank you. Could we take that down, Registrar. If we could go to overview document 3, paragraph 22.

Just a couple of presentations I want to talk about. This one in paragraph 43 is a presentation that you gave to the Parkway Implementation Committee on March 7, 2006. And it refers to -- in that that the new pavement technology or materials will be used and that they'll be using the perpetual pavement which will reduce the future needs for a full road bed replacement.

And this is the first reference we have in the database, inquiry database about a communication to the parkway implementation committee about the decision to use the perpetual pavement. Do you know if that it was first time that they were advised about it? Do you know?

A. I don't. One way or the other, no.

Q. Okay. And then overview document 3, paragraph 46 -- sorry, image 46.

And this is June 5th, 2007, and paragraph 92. Mr. Murray sent -- and this is shortly before he left the project and moved onto his new role in the middle of that month -- to the mayor and city council providing an update on the status of the paving and explaining that the project involved perpetual pavement and indicating that paving had started not very long before that in late May.

And there is a reference in there to using SMA as the surface course for it. That's, again, the first sort of advisory to council or any of the committees that we've been able to locate. Do you know if there was any prior report of that nature to committee or council, referring to stone mastic asphalt specifically?

A. Yeah, I don't -- an overt mention of it in a, you know, a summary update. Now, I don't know whether it was contained in any of the previous EA documents that were taken to council for approval, you know, when we went to get submissions and those types of things. You know, they may have been imbedded in those documents, but I -- him saying that it's -- you

know, this is what we're doing here, I don't know whether there was anything else.

Q. All right. And in there there's reference to -- yeah, in the last four lines it says:

"As well the surface asphalt will be a stone mastic asphalt that will improve skid resistance and lower noise generation." (As read).

We've talked about the lower noise generation. Do you know this -- the reference to improve skid resistance, do you know where that is derived from?

A. I don't because I don't know what its improved over. Improved on what previous mixes we were proposing or improved over existing mixes out there being used. I don't know what he was referring to. Information updates like this weren't typically directed towards council necessarily. You gave them to council, but it was to put it out in the realm for the press. Rather than just put a press release you, you known -- so whether there was questions going about or something had been raised in the press

that needed to be addressed, I don't know.

Q. Okay. And in terms of that information would you have been the person who provided the information about, you know, stone mastic asphalt perpetual pavement to Mr. Murray?

A. It's likely in general terms, yeah. Whether I'd seen the final wording before he sent it out, I don't know.

Q. Okay. But directionally information -- technical information of --

A. Technical information --

Q. -- relating to pavement --

A. Yeah.

Q. -- would have been you; is that right?

A. Yes.

Q. Okay. We were talking over each other, so I just wanted to make sure.

A. Yes. Sorry.

Q. I think it was my fault. Okay. Thank you.

So we could move forward to the actual construction of the Red Hill. And

during construction both grading and paving, recognizing that you had other roles as well, how often would you typically be on-site, meaning at the construction site?

A. I mean, it depends on, you know, what was happening. If they were pouring a bridge deck or something, I may have made a point to get out and see it. If there was just general work going on, you know, I may have dropped by once a week or something or dropped by on my way home just to familiarize myself with where they were, but it wasn't a lot.

Q. Okay. So like once a week, every other week, that sort of thing, and it would vary presumably?

A. I would say that was in ballpark, yes.

Q. Okay. And Mr. Oddi, we know that he was generally on-site. How much was -- what was your expectation about his being on-site?

A. Well, he was in the office about as much as I was on-site.

Q. So meaning most of the time?

A. Most of the time, yes.

Q. Okay. And how often would you and Mr. Oddi speak or meet during construction?

A. I mean, we did have team meetings, and I don't know whether they were once a week for an hour or so, and you usually saved up anything you needed to report to those unless something was, you know, important, but -- like I said, it -- he was looking after the construction, and in the early part I was looking after the design and the tenders and getting things out and once things were being built, then I was concentrating more on my other portfolio and only putting out fires as they arose.

Q. Okay. So generally speaking then as construction was -- once the tenders were done and you were into construction, on a day-to-day basis you're saying that it was Mr. Oddi who was involved and your involvement lessened at that point?

A. He was on-site dealing directly with the contract administrators and inspection and contractor.

Q. Okay. And how often did

you speak or meet with Mr. Murray during construction? Now, appreciating that on the paving phase he was gone in mid-June, which is only two-and-a-half to three weeks after the bottom layer paving commenced, but -- there's also the grading portion as well. So how often would you be dealing with him?

A. Well, it was mostly at his pleasure. If he needed me, he knew where to find me.

Q. Right.

A. You know. Other than that it was at the -- I think it was maybe even a biweekly staff meeting, like every two weeks or something. I can't remember now what the frequency of that was.

Q. I'll check on that. Mr. Oddi, I'm not sure if he said it was every week or every other week, but we can check on that.

And so in what sorts of circumstances would Mr. Oddi involve you in matters during construction? He's on-site, you're in the office. What sort of circumstances would get you to be involved?

A. If there was, you know, some major hurdle that, you know, couldn't be resolved on-site under the contract rules and specifications. If, you know, something extraordinary, you know, turned up or something really good, you know, we found this, or there might have been like an archaeological find that was going delay the project. A few of those came up, you know, what are we going to do now. Now we need to get to get the archeologist involved and those types of things. But if it was day-to-day stuff, I wouldn't -- a lot of times I wouldn't know what the progress was until I drove by it on my way home.

Q. Okay. So in general you'd become informed and potentially involved if the issues were fairly significant; is that right? Would it be fair to say you wouldn't expect to be kept in the loop on the day-to-day normal construction issues; is that fair?

A. I wouldn't expect to be, and I wouldn't have wanted to be.

Q. Okay. Yeah, Mr. Oddi said he thought that they were -- that the team meetings were held every two weeks back in the

City --

A. That seems about right.

Q. Okay. And in terms of Mr. Murray, as indicated, he left in mid-June. How, if at all, did things change in terms of reporting in the way things operated after he left, moved on to his new position, understanding at that point you're into paving?

A. Yeah, at that point we're in the final throes of finishing the job and getting ready to open in October. So, you know, there's -- I think at that point in time we were keeping the general manager apprised or answering his questions.

Q. And --

A. But I don't know that it changed that a lot.

Q. I mean, at that -- Mr. Murray, again, not being a engineer, not being a paving person and so forth, I would have thought that his input on the specifics of paving once that's being executed would have been pretty minimal and wouldn't have -- things wouldn't have changed too much after he left at that stage.

A. From that point of view,

yes, but there was always the press and councillors and the public that were, you know, looking for input or answers, and when he was -- he was the guy that, you know, through our other support staff in the office that looked after getting that out and how that was handled. So there was, you know, a change there. So I can't remember what we did after that, whether we went to the GM or through the GM's office or whether we had -- whether we just did it on our own. I don't know.

Q. Okay. And the GM at that time, that was Scott Stewart who was the executive sponsor of the project -- well, under the structure of the project, right?

A. Right.

Q. And if I'm correct, typically that was at quite a high level of the executive sponsor's involvement; is that fair?

A. Yeah, if you -- yeah.

Q. Yeah.

A. We were missing a layer of buffer.

Q. Right. Now, we discussed briefly earlier that you, on behalf of the City,

hired Golder to develop the paving specifications and the special provisions for the tender and the contract documents, correct?

A. Okay. Yes.

Q. And were you aware prior to the Red Hill project, or at least this portion of the Red Hill project, the north-south portion, that the MTO had something called a designated source of materials list called the DSM for short?

A. I believe I was aware of that, that they called all of their materials through that list. If you wanted to use, whether it was guide rail or light posts or, you know, whatever it was, they had an exhaustive list that had been pre-approved. If you want to -- if you want the easy route here's the deal, call it off the DSM and we don't have to look at anything else.

Q. Okay. And is that something that you were familiar with from your prior work at McCormick Rankin?

A. I think that's why I was -- I think where I was made aware of it, yes.

Q. Okay. And were you aware prior to this project that that included listing

the sources of aggregates that were pre-approved for use on MTO projects for certain surface layers particularly on high volume roads?

A. I don't know whether I was that -- that specific with it. You know, I knew it covered everything from soup to nuts, for lack of a better term, with regard to MTO contracts. So I mean, again, municipalities weren't using those lists normally. It was -- those were MTO's products.

Q. Right. Fair to say you don't know whether you were aware that aggregates were something that were subject to the DSM. Is that -- you just don't know one way or the other prior to this project?

A. I may have but I....

Q. Okay.

A. So much time and reading so many reports, I don't know when. I can't....

Q. Okay. And do you recall if you discussed with Dr. Uzarowski or anyone else about whether the paving specifications for Red Hill ought to require the use of aggregates listed on the DSM for the surface course?

A. I don't remember a

specific, you know, conversation or series of conversations in that regard. Also the stuff was -- I know we were using OPSS and OPSD-type of specifications, and I'm not quite sure where or how they call for it. You know, in terms of the aggregate, they usually set out what the parameters are, you know, for aggregate use within, you know, certain mixes, so....

Q. Right.

A. I don't know that we specifically targeted things in the DSM or not.

Q. Okay. You don't know one way or the other? You're aware they were using the OPSS specifications but --

A. Correct.

Q. -- but perhaps not the details with respect to those; is that fair?

A. Yeah. The OPSS tended be a provincial standard that anyone could use --

Q. Right.

A. -- but the DSM tended to be MTO's, you know, private list of here's some aggregates that we're familiar with or that -- or quarries that we've tested, and we have historical use with, so if you just want to buy your

aggregates from here, then there won't be any further testing involved. That's basically how that worked in my understanding.

Q. Right. Okay. So you did have an understanding about that, though?

A. I don't know whether I had at that time. I have it now. I mean, I do understand, you know, that it's a pre-approved list.

Q. And we know that Dufferin, the paving contractor, proposed using something -- aggregate from a quarry in Quebec called demix Aggregates for the SMA and SP 19FC2 surface courses on March 20th, 2007. We know that ultimately that is what was used. You're familiar with that issue?

A. Yes.

Q. Okay. And you aren't copied on or, as far as we've seen, forwarded the correspondence produced and in the inquiry database regarding the proposal by Dufferin to use demix Aggregates and then the back and forth about it. But did you nevertheless become aware that Dufferin had proposed to use demix Aggregates in the surface courses?

A. It's my -- yes, I was aware. I don't know when, at what point. Whether it was brought up at one of our staff meetings as just a, you know, this is what's happening. I'm not sure how I became aware of it, but...

Q. Okay. And so do you think it was likely it was at one of the biweekly meetings, team meetings, more likely than a direct call from someone or conversation with someone, like a one-to-one conversation?

A. Yeah, I can't -- I can't say either way that, you know, it was or wasn't.

Q. But you were made aware of it?

A. Yes.

Q. And in terms of timing, I appreciate you said you weren't sure, we just know that it was first proposed on March 20th, 2007. Did you become aware of this sometime in the early spring or was that later on?

A. I couldn't tell you. I have no --

Q. Was it before the SMA paving start on August 1st?

A. Oh, I believe so.

Q. Okay.

A. I believe I was aware that that was the aggregate that was being chosen. Maybe I didn't find out until there was (sic) told this was the approved aggregate. I don't know.

Q. Okay.

A. But I'm pretty sure I knew that that was the aggregate being used before the paving started.

Q. All right. And did you assign any significance to that knowledge once you were made aware of it? Did it cause you concern, no concern, or was it just an interesting piece of information?

A. I can't recall any, you know, major concern or major, you know, meetings or, you know, correspondence or, you know, discussions in that regard. So I mean, we had a protocol for whatever you wanted to propose. I mean, if it was guide rail, even it said, this is the guide rail we want or approved equal. So there's always that clause in there that -- and it's usually because of our procurement people to make sure that we don't, you know, limit ourselves to a single source type of thing. If someone's

got just as good idea, doesn't matter what the item or material is, there's usually some sort of a protocol within all the specifications to show that you had equal to what was being -- specifies to begin with.

Q. Okay. I'm just thinking about the -- what you described about the kind of issues that you would be made aware of and so forth. And I'm just wondering what the significance was about the aggregate choice issue that caused it to be brought to your attention, if you can recall.

A. Well, I don't think -- I don't think proposing a different aggregate. It doesn't matter whether it's from, you know, Quebec or another part of Ontario or, you know, anything else would've been a major issue, you know. Had it not, you know, met all of the specifications required and there was, you know, major delays in the project or the contractor was digging in his heals and saying, you know, you're being unusual or something like that, that was, you know, times where I may have been involved. Those types of things sometimes didn't come from maybe my own staff, but it would have been involved, you know,

directly by the contractor or, you know, that type of thing if they thought that someone within -- that they were dealing with was being unreasonable. But I don't believe that I was made aware of anything in that regard.

Q. And do you recall -- prior to the SMA paving, do you recall any concerns being raised with you about the demix Aggregates by Dr. Uzarowski, Mr. Oddi or anyone else?

A. I can't say that I was.

Q. Okay. You can't recall it?

A. I can't recall, no.

Q. Okay. Do you --

A. There was a lot of things happening at the time.

Q. Do you recall being advised that the SMA test strip on July 25th had failed or been rejected, something along those lines, failed or been rejected by Golder?

A. I can't say with any certainty that I was or wasn't. No, I don't know.

Q. You don't know one way or the other?

A. I don't know one way or the other.

Q. Okay. Do you recall being advised by anyone that Dr. Uzarowski recommended completing a new test strip?

A. No, I don't believe so. I mean, again, I don't recall anything in that regard. I'm trying to remember, you know, maybe a discussion or, you know -- because if you're brought into that discussion they're usually looking for direction. Okay, we've got this, what do you want us to do now. But I don't remember anything in that regard. I mean, again, there's standard procedures for dealing with that stuff out there so....I mean, that's why we hire, you know, contract administrators and site people and specialists, to deal with those things.

Q. Right. So you're saying you wouldn't have expected to be notified about those things; is that right?

A. No, I mean, I don't know how many other test strips were done and whether they were successful or unsuccessful. I don't know.

Q. Okay. What about Golder

advising Dufferin that they ought to do a new -- recommending that they should do a new test strip, and if they did not do so, that it was proceeding at its own risk. Is that something you were advised about?

A. No, I don't believe so.

Q. There is another matter that arose shortly before the rich bottom mix paving started in May where Dufferin advised Mr. Oddi that it was not warranting the paving on the south end of the project, essentially the part A section because it had not done the grading work on that part of it. It was Aecon that had done it. Do you recall if you were advised about that or not by Mr. Oddi?

A. I seem to remember something because I remember some discussions about that in that regard, but I can't recall the specific discussion.

Q. Okay. So maybe, but you can't recall?

A. It's more likely than unlikely because there's something that I do recall in that regard, but I'm just not sure what the details were.

Q. Okay.

A. I mean, there's -- someone says they're not going to warranty something, I mean, it's not unusual to get that type of an e-mail from the contractor that it just -- setting out potential red herrings, so to speak, in case of future claims, but, I mean, they -- I have seen it since, and I -- you know, I don't know that it's anything specifically.

Q. Well, maybe not. I mean, would you typically in response perhaps disagree so that there's something on record reserving your rights?

A. Well, I don't know that you need to. I'm not a lawyer, so I don't --

Q. Fair enough.

A. -- know.

Q. Okay.

A. Our reliance would have been on the contract documents and what they signed. The fact that, you know, they say, well, we're not going do that. I don't know -- gives up our right to rely on the contract documents, and then we have to address every one and say, no, yes, you do.

Q. That's what you meant when you referred to a red herring, essentially, is whether or not that's something that actually matters?

A. Right.

Q. Okay.

Commissioner, it's 4:26. I'm ready to move on to a new topic, so this would be a good time to break, in my view, subject to your....

JUSTICE WILTON-SIEGEL: That's fine. Will counsel be meeting in a breakout room to address tomorrow's schedule?

MR. LEWIS: Yes, that would be a good idea I think. I can advise I think I won't be more than an hour tomorrow, probably less, but we should have a discussion just amongst counsel.

JUSTICE WILTON-SIEGEL: Okay. Well, thank you very much, and we'll stand adjourned then until 9:30 tomorrow morning.

--- Whereupon at 4:26 p.m. the proceedings were adjourned until Tuesday, May 10th, 2022 at 9:30 a.m.