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ZONING BOARD OF APPEALS
BARRINGTON HILLS, ILLINOIS

ZONING TEXT AMENDMENT)
(CONTINUED) ARTIFICIAL LIGHTING -)
EXTERIOR)
)
SUCH OTHER BUSINESS AS MAY BE)
PRESENTED)

REPORT OF PROCEEDINGS at the hearing of the above-entitled cause before JONATHAN J. KNIGHT, Zoning Board of Appeals Chairman, at Countryside School, 205 W. County Line Road, Barrington Hills, Illinois, on the 22nd day of April, 2010, at the hour of 7:15 p.m.

ZONING BOARD OF APPEALS MEMBERS PRESENT:
MR. JONATHAN J. KNIGHT, Chairman
MR. JUDITH FREEMAN
MR. KURT ANDERSON
MR. BYRON JOHNSON
MR. GEORGE MULLEN
MS. NANCY MASTERSON

ALSO PRESENT:

MR. ROBERT KOSIN, Director
MR. JOSEPH von MEIER, Village Attorney

Reported by: Cynthia L. Peesel, CSR
CSR License No. 084-002656

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1 (Whereupon, the following proceedings
2 were held in open meeting.)
3 CHAIRMAN KNIGHT: I'd like to call to order
4 the Village of Barrington Hills April 22nd, 2010,
5 7:40 p.m. meeting of the Zoning Board of Appeals.
6 Can I have a roll call please.
7 COURT REPORTER: Member Freeman.
8 MS. FREEMAN: Here.
9 COURT REPORTER: Member Anderson.
10 MR. ANDERSON: Here.
11 COURT REPORTER: Member Rosene.
12 MS. ROSENE: (No response.)
13 COURT REPORTER: Member Johnson.
14 MR. JOHNSON: Here.
15 COURT REPORTER: Member Mullen.
16 MR. MULLEN: Here.
17 COURT REPORTER: Member Masterson.
18 MS. MASTERSON: Here.
19 COURT REPORTER: Chairman Knight.
20 CHAIRMAN KNIGHT: Here.
21 We have a quorum. Before we continue this
22 meeting from our February 17th meeting concerning the
23 lighting issue, I have a few comments and observations
24 that I'd like to make. I'm sure that we have some

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1 people here that have not attended meetings before, I
2 know we do, and I'd like to just clarify a few points.
3 What we have before us is a text amendment.
4 And the text amendment, such as the one presented to
5 the ZBA on lighting that we are engaging in discussion
6 on, has not been approved by the Board of Trustees. I
7 want to make it very clear that there is no text
8 amendment at this time. The submission is a basis for
9 discussion only, it always has been. And it is the
10 duty of the ZBA to ultimately make the recommendation
11 to the Board of Trustees concerning this issue.
12 We have many options. We could recommend
13 acceptance of the draft ordinance as presented. We
14 could recommend to the Board of Trustees that they not
15 accept the draft ordinance, with no further
16 recommendation. We could recommend acceptance of the
17 draft ordinance with minor or major revisions or we
18 could craft an entirely new draft ordinance. Again,
19 this will only be a recommendation to the Board of
20 Trustees, who ultimately have the authority to accept,
21 reject or amend whatever we recommend to them as they
22 see fit.
23 I must stress that the members of the Zoning
24 Board of Appeals are appointed to these positions and

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1 we are not elected village officials. It is not the
2 purpose of the ZBA to conduct a popularity poll of the
3 community for matters before it. We don't enjoy that
4 luxury. We collect information from many sources. We
5 do certainly listen to the comments from the public
6 and we do appreciate the many thoughtful comments we
7 have heard over the course of these hearings. And we
8 will ultimately make the recommendation to the village
9 Board of Trustees based on the information we have
10 gathered.
11 Once the ZBA makes a recommendation to the
12 Board of Trustees, the appropriate place to voice your
13 opinions will be before the Board of Trustees, for
14 they are the only ones that have the authority to make
15 a decision in this matter. If you are unhappy with
16 your elected officials, the ballot box is the place to
17 voice your opinion.
18 As to the process that we are engaged in,
19 I'd like to quote from the transcript of the
20 March 15th, 2010 ZBA proceedings, page 25, lines 10
21 through 24. The topic that night was that we were
22 passing out a White Paper concerning commercial
23 boarding and I think it applies to what we are doing
24 here as well. That meeting was attended by about four

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1 people, so that's the reason I'm repeating this. And
 2 I quote:
 3 Most people upon first blush at the zoning
 4 process, it's very difficult to understand why
 5 we do certain things, what we are doing that
 6 allows others that may know better to
 7 misinterpret the process to their own benefit or
 8 to politicize the process and we have seen that
 9 happen in the past. I'm sure it will happen in
 10 the future. But I will say one thing for the
 11 record, that whatever happens with this board,
 12 it's going to be according to the book, by the
 13 rules and regulations in place. The process is
 14 inviolate. It will remain so and it will not
 15 succumb to any pressures from anybody outside of
 16 this Zoning Board, including elected officials,
 17 appointed officials, members of the public,
 18 anybody that tries to subvert the legal process
 19 with which we are entrusted.
 20 I have some other observations and concerns
 21 about some misinformation that has been circulating in
 22 the community. We see things, we hear things, and I'd
 23 like to comment on that. One thing from the zoning
 24 perspective, I'm happy to see that there are people

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1 that are enjoying their freedom of speech. That's a
 2 right that we are all entitled to. However, in most
 3 instances, it is not legal without the permission of
 4 the governing legal authority to place signs in the
 5 public right-of-way on any streets and roadways,
 6 whether or not codified by a municipality, and that is
 7 primarily for safety reasons. Eventually, signs
 8 illegally placed in the public rights-of-way will be
 9 removed either by municipality, township, county or
 10 IDOT. These governing bodies by law have the right to
 11 do this if they choose to do so. If you want to place
 12 signs on your private property that's not in the
 13 public right-of-way, you have every right to do so.
 14 Secondly, some assertions have been made
 15 that the Village of Barrington Hills is attempting
 16 minimal notification of these proceedings. That's
 17 just not correct. Please recall that the Village took
 18 the unusual step of sending out postcards to all
 19 residents in notification of the initial hearing on
 20 the lighting issue. And further, in expectation of
 21 interested citizens, we have scheduled this meeting
 22 and all others at Countryside School to accommodate
 23 the expected number of people that choose to show up.
 24 This particular meeting had to be rescheduled because

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1 they had an ice cream party last night and that
 2 created a conflict that we were unable to overcome.
 3 That's why we are here tonight.
 4 One thing that the Village has recently
 5 obtained, Mr. Kosin, I believe that's correct, is the
 6 ability if you sign up to e-mail everyone about
 7 upcoming times and places of meetings for every board
 8 that meets in the public. So that's a step in the
 9 right direction and it will probably help many who
 10 otherwise have difficulty navigating websites or what
 11 have you. But let me assure you that these meetings
 12 are all well publicized and there's never been an
 13 attempt by the Village to conduct a meeting that would
 14 inhibit the participation or attendance of the public.
 15 I read some other things that disturbed me
 16 and I made a comment at the January 20th ZB meeting
 17 and I'm quoting from the transcript again from that
 18 meeting, page 77, line 6 through 10, I made one
 19 comment. Very simply I said:
 20 "But we also received comment in written
 21 form and via e-mail by many residents who
 22 expressed their concern that they were
 23 intimidated by the behavior of certain people as
 24 to wanting to make public comment. I find that

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1 very disturbing."
 2 That was the only comment that I made
 3 concerning that. I've heard others say that some
 4 other language was used by me in describing the crowd.
 5 This is from the record. This is the transcript.
 6 Nothing else was said. This is available to every
 7 member of the public if you choose to read it.
 8 The next item, representation that the
 9 relationship between the Comprehensive Plan and the
 10 zoning ordinance is somehow being stated in a manner
 11 by attorneys and various commission members as
 12 contrary to what is legal is incorrect. To summarize
 13 again briefly, and it's been said before, the
 14 Comprehensive Plan is a statement of desired goals and
 15 objectives of the community. This concerns land
 16 planning. If a trend or behavior is observed in the
 17 community that is contrary to statements in the
 18 Comprehensive Plan, then it is appropriate to amend
 19 zoning ordinances to allow legal remedy against the
 20 undesired trend and behavior.
 21 Finally, any intimation that the process
 22 followed by this board requires pressure from
 23 community activists to stay true to its mission in the
 24 performance of its prescribed duties is also

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1 incorrect. The implied attacks by these intimations
 2 on the personal integrity of our board members is
 3 unwarranted and inappropriate. The idea that but for
 4 outside influence the impact study that will be
 5 presented this evening would not have been
 6 accomplished as had been requested by this board is a
 7 malicious assertion.

8 Here is the timeline on what led up to this
 9 evening. On January 20th this board requested funding
 10 for an impact study. We were required to request the
 11 ability to do that of the board. On their
 12 January 25th meeting, the Board of Trustees approved
 13 up to \$5,000 for funding of that study. On
 14 March 18th, listen to these dates, on March 18th I
 15 sent an e-mail to Mr. Kosin, Miss Kenney and Robert
 16 Abboud, I sent a list of the homes that were to be
 17 included in the survey and had them follow up. It was
 18 accidental that I picked up the file that had the
 19 names that were signed up there. We said all along
 20 that we would have that study and get as many homes as
 21 we could in that study given the budgetary
 22 requirements.

23 We have tonight, April 22nd, the results of
 24 that study to be presented to us and seven of nine

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1 homes on the list were completed within budget. I
 2 believe it was reported in the newspaper that we'd
 3 only done one and that was for Member Masterson's
 4 home. She was the first one to be tested, that's
 5 true. To say that there was any attempt to not test
 6 the balance of the homes is absolutely empathically
 7 not true.

8 I felt it was important to make those
 9 statements so we can clear the record. Everything
 10 I've said is a part of the public transcript, is on
 11 the record. It's very easy for others to make
 12 statements because there is no way to verify or not
 13 verify and I felt it was important to answer that.

14 Before I get into the balance of this, it's
 15 going to take a minute but I want to read it. On
 16 March 18th the House of Representatives, our state
 17 legislatures, on a bill that was cosponsored by Mark
 18 Beaubien, who many of you know, passed a resolution
 19 unanimously as follows:

20 Whereas, our nation's use of energy
 21 continues to escalate, with increasingly
 22 detrimental environmental and economic impact;
 23 and...
 24 Whereas, outdoor lighting practices

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1 currently in widespread use in the State of
 2 Illinois consume large amounts of energy and are
 3 very energy inefficient; much more efficient
 4 outdoor lighting practices exist; and...

5 Whereas, energy savings would reduce carbon
 6 emissions into our air, preserve natural
 7 resources used to produce this energy, set a
 8 positive precedent for the rest of the nation,
 9 and result in reduction in costs for Illinois
 10 taxpayers and businesses; and...

11 Whereas, the safety and welfare of
 12 pedestrians, cyclists and motorists depend upon
 13 the reduction of glare and the establishment of
 14 consistent and well-defined standards for levels
 15 of artificial and outdoor illuminations; and...

16 Whereas, the State of Illinois recognizes
 17 the need to define limits and protect the
 18 State's residents and business owners from the
 19 trespass of excessive and misdirected artificial
 20 outdoor illumination from adjacent properties;
 21 and...

22 Whereas, there's growing evidence that
 23 excessive artificial outdoor illumination at
 24 night has detrimental effects on human health;

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1 and...

2 Whereas, excessive artificial outdoor
 3 illumination at night has been shown to have
 4 detrimental effects on numerous species of flora
 5 and fauna that depends on the natural cycle of
 6 day and night for survival; and...

7 Whereas, the State of Illinois recognizes
 8 the night skies as a natural resource and the
 9 need to preserve the unique quality of life of
 10 Illinois residents by preserving and enhancing
 11 their ability to view the night sky; and...

12 Whereas, the sky glow from artificial
 13 outdoor illumination negatively impacts the
 14 enjoyment of State parks and other areas of
 15 natural beauty and wildlife conservation; and...

16 Whereas, establishing predetermined
 17 standards for artificial outdoor illumination
 18 will provide Illinois residents, business owners
 19 and developers with a clear set of guidelines to
 20 follow; and...

21 Whereas, a clear set of guidelines for
 22 artificial outdoor illumination will eliminate
 23 the need for business establishments to compete
 24 for visual attention by escalating outdoor

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1 levels; and...

2 Whereas, a void remains in the creation and

3 implementation of a modern, practical set of

4 lighting standards which address the issues of

5 energy consumption, environmental and quality of

6 life related to artificial outdoor illumination

7 in a holistic, effective manner; and...

8 Whereas, the State of Illinois has the

9 potential to become a leader in the area of

10 artificial outdoor illumination practices by

11 promoting sound environmental policies which

12 will benefit residents of the State of Illinois

13 and serve as a positive example for the nation

14 to follow; and...

15 Whereas, the State of Illinois acknowledges

16 its responsibility to care for both the daytime

17 and nighttime environments; therefore, be it...

18 Resolved, by the House of Representatives

19 of the 96th General Assembly of the State of

20 Illinois, that we express our support for

21 improved night preservation practices in the

22 State of Illinois; and be it further...

23 Resolved, that we encourage, and this is

24 the important part, that we encourage

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1 municipalities and state agencies to adopt

2 suitable outdoor lighting practices based on the

3 principle of applying artificial light only

4 where it is needed, when it is needed and to

5 only the levels needed, using the best safety

6 and energy efficient standards available; and be

7 it further...

8 Resolved, that we encourage the Illinois

9 Sustainable Technology Center to provide

10 artificial outdoor illumination engineering

11 assistance to State agencies, municipalities and

12 businesses that seek to implement responsible

13 outdoor lighting to conserve energy and preserve

14 the important natural phenomenon of night; and

15 be it further...

16 Resolved, that suitable copies of this

17 resolution be sent to the Governor and the

18 Illinois Sustainable Technology Center.

19 That was voted unanimously by the

20 Representatives on March 18th, again, and I would have

21 to say that what we are doing in this process is

22 coincidentally in spirit with what the State has

23 recommended as far as discussing this issue, looking

24 at all the things that may be available to us.

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1 I think at this point we'll continue the

2 hearing from February 17th, 2010 and I think we'd like

3 to begin. Mr. Kosin, would you like to introduce the

4 lighting ordinance impact study that will be presented

5 to us at this point. I might add that we continued

6 that meeting to this date specifically to allow time

7 for the lighting ordinance impact study to be made. I

8 might add one thing else, too, that I spoke with

9 Mr. Abboud the other day and he said if anybody is

10 wondering why he isn't here, he said he's having

11 dinner at the White House with the President and Mayor

12 Daley. I just thought I would add that because he

13 asked me to.

14 Public comment has been closed but there is

15 always the possibility that I could open public

16 comments again. I can't say that I will this evening.

17 I may at a future time. I have the authority to do

18 that. We've devoted one, two-and-a-half hour entire

19 meeting to public comment. Again, it's not a

20 popularity contest.

21 At this point, I'd like to swear in those

22 that will be speaking this evening.

23 (Speakers sworn.)

24 MR. KOSIN: Good evening. My name is Robert

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1 Kosin, director of administration for the Village of

2 Barrington Hills. Tonight you have with you the

3 presentation of an engineering analysis that was

4 recommended that was done by the village engineer's

5 office which for the Village of Barrington Hills is

6 the firm of Gewalt Hamilton. There will be two

7 presenters from that office. Their presentation will

8 be both in hard copy before you as well as

9 simultaneously shown on this screen at this location.

10 There will be both Dan Strahan as well as Art Penn.

11 Both individuals, specifically, Mr. Penn, have

12 personally undertaken the analysis as well as

13 personally went out to the locations that will be

14 displayed.

15 Additionally, we have the Plan Commission

16 who will be able to see how their standards were

17 applied, and this work was undertaken in the last

18 three to four weeks. So with that, I would turn over

19 the presentation to Art Penn from the village

20 engineer's office.

21 MR. PENN: Thank you. Good evening. As Bob

22 mentioned, my name is Art Penn. I'm with the village

23 engineer's office at Gewalt Hamilton Associates. I'm

24 an electrical and a computer engineer and I was

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1 personally, with somebody else from our office, went
 2 out and did the evaluations and I'm here to present
 3 that tonight.

4 So the objectives that we were asked to
 5 complete, first of all, was to evaluate the exterior
 6 lighting of some residences, people had volunteered,
 7 for compliance with the proposed lighting ordinance to
 8 highlight areas within the ordinance where these
 9 residences were in compliance and areas where they
 10 were not in compliance and then give an estimate of
 11 the cost impact for retrofitting those systems so that
 12 they would reach compliance with the proposed
 13 ordinance.

14 The process that we went through, the
 15 proposed ordinance is based on a lumens model.
 16 Lumens, I know it's been mentioned in other areas, but
 17 it can be a confusing concept. A lumen is a
 18 measurement of the amount of light that leaves a
 19 fixture and it's the total light that leaves a fixture
 20 from every direction. It's -- basing an ordinance on
 21 this makes it very easy for a designer of a system to
 22 test whether they are in compliance simply by adding
 23 up the lumens that are on the packages of your
 24 fixtures and doing those calculations. It's a little

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1 bit more complicated to evaluate existing systems if
 2 you don't know the exact light bulb, the model of it,
 3 and you can't look up the values. So we had to come
 4 up with a system for estimating the lumens based on
 5 some type of light reading.

6 So what we did was we took a lot of
 7 different fixtures that we expected to see out in the
 8 field and in a controlled environment, basically a
 9 dark room, we took measurements from light fixtures
 10 that ranged from 100 lumens on the low end up to 4,000
 11 lumens, and we measured them at a variety of different
 12 distances, one foot, two foot, three foot, and we were
 13 trying to find a distance where we could measure it in
 14 the lab and then measure it in the field and be able
 15 to tell within a close proximity when we take a
 16 measurement of a light what is the estimated lumens of
 17 it so that we could do a fair evaluation.

18 The testing that we did in the lab resulted
 19 in the following two charts and these are the charts
 20 that we used so when we went out into the field and
 21 took a measurement at exactly two feet, then we could,
 22 on the left column, on the left axis, the Y axis, you
 23 can see the footcandles when we took a reading and we
 24 saw that it was 30 footcandles, then we can follow it

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1 over and give an estimate on how many lumens are
 2 coming out of that light.

3 And the charts are different whether it's an
 4 omnidirectional bulb, which is your typical light bulb
 5 that spreads light in any direction, and the second
 6 one is a floodlight or a spotlight. They have
 7 different light patterns so we had to do those
 8 separately.

9 Does that make sense to the people on the
 10 board, the process that we went through? So then we
 11 went out in the field and took measurements of every
 12 light that was on and compared them to the ordinance.

13 So the summary, we had seven of the nine
 14 evaluations we were able to complete in time. We
 15 had -- all of the volunteers were very accommodating.
 16 Everybody was very nice and helpful to us. Where
 17 possible, we were able to take, if the homeowner knew
 18 the amount of lumens for each light, we used that
 19 value. If they didn't, we took light measurements
 20 with the footcandles and did our conversions.

21 So the nuts and bolts, the results of those
 22 seven residences: One of the residences was fully
 23 compliant. The primary areas of noncompliance are the
 24 following three: The unshielded lumens per acre

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1 allowance, the unshielded landscape lumen for a single
 2 lamp and the driveway fixture lumens. And I'll talk
 3 about each of those.

4 Unshielded lumens per acre. The proposed
 5 ordinance allows for a thousand unshielded lumens per
 6 acre, and I've abbreviated that as LPA, just so that
 7 the slide isn't too wordy. Five of those seven
 8 residences exceeded 1,000 unshielded lumens per acre
 9 and that range was anywhere from 126 up to 14,000.
 10 You'll see that the range did go up. So five of the
 11 seven had less than 3,000 but only two of those were
 12 under the thousand. Okay.

13 For the individual landscaping lights, five
 14 of the seven residences had individual landscaping
 15 fixtures that exceeded 600 lumens. In some cases, it
 16 was only one or two lamps. In some cases, it was
 17 dozens. Only two residences had unshielded landscape
 18 fixtures that exceeded a thousand. So it wasn't very
 19 much more than the 600 limit lumen allowance but some
 20 of them were. Primarily, we are talking about
 21 floodlights and/or spotlights and they are, in most
 22 cases, illuminating trees from below or illuminating
 23 like posts, driveway posts at the end of the driveway
 24 and such.

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1 Most of these -- I didn't take any of the
2 fixtures apart to really look at it and see which
3 exact bulbs would fit in there. I wanted to be
4 nonintrusive but from the looks of it, most of them
5 could be replaced with other bulbs, so they could be
6 replaced with lower lumen output bulbs.
7 UNIDENTIFIED SPEAKER: Could you define
8 unshielded please?
9 MR. PENN: A fully shielded light --
10 unshielded is kind of the converse of fully shielded.
11 A fully shielded light does not allow light beyond the
12 horizontal. So fully shielded means it's directing it
13 down and none of the light is escaping above the
14 horizontal.
15 UNIDENTIFIED SPEAKER: How can you replace a
16 bulb in an uplighted tree that's not --
17 CHAIRMAN KNIGHT: Excuse me. I would ask --
18 I can understand the necessity to ask questions. My
19 preference would be to let the gentleman finish his
20 presentation. I think it might be appropriate at that
21 time for me to allow some questions about the nature
22 of this presentation. I would ask you to hold your
23 questions. I can understand your lack of
24 understanding of a lot of his presentation, it's a

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1 first for most of us, and I would open up a question
2 period concerning this presentation when the gentleman
3 is finished. Thank you.
4 MR. PENN: Just to clarify, the ordinance --
5 proposed ordinance does allow for landscaping lighting
6 that illuminates up the trees as long as that
7 individual lamp puts out less than 600 lumens.
8 The five houses, the five residences that we
9 are saying are not in compliance had individual lamps
10 that put out more than 600. In most cases, in five of
11 the seven, in only two of the residences did that, did
12 they have individual lamps that exceeded a thousand
13 lumens. And as I said, for my cursory looking at each
14 of the lights, I didn't really see any lights that
15 didn't have replaceable bulbs that could, you know, in
16 theory be replaced with lower lumen output bulbs.
17 Driveway fixtures. The proposed ordinance
18 allows for 200 unshielded lumens. Four of the seven
19 residences had fixtures that exceeded that. In most
20 cases, the most typical light fixture that we saw were
21 square, glass-housed fixture that had two or three
22 decorative bulbs inside. And in order to be in
23 compliance with those, I believe those can be replaced
24 with lower lumen output bulbs, decorative bulbs that

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1 would fit right into those fixtures.
2 Okay. Some other sections of the proposed
3 ordinance that I thought would be important to
4 mention. There was confusion with security lighting.
5 I know talking to the Plan Commission when they
6 drafted this, it's my understanding that they
7 considered security lighting to be exempt but some of
8 the homeowners that I spoke to professed some
9 confusion on that whether or not it was actually
10 exempt, specifically from the unshielded lumens per
11 acre calculation.
12 Now, to be clear, this evaluation did not
13 consider security lighting in those calculations. And
14 when I'm talking about security lighting, I'm talking
15 about lighting that is not typically on, that is
16 controlled by some type of motion sensor or security
17 system. Okay.
18 Fixtures attached to vegetation. There were
19 two residences that had some fixtures that were
20 attached to trees.
21 Prohibited fixtures. We had two residences
22 again that had fixtures that were specifically
23 prohibited by the proposed ordinance. One resident
24 had metal halide fixtures and one had mercury vapor.

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1 Doorways. There was an interesting case
2 where there were two residences that were deemed out
3 of compliance with the doorway section, not because
4 the typical doorway unshielded light mounted on the
5 wall was too bright, but they had floodlights in can
6 lights above the threshold that were shining down that
7 were fully shielded but as floodlights, they were
8 brighter than your typical house-mounted light and so
9 those exceeded the 1800 lumens per doorway. When I
10 was looking at that, it seemed like a special case
11 that I'm not sure was considered in the proposed
12 ordinance. In one case, one of the residences, that
13 was the only part of the ordinance that they were not
14 in compliance with was their bulbs were too bright.
15 Also, in that case, in that can light those bulbs
16 could be replaced with lower lumen output floodlights.
17 Any questions on that?
18 (No response.)
19 MR. PENN: Cost impact summary. I have to
20 preface this by saying I'm not a lighting designer,
21 especially exterior lighting designer. What I was
22 trying to accomplish here was in places where I saw
23 that bulbs looked like they could be replaced, finding
24 bulbs that would be in compliance with the proposed

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1 ordinance without making a determination myself
 2 whether that would be pleasing to the homeowner or to
 3 people looking at it, just that they would be within
 4 the lumen allowances.
 5 So specifically looking at each of the
 6 residences, the first one on 1800 Burning Oak, this is
 7 the residence that I mentioned that the only part that
 8 was out of compliance were these can lights above the
 9 doorway. And so the \$75 estimate is for two
 10 floodlight bulbs to replace on those that were lower
 11 lumen output.
 12 Two Fernwood was fully compliant.
 13 The hardest one was 235 Donlea. The doorway
 14 lights I believe would and the lights mounted to the
 15 house, the individual lights weren't out of compliance
 16 but there were a lot of them and when I added them up,
 17 they took up basically all of the unshielded lumens
 18 per acre allowance. So, basically, the only way to
 19 really be in compliance to retrofit that system would
 20 be to remove most of the landscaping uplights, if not
 21 all of them, and there were quite a lot. There were,
 22 I believe, about 50 or more uplights, landscaping
 23 uplights that would have to be removed. There wasn't
 24 really a possibility of retrofitting those because the

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1 house lights took up the unshielded lumens per acre
 2 allowance.
 3 For 73 Otis, the \$1,500 that I mentioned was
 4 just for replacing bulbs in the driveway, the fixtures
 5 mounted to the house and 17 of the landscaping bulbs.
 6 There were 50 landscaping uplights even after
 7 replacing the driveway and the house bulbs with lower
 8 lumen output bulbs. There's no way to support all of
 9 the 50 and still be under the unshielded lumen per
 10 acre allowance. So at least 33 of those 50 would have
 11 to be replaced, so two-thirds of those. So that would
 12 be 1500 just for replacing the bulbs and then removing
 13 the other ones or somehow disabling them.
 14 At 87 Otis it was just replacing three of
 15 the landscaping uplights, one on the driveway and ten
 16 of the doorway/garage light bulbs. None of them had
 17 to be removed.
 18 At 40 Steeplechase, that was \$500 for
 19 replacing 11 landscaping bulbs. These were the
 20 mercury vapor uplights that would have to be replaced
 21 with a different technology. I believe on those that
 22 it could be just the bulb replaced, but I'm not
 23 positive without taking it apart, and four driveway
 24 bulbs with the decorative bulbs in there. And then

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1 even with that they still wouldn't meet the unshielded
 2 lumens per acre. So two of the landscaping uplights
 3 would have to be disabled and there's one tree-mounted
 4 fixture that's a security light so it's not on but
 5 because it was mounted to a tree I believe that would
 6 have to be replaced or removed.
 7 And 4 Fernwood, there are six lights mounted
 8 in the trees that they made up about two-thirds of the
 9 unshielded lumens per acre allowance. They made up
 10 two-thirds of the unshielded lumens in the total
 11 system. There was also one metal halide uplight and
 12 six landscaping uplights that would have to be removed
 13 to meet the unshielded lumens per acre and there are
 14 33 driveway/doorway/house and patio bulbs that would
 15 have to be replaced. So that 770 is just for
 16 replacement of those bulbs, not counting the removal
 17 of the tree-mounted lights and the metal halide
 18 uplights.
 19 That's a lot of information in a short
 20 amount of time. I have a question. I don't know if
 21 you want me to do -- I have background slides on each
 22 of them with pictures. If there's a particular
 23 residence that you wanted to look at more closely or
 24 if you want to take questions, I'll leave it to you.

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1 CHAIRMAN KNIGHT: How many pictures do you
 2 have?
 3 MR. PENN: Each house, maybe seven to ten.
 4 CHAIRMAN KNIGHT: Does the board want to see
 5 the pictures?
 6 MR. JOHNSON: We have them here.
 7 CHAIRMAN KNIGHT: Would the public like to
 8 see the pictures?
 9 (Chorus of nays.)
 10 CHAIRMAN KNIGHT: Well, let me -- by show of
 11 hands, how many people have questions of the
 12 presentation?
 13 (Show of hands.)
 14 CHAIRMAN KNIGHT: I want to ask are they
 15 questions of the presentation or a statement of
 16 opinion about what's taken place? If they are
 17 questions about the presentation and they are brief,
 18 then why don't you all stand and be sworn in as a
 19 group and then state your name and address when you
 20 are asked to speak and we'll just go by row.
 21 (Audience members sworn in.)
 22 CHAIRMAN KNIGHT: Let's just take the front
 23 row from right to left. Do you have a question? This
 24 gentleman here, state your name and address.

1 MR. SESSO: Ralph Sesso, 15 Moate Lane.
2 When you measure the lumens, you said that
3 you were a certain distance from the fixture and that
4 distance was how much, sir?

5 MR. PENN: Two feet. And just to be clear,
6 we were measuring footcandles, which is slightly
7 different but then we used a conversion from
8 footcandles to lumens.

9 MR. SESSO: So when you are standing on the
10 edge of the property, are you walking up to every
11 single light and measuring it two feet away or are you
12 measuring from the property since you are talking
13 about trespass?

14 MR. PENN: The light trespass is a separate
15 issue. When we were measuring and estimating the
16 lumen output of each fixture, we measured from exactly
17 two feet from each fixture. There were cases where we
18 were just not able to get that close to a fixture
19 without climbing the house. In all of those cases, we
20 were able to take a measurement from basically the
21 equivalent light at other places at the residence. So
22 in most residences, they had a lot of the same type of
23 light. So, for example, on some houses that had
24 lights that were maybe 15 feet in the air, we wouldn't

1 get within two feet, so we just took the measurement
2 from the similar light that was in a more accessible
3 location.

4 MR. SESSO: So if you were measuring
5 something from the edge of the property and you were
6 measuring something at the house, which might be
7 100 feet away, how much of a drop in lumens would they
8 be?

9 MR. PENN: You would not get a, unless it
10 was pointed directly at it, you would almost never get
11 any type of measurable footcandles.

12 MR. SESSO: (Inaudible comment.)
13 (Audience applause.)

14 MR. PENN: We did not have a single case
15 where we saw light trespass of even a tenth of a
16 footcandle at the lot line.

17 CHAIRMAN KNIGHT: Let me say that having
18 read the studies, we don't need applause but there
19 were no cases in any of these homes of light trespass
20 but that's just one form of light pollution, if you
21 will. Light trespass was not an issue with any of
22 these homes. So that's what your study proved, right?

23 MR. PENN: That's correct.

24 MR. SESSO: I just have one final question.

1 One of you mentioned the state law that was recently
2 passed was energy usage. So I wanted to know if you
3 measured solar lights?

4 MR. PENN: There were no solar lights in any
5 of the residences that we were evaluating.

6 MR. SESSO: Would those be measured?

7 MR. PENN: If they were there, we would
8 measure them.

9 MR. SESSO: Even though they are solar?

10 MR. PENN: Solar is just the power source,
11 it's not the type of fixtures so, yes, we would
12 measure them.

13 MR. BARRY: Dave Barry, Buckley Road, 127.

14 What was the equation for this based on
15 lumens, lamp lights to lumens? What is the actual
16 equation?

17 MR. PENN: You mean footcandles to lumens?

18 MR. BARRY: Yeah, how did you come up with
19 it?

20 MR. PENN: I'll show you the chart.

21 MR. BARRY: And who came up with this, you?

22 MR. PENN: So what we did was we took --
23 there were basically two different types of bulbs.
24 Kind of at the macro level is the omnidirectional

1 bulbs that shoot light in all the directions and
2 floodlights and spotlights. What we did was we took
3 an omnidirectional bulb in a dark room and we measured
4 out precisely one foot, two foot, three foot, four
5 foot and five foot and we used a light meter. I don't
6 know if you are familiar with it. I can show you.
7 But we measured footcandles at the horizontal for the
8 omnidirectional bulb right from the light, the actual
9 filament, and we measured it one foot and two foot and
10 then we graphed that out like this.

11 The best graph we found was at two feet. So
12 this is exactly what we had where we had --

13 MR. BARRY: So it's based on footage not
14 equation?

15 MR. PENN: It's not an equation. It's kind
16 of a relationship.

17 MR. BARRY: Then how can I -- I don't
18 understand.

19 MR. PENN: It's a relationship between
20 footcandles. So if we look at the footcandles along
21 the Y axis and then find where it crosses then the X
22 axis, then we can make an estimate on the number of
23 lumens.

24 MR. BARRY: That still doesn't make sense

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1 to me. It's got to be an equation. I don't
 2 understand anything.

3 MR. PENN: If I was smart enough to be able
 4 to calculate that curve, it would be an equation.
 5 This is a function where along the X axis, for every
 6 value along the X axis we have one value.

7 MR. BARRY: I don't know how it could be a
 8 study without an equation.

9 MS. WAMBERG: My name is Dede Wamberg. I
 10 live at 7 Fox Hunt Road.
 11 I had sent in a FOIA request for your study
 12 now that it's become public --

13 CHAIRMAN KNIGHT: Let me respond to that.
 14 When things are in draft form, they are not considered
 15 public record until such time as they are presented in
 16 a public forum. It has been presented tonight, you
 17 can have it.

18 MS. WAMBERG: Okay. Okay. Could you bring
 19 up the slide where you have your costs estimated.

20 MR. PENN: If there's a particular
 21 residence, we can actually look at the spreadsheet
 22 for --

23 MS. WAMBERG: No, the first number there,
 24 75, zero, thousands, 150 and 1,500, these are just

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1 guesstimates on your part?

2 MR. PENN: Yeah, these are estimates based
 3 on the number of -- taking a bulb and saying, okay, in
 4 order for this to work, I need a bulb that's going to
 5 have this lumen output and finding one that would
 6 match, at least from eyeballing it, looking at the
 7 fixture, how much would it cost to buy a replacement
 8 bulb that would have that lumen output.

9 MS. WAMBERG: So for all of the removal of
 10 landscape lighting that's not in compliance, we could
 11 be reimbursed by the Village?

12 CHAIRMAN KNIGHT: That's not an appropriate
 13 question. We are asking questions about the
 14 presentation. That's not part of the --

15 MR. PENN: I did not want to try to estimate
 16 what a landscape would cost.

17 MS. WAMBERG: So those numbers there are
 18 just for light bulbs, they are not for the fixtures
 19 themselves?

20 MR. PENN: Correct. That's why I said, for
 21 instance, for 40 Steeplechase it's 510 plus the
 22 removal of this. I don't know what somebody would
 23 charge you at your residence to remove those lights or
 24 whether you would replace them with something else.

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1 MS. WAMBERG: My final question is since
 2 this is kind of complicated as far as measuring, I
 3 mean, I can see if this ordinance passes if I have
 4 something uplighting something, I know that that's not
 5 in compliance.

6 CHAIRMAN KNIGHT: There's no ordinance to be
 7 passed. We are still discussing --

8 MS. WAMBERG: Just give me a break, okay.
 9 Give me a break. I'm asking a question. Who is going
 10 to do the measuring? Do we have to hire? I mean, I
 11 don't understand if you went out and you did seven,
 12 how are we -- it just seems incomprehensible to me.

13 MR. PENN: This is the challenge is trying
 14 to do seven in a short amount of time. We didn't
 15 really have the opportunity to really look at each
 16 fixture. If we were to do this, let's say, down the
 17 road we have an ordinance that becomes law and
 18 somebody has a complaint and they want me to come out
 19 and they say I don't believe that that residence is in
 20 compliance and so I'm called out to go and test the
 21 compliance, in most cases the way we did it would be a
 22 very good starting point and we'd be able to estimate
 23 the lumens.

24 I fully believe that there would probably be

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1 some fixtures that maybe I estimated to be 1200 lumens
 2 and you say no, I don't think that's right, we would
 3 actually look at that model of the lamp. I didn't
 4 have that luxury in this case because we didn't have a
 5 lot of time. I didn't want to be intrusive and taking
 6 apart the lamp to find the actual model number.
 7 Wherever a homeowner told me this is this model lamp,
 8 I took them at their word for that and used that lumen
 9 rating in the calculations and that would be primarily
 10 the way I would like to do that in any type of
 11 enforcement situation.

12 The way the proposed ordinance was written
 13 was this lumens per acre model is designed so that if
 14 I am a homeowner and I want to decide how many lights
 15 I can put up or whatever, I can look at the actual
 16 fixtures and look at the rating because all the new
 17 light bulbs tell me exactly what the rate of lumen
 18 output is.

19 CHAIRMAN KNIGHT: I think the question was a
 20 legitimate one and that is that this board is going to
 21 have to decide there's a mitigation factor that I
 22 think you are referencing that I don't think this
 23 gentleman can answer, but I think that's something
 24 that this board has to take into consideration in

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1 these deliberations. Would that be a fair assessment
 2 of your question?
 3 MS. WAMBERG: Yes. Thank you, Jonathan.
 4 Yes.
 5 MR. HARRISON: My name is Stephen Harrison,
 6 90 Hills and Dales Road. I've been a resident for 35
 7 years.
 8 My question aligned to Dede's question. It
 9 has two parts. The first part is with regards to the
 10 cost and your charges or your company's charges for
 11 evaluating each residence, can you give me a rough
 12 estimate on an average residence to insure compliance
 13 with this code if it were -- if it were passed?
 14 CHAIRMAN KNIGHT: I can answer that. We had
 15 a \$5,000 budget to test as many homes as we could
 16 within that budget. Our anticipation was it was going
 17 to be about 500 bucks a home, might have been from
 18 five to \$700 a home to check them out. And that's
 19 what was performed. What you see here was the cost of
 20 what they arrived at.
 21 Obviously, there are things that have been
 22 referenced that have to do with other fixtures that
 23 may be in place that were installed under existing
 24 building permits and codes that would have to be

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1 addressed but, again, I think that's something that we
 2 have to consider in our discussions.
 3 MR. HARRISON: Are there roughly 1500
 4 residences or 2000? How many residences are in
 5 Barrington Hills? Mr. Kosin might --
 6 CHAIRMAN KNIGHT: Mr. Kosin, how many homes
 7 do we have in the village?
 8 MR. KOSIN: Fourteen hundred.
 9 MR. HARRISON: So what does that come out to
 10 be, \$700 or, 7,000, okay.
 11 The second question is based on your
 12 studies, do you have some kind of "lumenometer" that
 13 the lumen police who will be patrolling our houses,
 14 because they have very little else to do but measure
 15 our lumens, can you tell us how we are going to
 16 propose to enforce a law? If it is passed, what do
 17 you give to the lumen police?
 18 MR. PENN: I have a light meter. If you are
 19 interested, I can show you.
 20 MR. HARRISON: I withdraw the question.
 21 CHAIRMAN KNIGHT: It's efficient to say that
 22 there would be complications in testing your own
 23 property.
 24 MR. HARRISON: The other thing is shielded

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1 versus unshielded. But if I don't want to trip over
 2 my walk and I have a low-voltage light shining on the
 3 walk, can you tell me is that considered shielded or
 4 unshielded?
 5 MR. PENN: Without looking at the individual
 6 fixture, I couldn't tell. But in almost every -- in a
 7 lot of the residences that I did evaluate, they had
 8 fully shielded walkway lights that were about 12 to
 9 24 inches tall and they were fully shielded, they
 10 shone directly down onto the pavement and they had a
 11 nice distribution to light up the walk.
 12 MR. HARRISON: If you did evaluate one of
 13 those, roughly what wattage, and I realize there's no
 14 equivalent to lumens and watts, but you said that you
 15 looked at them and recommended like would an 18
 16 low-voltage watt be acceptable with the 600 lumen or
 17 no?
 18 MR. PENN: Are we still talking about the
 19 fully shielded light? Because the fully shielded
 20 lights do not have 600 lumen allowance, it can go
 21 larger. The only -- for the fully shielded light it's
 22 just a total of 10,000 lumens, both shielded and
 23 unshielded per acre.
 24 MR. HARRISON: If it shines on a tree, that

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1 would be unshielded?
 2 MR. PENN: If it's -- in almost every case,
 3 the ones shining on the trees are shining up and they
 4 are unshielded. I mean, conceivably you could have
 5 one that's eight-foot tall and shining at the base of
 6 the tree and fully shielded, yes, but I think what you
 7 are talking about is an unshielded light that is
 8 shining up into the tree.
 9 MR. HARRISON: Would 18 watts be acceptable?
 10 MR. PENN: Yes, in most cases 18 watts, you
 11 are mostly looking at a 200 lumen lamp or less.
 12 MR. PALUMBO: John Palumbo, 241 Oak Knoll
 13 Road.
 14 If you had taken a 100-watt bulb in your lab
 15 and measured the luminosity at two feet, what might it
 16 have been?
 17 MR. PENN: Can we look back at the -- I
 18 mean, I'm going by footcandles in the chart, but
 19 it's -- I believe we were saying 100 lumens or a
 20 100-watt bulb was somewhere in that 1100 to 1300
 21 lumens because the originally I think the doorway was
 22 going to be 900 lumens and that was 60-watt and then
 23 the committee doubled that to 1800 per doorway, which
 24 would be two 60-watt. So a 100-watt bulb is somewhere

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1 around that 1100 to 1300-watt lumens.
 2 MR. PALUMBO: Which is outside of
 3 compliance?
 4 MR. PENN: For an uplight. For a
 5 non-shielded light, for a landscaping light, not for a
 6 doorway light.
 7 MR. PALUMBO: For the sake of the people
 8 here that are normally used to wattage and bulbs, what
 9 wattage bulb, unshielded, might be in compliance?
 10 MR. PENN: It's difficult to say because it
 11 depends on whether it's a floodlight or spotlight.
 12 MR. PALUMBO: Spotlight, unshielded.
 13 MR. PENN: I don't know by wattage for the
 14 spotlight, sorry.
 15 MR. PALUMBO: Unshielded, omnidirectional
 16 bulb, 30-watt, 40-watt?
 17 MR. PENN: Six hundred would be probably 40
 18 to 50-watt.
 19 MR. PALUMBO: Okay. Fifty-watt bulb.
 20 Second question, is this an additive
 21 process, meaning, if I had 100 50-watt bulbs, it would
 22 be the same as one 5,000-watt bulb?
 23 MR. PENN: Each individual lamp is tested
 24 against that 600 lumen allowance and then the only

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1 additive part is the unshielded lumens per acre
 2 allowance, which is a thousand unshielded lumens per
 3 acre.
 4 MR. PALUMBO: But if I had 100 bulbs and
 5 those added up to a thousand or I had ten bulbs that
 6 add up to a thousand, that would still be within the
 7 framework?
 8 MR. PENN: Correct.
 9 MS. EKSTROM: Laura Ekstrom, 553 Oak Knoll
 10 Road. Almost a lifetime resident of Barrington Hills.
 11 I've been living in Barrington all my life since I was
 12 three, on Oak Knoll Road for over 15 years.
 13 Which lumen figure did you use for the
 14 unshielded figure because in the draft ordinance it's
 15 listed as two different figures in two different
 16 spots. In Section 7-1(d), it shall not exceed 400
 17 lumens; Section 5-3(a)(ii) shall not exceed 600
 18 lumens. Which figure did you use?
 19 MR. PENN: There were different figures for
 20 different sections in different lights. Are we still
 21 speaking about the landscaping lights?
 22 MS. EKSTROM: Nonessential lighting, which
 23 by definition includes unshielded, nonessential
 24 lighting shall not exceed 400 lumens. Unshielded

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1 landscape lighting, which by definition is
 2 nonessential in the definition section, shall not be
 3 in excess of 600 lumens. Section 5 is the residential
 4 guidelines. Section 7 is amortization costs.
 5 MR. PENN: Specifically, you just passed it,
 6 but for the landscaping lights, the 600 lumens, that's
 7 what I used. All exterior light fixtures, landscaping
 8 lighting not in excess of 600 lumens. And in the
 9 driveway, and that was a limit of 200 lumens and the
 10 doorways was 1800 lumens. And those were the primary
 11 figures that I used.
 12 MS. EKSTROM: Just as a side note, you need
 13 to have the lumens consistent because you could be in
 14 compliance in one section at 600 and not in compliance
 15 in the other section at 400, and I think that's
 16 confusing.
 17 I was wondering what type of bulb you could
 18 find that qualifies for 200 lumens because it's about
 19 a 15-foot bulb for the driveway and the walkway
 20 lighting.
 21 MR. PENN: Are you speaking about when I did
 22 the cost estimates?
 23 MS. EKSTROM: Yeah, you were --
 24 MR. PENN: For the driveway lights, those

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1 decorative bulbs, I used a 3-watt LED 150-lumen bulb.
 2 MS. EKSTROM: Okay. Then the other question
 3 I have is with entry gates. I was wondering how you
 4 addressed this because the way it's written here is
 5 that freestanding lighting, the setback is three times
 6 the mounting height with the exception that there's no
 7 setbacks on gates, which would be an entry gate,
 8 because that would be the edge of the property or
 9 fences provided they do not exceed 0.1 footcandles,
 10 which is, I calculated when you look it up, it's one
 11 lumen. A candle is 12 lumens. So this would be
 12 1/12th of a one-watt bulb and I was wondering how do
 13 you think we can comply with that?
 14 MR. PENN: A footcandle is -- there's not a
 15 comparison. The comparison you are speaking of is at
 16 exactly one foot away from a light, from a light
 17 source --
 18 MS. EKSTROM: It took me awhile to find
 19 out --
 20 MR. PENN: The way that a footcandle is
 21 defined is a light source with one lumen at one foot
 22 over a one-square-foot area will provide one
 23 footcandle --
 24 MS. EKSTROM: But this is .1 footcandle.

1 MR. PENN: I understand.
 2 CHAIRMAN KNIGHT: Negligible, right?
 3 MS. EKSTROM: Well, the internet says .1
 4 footcandle equals the light of a full moon.
 5 MR. PENN: At the equator. I've never
 6 measured .1 footcandle from a full moon around here.
 7 I think we are getting away from your question, but.
 8 MS. EKSTROM: You take a footcandle, divide
 9 by 10.76 to equal the lumens. So when you do that,
 10 you get 1.0776 lumens or less. That's the equation.
 11 MR. PENN: You can't -- you have to factor
 12 in distance when you are doing those.
 13 CHAIRMAN KNIGHT: What is this going to lead
 14 to?
 15 MS. EKSTROM: Okay. At an entry gate, we
 16 are limited to .1 footcandles. This is the writing in
 17 the ordinance. And if this isn't clear, it needs to
 18 be made more clear, but they shifted from using lumens
 19 and the ordinance states that no setbacks, gates and
 20 fences, because your setback is 50 feet in order to
 21 comply with 60-watt bulb to be .1 footcandle at
 22 property line. That's the standard way they calculate
 23 it. So if you have a gate, an entry gate which is at
 24 the edge of your property and it has a light on it, it

1 says here that it cannot exceed 0.1 footcandle of
 2 lumens. This is section -- well, this is the
 3 residential section, 3(a)(ii).
 4 MR. PENN: The confusing part of that --
 5 MS. EKSTROM: So I'm trying to sort out how
 6 you calculated that when you were looking at people's
 7 entry gates and what light you found was in compliance
 8 with --
 9 CHAIRMAN KNIGHT: I think technically if
 10 your gate was at the front of your property, your
 11 property line would extend to the center of the
 12 roadway so you'd be set back enough that that wouldn't
 13 be an issue. Would that be correct, Mr. Kosin?
 14 MS. EKSTROM: I wouldn't think that would be
 15 correct.
 16 CHAIRMAN KNIGHT: That is correct. If your
 17 property fronts on the street, your gate isn't going
 18 to be at your property line otherwise you'd be in the
 19 middle of the street. In Barrington Hills the lots
 20 are measured from the middle of the street going back
 21 to the property and you have to -- you cannot put a
 22 gate on the public right-of-way so you are going to be
 23 set back well enough that if you had a light fixture
 24 at your gate, you are not going to be trespassing

1 because the property line would be at the middle of
 2 the road.
 3 MS. EKSTROM: The wording here says, "The
 4 setback for freestanding light fixtures from the
 5 property line in any residential district shall be
 6 more than three times the mounting height, except
 7 there shall be no setbacks on gates and fences,
 8 provided they do not exceed 0.1 footcandle of
 9 Illuminance."
 10 CHAIRMAN KNIGHT: But that's correct. You
 11 are --
 12 MS. EKSTROM: They are not going to
 13 calculate from the middle of the road. There's no
 14 calculus because they are saying that light, itself,
 15 cannot exceed 0.1 footcandles, that's how it's worded.
 16 MR. PENN: We do not calculate footcandles.
 17 We measure -- footcandles are measured directly.
 18 There's not -- you cannot calculate -- you cannot go
 19 from lumens to footcandles without incorporating
 20 distance, it's just --
 21 CHAIRMAN KNIGHT: We could discuss this all
 22 evening.
 23 MR. PENN: We took measurements.
 24 MS. EKSTROM: I'm just going to ask him how

1 we calculate the gates. At two feet what figure did
 2 he use? Assume he used two feet, because he used that
 3 through the entire study. For an entry gate at two
 4 feet, which lumen amount did you apply?
 5 MR. PENN: I think what you are confusing is
 6 the two feet is where we took measurements from to
 7 determine the lumen lighting for a light source.
 8 That's the only place we used the two feet.
 9 MS. EKSTROM: Well, that's what you said.
 10 So you were measuring an entry gate light at two
 11 feet --
 12 MR. PENN: Right, to determine the lumen
 13 rating --
 14 MS. EKSTROM: -- what lumen did you apply?
 15 MR. PENN: -- for that light. We measured
 16 the footcandles at two feet and then we used those
 17 charts --
 18 CHAIRMAN KNIGHT: Excuse me. I think this
 19 line of questioning is really getting off track. We
 20 are splitting hairs.
 21 MS. EKSTROM: This is very simple. When you
 22 measured an entry gate, what lumen was acceptable?
 23 That's the question.
 24 MR. PENN: Two hundred lumens per light

1 fixture.

2 MS. EKSTROM: Okay. So that's your answer.

3 CHAIRMAN KNIGHT: That makes it easy. Going

4 across the front line here.

5 MR. STANTON: My name is Patrick Stanton. I

6 live at 71 Spring Creek Road and I have been here for

7 37 years.

8 I had a question about the lumens and the

9 wattage and I don't understand that. That wasn't

10 clear. So, you know, like I have, for example, I have

11 a 100-watt bulb outside the garage and it's -- you can

12 see it from the bottom of the fixture, okay. So

13 100-watt bulb, what does that mean then?

14 MR. PENN: 100-watt bulb means that the

15 light source is using 100 watts of power. It's a

16 measurement of the power used by the light. It

17 doesn't tell you directly how much light is coming out

18 of that. The newer higher-efficient bulbs, LED,

19 compact fluorescent, you could have a 27-watt compact

20 fluorescent bulb that puts out the same amount of

21 light as that 100-watt incandescent. So it didn't

22 make sense to define the ordinance, talking to the

23 committee that wrote the ordinance, they didn't want

24 to write it based on wattage because you could -- if

1 you said you could only have 100-watt bulb at your

2 entryway, you could have a compact fluorescent now

3 that has four times the light output for the same

4 wattage.

5 MR. STANTON: Okay. Using that as an

6 example, how many lumens or how would you relate that

7 to lumens or how could you transfer lumens to wattage?

8 MR. PENN: Well, each light bulb has a

9 different lumen rating. A 100-watt bulb is usually in

10 the 1100 to 1300 lumen range. When you actually buy

11 that light bulb now from Home Depot or wherever you

12 buy it, it actually stamps it right on the box.

13 MR. STANTON: So that's 1100 lumens and the

14 ordinance says that on an unshielded bulb it's got to

15 be less than 1100; is that correct?

16 MR. PENN: Depending on where is --

17 landscaping has less than 600 lumens or less.

18 MR. STANTON: It's attached to a building.

19 It's attached to a garage. It's outside a garage.

20 MR. PENN: Consider like a doorway light,

21 it's 1800 lumens per doorway, regardless of the number

22 of fixtures. So some houses have one, some houses

23 have two.

24 MR. STANTON: So then -- I guess, regarding

1 the wattage on the walkway, if I had a walkway and I

2 had bulbs that weren't shielded and that's, I guess,

3 the other question is what exactly is a shielding

4 versus unshielded?

5 MR. PENN: The definition is a fully

6 shielded bulb does not allow any light to escape

7 nor -- or above the horizontal. So from wherever the

8 light source is, if you were to draw a line parallel

9 to the ground, it doesn't allow any light to go above

10 that. Unshielded is just the opposite.

11 MR. STANTON: When you are walking up the

12 stairs, how are you supposed to do that when you have

13 no lighting that would go above the level of the

14 ground? I mean --

15 MR. PENN: Typically, you have to light a

16 surface otherwise if a light source isn't bouncing

17 light off of a surface, you can't see it. So

18 typically like on stairways you have light source onto

19 the step so you can see the steps coming up but it

20 doesn't need to come -- the light source doesn't need

21 to come up to your eye, it needs to reflect off the

22 step up to your eye, that's how you see the step.

23 MR. STANTON: All right. Well, I don't

24 understand the unshielded lumens per acre.

1 MR. PENN: So it's just a calculation. It's

2 just a way of basically evaluating an entire residence

3 trying to put some type of number on how much of this

4 unshielded light the Village wants to allow per

5 residence. So because some residences have more

6 acres, they decided to do it on a per acre basis. So

7 all we are doing is we are adding up all the

8 unshielded light fixtures, all the lumen ratings for

9 each of those fixtures and then just simply dividing

10 it by the acreage of the lot and comparing it to a

11 thousand.

12 MR. STANTON: What's your background again?

13 MR. PENN: I am a computer and electrical

14 engineer.

15 CHAIRMAN KNIGHT: Excuse me. That's not an

16 appropriate question. We are asking questions of the

17 presentation not the qualifications.

18 MR. STANTON: But it makes perfect sense to

19 ask if he's giving the explanation and the study and

20 it's based on his background --

21 CHAIRMAN KNIGHT: This is a legislative

22 hearing. We are not asking for the qualifications of

23 anybody. He was hired by the Village as a qualified

24 engineer. That will suffice. Do you have any other

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1 technical questions?
 2 MR. STANTON: Yeah, regarding his ability --
 3 CHAIRMAN KNIGHT: That's not a technical
 4 question.
 5 MR. STANTON: I think it is.
 6 CHAIRMAN KNIGHT: Well, it isn't. Please
 7 pass the microphone.
 8 MR. TOBIAS: Gary Tobias, 235 Donlea, the
 9 person that on your list is going to cost thousands,
 10 probably around ten grand.
 11 Will I be able to get to see your study and
 12 what you are recommending or you found wrong with this
 13 residence?
 14 CHAIRMAN KNIGHT: It is available to
 15 everybody. Public record now.
 16 MR. TOBIAS: How do I get it, just out of
 17 curiosity?
 18 CHAIRMAN KNIGHT: Mr. Kosin, it will be
 19 available at the Village Hall? Will this be on the
 20 website, too?
 21 MR. PENN: This is the spreadsheet for your
 22 house, Mr. Tobias.
 23 MR. TOBIAS: I don't have a camera to take a
 24 picture.

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1 MR. PENN: It will be on the website. And
 2 there were a couple homeowners that asked for me to
 3 send it to them but because it wasn't a matter of the
 4 public record yet, I couldn't until now. But it will
 5 be available on the website.
 6 CHAIRMAN KNIGHT: I'll give you my copy. I
 7 have two of them.
 8 MR. TOBIAS: I'll come up later and get that
 9 from you.
 10 CHAIRMAN KNIGHT: And any other homeowner
 11 that wants a copy of theirs, I'll just take it from
 12 here so you don't have to wait.
 13 MR. CECOLA: Sam Cecola, 45 Lakeview Lane.
 14 The question has to do with security
 15 lighting. Am I to understand that the only type of
 16 security lighting permitted is motion activated?
 17 MR. PENN: My understanding is anything
 18 that's tied to some type of security system. I mean,
 19 when we were doing the evaluations, we weren't looking
 20 at any lights that were, by default, off. So I guess
 21 technically that would account for something that's on
 22 a switch that's typically off. So security lighting,
 23 if you see something you actually flip the switch and
 24 turn it on -- when we did the evaluation, I think the

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1 way it's worded, it has to do with something that's
 2 motion sensor or attached to some type of security
 3 system but we didn't really have any way of evaluating
 4 lights that were not on.
 5 MR. CECOLA: What I'm saying though is,
 6 would a system that's not tied to a motion detector,
 7 just an on-and-off switch, floodlights that you have
 8 on the outside, that would not be permitted?
 9 CHAIRMAN KNIGHT: I don't think it was the
 10 intent of the authors of the -- could you answer that,
 11 Mr. Stieper.
 12 MR. STIEPER: The definition of security
 13 lighting under the ordinance is exempt if it falls
 14 under the definition, which I think is motion sensors.
 15 Under Section 5, paragraph four, if it falls under
 16 that definition, it's deemed security lighting and
 17 exempt from the lumen requirement. Otherwise, all
 18 lighting would fall under the -- what's prescribed in
 19 the act. So if it's a security lighting that's
 20 controlled by a light switch, I don't believe that
 21 would fall under the security lighting exemption.
 22 Does that answer your question?
 23 MR. CECOLA: No. In other words, my wife
 24 hears a noise in the yard, can she hit a switch?

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1 CHAIRMAN KNIGHT: I think that's exempt if
 2 it's done for security purposes for a short period of
 3 time, but I think, if I'm interpreting it, if the
 4 light was a big spotlight that was left on all night,
 5 I think that might create an issue, according to what
 6 we've seen. Would that be a fair statement?
 7 MR. STIEPER: Well, as this was drafted,
 8 basically, a motion sensor light, if it's lighting
 9 from a switch, it would not be exempt.
 10 MR. CECOLA: It should be. If it's a
 11 security light, what's the difference if it's a switch
 12 or not. It should be.
 13 MR. STIEPER: If it's extinguished within
 14 five minutes of cessation of the actual perceived
 15 emergency, it would be exempt.
 16 MR. CECOLA: But this also goes on to say
 17 that this has to be activated by the motion sensor or
 18 some other electronic device. It doesn't talk about
 19 manually putting it on and off. That's my confusion.
 20 CHAIRMAN KNIGHT: We'll take note of that.
 21 MS. FLANNERY: Louise Flannery. I've been a
 22 resident at 100 Brinker Road for 44 years.
 23 You called this a cost impact study but you
 24 only -- the cost that you did was just on replacing

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1 light bulbs, nothing else; is that correct?
2 MR. PENN: Correct.
3 MS. FLANNERY: So it wasn't a total cost
4 impact study?
5 MR. PENN: Correct. Like I said, I have --
6 the \$500 in this case 510 plus whatever the cost would
7 be for either removing it or disabling the light in
8 some way.
9 MS. FLANNERY: What about the cost of
10 removing lights that don't comply with this ordinance?
11 MR. PENN: Right. That's what I said, that
12 would be in addition.
13 CHAIRMAN KNIGHT: Let me answer that. I
14 think it was the intent of the study, given the budget
15 limitations that we had, to measure what light was
16 coming out of the particular property and what we
17 could identify as replacements. I think it would have
18 been cost prohibitive to tell us individually what it
19 would cost to remove --
20 MS. FLANNERY: Then I don't think you should
21 call this a cost impact summary.
22 CHAIRMAN KNIGHT: It's the best we could do.
23 MS. FLANNERY: Let me finish please --
24 CHAIRMAN KNIGHT: It's the best we could do

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1 to help us in our task.
2 MS. FLANNERY: Excuse me, let me finish.
3 CHAIRMAN KNIGHT: Ask the question.
4 MS. FLANNERY: I did ask a question and I'm
5 asking him again. This was only a partial cost impact
6 study, if I assume that you did not include the
7 removal of lights that do not -- are not in compliance
8 with this?
9 MR. PENN: Correct. Because basically what
10 I was saying was there's a lot of different options
11 for disabling those, whether there's full removal,
12 whether it's just turning off. In order to be
13 compliant, the minimum that would have to be done
14 would be replacing these certain light bulbs, which I
15 estimated the cost of the light bulbs and then somehow
16 disabling. That could be disabling that circuit,
17 removing them. There's a wide range of values. I
18 don't know what a landscaping company would charge you
19 to replace them, whether you have to take out conduit.
20 MS. FLANNERY: I'm not talking about
21 replacing bulbs. I'm talking about replacing
22 fixtures, like the moon lighting in trees.
23 MR. PENN: Correct. I did not have any
24 opportunity to estimate what somebody would charge you

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1 to remove those.
2 MS. FLANNERY: So this is only a partial
3 cost impact summary?
4 MR. PENN: Correct. That's why I said it's
5 this number.
6 CHAIRMAN KNIGHT: Within the budgetary
7 restrictions. If you wish to call it partial, that's
8 fine.
9 MS. FLANNERY: I think we should.
10 CHAIRMAN KNIGHT: Well, fine. It is what it
11 is. We can't do anything different at this point. I
12 appreciate your question, though. Thank you.
13 MR. BEISER: Mitch Beiser, Night Light,
14 Incorporated. I'm the president. I'm kind of re --
15 CHAIRMAN KNIGHT: What's your address
16 please?
17 MR. BEISER: 30 Acorn Drive, Hawthorn Woods
18 CHAIRMAN KNIGHT: You are not a resident of
19 Barrington Hills?
20 MR. BEISER: No, but I work for a number of
21 people here.
22 CHAIRMAN KNIGHT: Well, you are not a
23 resident but I'll let you ask a question. Thank you.
24 MR. BEISER: The impact study I would think

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1 is supposed to give you a feeling for what the impact
2 is going to be to all the residences. The costs that
3 are displayed here are far from even the tip of the
4 iceberg the costs for someone to redesign. It isn't
5 as simple as changing one light bulb to another with
6 the sophisticated fixtures, control systems and
7 everything in these beautiful homes.
8 CHAIRMAN KNIGHT: I think we recognize that
9 MR. BEISER: It isn't represented here is
10 what I wanted to caution you.
11 CHAIRMAN KNIGHT: Again, I'll say we had
12 limitations on what we did. It gives us an idea of
13 how much light is coming from residences. To say how
14 much impact it has to do the complete job, we had
15 neither the time nor the budget to do that. We have
16 already said it's a partial study. If you are trying
17 to make that point, it's been made.
18 MR. BEISER: There's an acknowledgment that
19 it's much more expensive.
20 CHAIRMAN KNIGHT: That would vary from
21 property to property. I think we can deduce that very
22 well. But if somebody has to eliminate 33 fixtures,
23 there's a cost attached to that that we were unable to
24 provide. We recognize that.

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1 MR. BEISER: Are lights that are high,
 2 shining straight down considered shielded or
 3 unshielded?
 4 MR. PENN: That would depend on the fixture.
 5 I mean, if the fixture is fully shielded that it does
 6 not allow light to go beyond the horizontal, then it's
 7 fully shielded.
 8 MR. BEISER: So if it does put all light
 9 beyond 90 degrees, everything in a lower angle down,
 10 it's considered fully shielded?
 11 MR. PENN: Correct. Correct.
 12 MR. BEISER: I'm wanting to understand why
 13 we wouldn't have lights in trees that are up high,
 14 which do a lot for eliminating skylight, which do a
 15 lot for covering a big area but not getting light
 16 across the property line, why would those be
 17 considered a bad light source? And then further
 18 eliminating the efficient light sources that they use,
 19 which are HID lumen output per watt of power, which is
 20 efficiency, they are much more efficient than
 21 incandescent light which is the approved light source?
 22 CHAIRMAN KNIGHT: We'll ask that question in
 23 our deliberations. That's a good question. I can't
 24 answer that right now.

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1 MR. GIGERICH: John Gigerich, 373 West
 2 County Line Road. Resident of Barrington Hills since
 3 1998.
 4 Quick question, was there any attempt made
 5 to estimate the second cost that would have to be
 6 thrown away in these systems? When I was an executive
 7 of a bank worldwide and we did real estate projects,
 8 we always estimated the cost of the change and the
 9 cost or the value of the investment that we had to
 10 throw away. Did you make any attempt to evaluate the
 11 dollar value or the estimate residents had in these
 12 homes that would have to be thrown away?
 13 MR. PENN: No.
 14 CHAIRMAN KNIGHT: I think that question was
 15 asked by Mrs. Flannery.
 16 MR. GIGERICH: Then this truly is not an
 17 impact study because an impact study must consider all
 18 costs, both the investment loss and the change.
 19 CHAIRMAN KNIGHT: We understand that. Thank
 20 you.
 21 MR. CIESIELCZYK: My name is John
 22 Ciesielczyk on 4 Royal Way.
 23 My question is regarding gateposts and
 24 lights on fenceposts that you were talking about. I

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1 guess your ordinance said only 15 watts per gatepost
 2 and it had to be a gate that was 50 feet away from the
 3 property line. Many of us live on private roads where
 4 they are not, you know, Algonquin Road or Bateman
 5 Road, and anybody could go through there. They are
 6 dead-end roads where part of our property, you know,
 7 is taken away from that road and the only people that
 8 go down that road are the people on that road. In our
 9 case there's seven residents. So a lot of our gates
 10 or gateposts aren't 50 feet back from our easement.
 11 So I think there should be some type of caveat or
 12 amendment to this to say that those gateposts should
 13 be treated as a regular light on a house because
 14 that's the only light that's on the road, if any. I
 15 mean, it's not like we have sodium lights that are on
 16 the main roads, so I was hoping they'd at least take
 17 that into effect when using your study.
 18 CHAIRMAN KNIGHT: All right.
 19 MR. CIESIELCZYK: To have us use a regular
 20 1800 watts or whatever, you know, not 15 watts all
 21 because, you know, that's useless.
 22 CHAIRMAN KNIGHT: All right. Thank you.
 23 MR. SIEFERT: Tim Siefert, 31W382 Penny
 24 Road.

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1 My question just is was there any barns of
 2 any significant size on any of these properties?
 3 MR. PENN: There were barns. They did not
 4 have lights that were on by default. There was a
 5 garage on one property that I guess could be
 6 considered a small barn and we counted those as
 7 typical garage house-mounted lights, but I did not
 8 see -- I know I've heard there are some residences
 9 that have barns with large down lights, we did not
 10 have any of those in the study.
 11 MR. SIEFERT: There's no barn lights that
 12 you measured at all?
 13 MR. PENN: No.
 14 MR. DAVID: Jim T. David, 60 Ridge.
 15 One question I had is I hear this reference,
 16 sarcastic reference, to lumen police and -- I hear
 17 these comments about the lumen police. Is that a
 18 complaint from your neighbor which activates that or
 19 will there be an entity to come around?
 20 CHAIRMAN KNIGHT: That's the first time I've
 21 heard that expression.
 22 MR. DAVID: Well, I heard it tonight.
 23 CHAIRMAN KNIGHT: Well, my hearing isn't
 24 perfect, believe me. Anything that this Village does,

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1 this board, again, the gentleman that spoke earlier
 2 referenced this as a ordinance that we are proposing.
 3 This board isn't proposing anything. We have a
 4 document that's been presented to us for our study.
 5 The one thing that we are always cautious of is
 6 unintended consequences. Obviously, whatever we want
 7 to do is to not create an administrative nightmare.
 8 Typically, if you go through zoning codes you'll see
 9 on occasion that the Village has to have a meeting
 10 when somebody creates a problem that is detrimental to
 11 their neighbors, a means in which to enforce and
 12 respond to violations. To say that anybody in this
 13 village goes out looking for any violations, I don't
 14 think that's true. I think things do come to the
 15 Village's attention by neighbors and somebody might be
 16 running a bonfire for two days in a row and not paying
 17 attention to the ordinance. But, yes, we are well
 18 aware of the unintended consequences and that
 19 certainly would never be the intent of anything that
 20 we recommended to the Board of Trustees.
 21 MR. DAVID: Well, it was my understanding
 22 that it was -- had to be activated by a neighbor or
 23 someone else, you weren't going around looking for
 24 conflict?

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1 CHAIRMAN KNIGHT: That's typically how
 2 things happen. If you have a neighbor that you can't
 3 resolve with a neighborly discussion and it gets to
 4 the point where it requires attention from somebody
 5 else, you don't have any choice.
 6 MR. DAVID: I totally agree with that. One
 7 question I had is how do you measure your reflective
 8 lighting? For example, if they have a spotlight
 9 against a bright, white object reflecting back, do you
 10 get in front of the spotlight or do you get in front
 11 of the reflected light?
 12 MR. PENN: The way the ordinance is written,
 13 it's written based on the output of a fixture, not
 14 necessarily any type of reflective light. So when we
 15 are measuring the light, we are measuring the direct
 16 light coming off of the fixture. So we measured
 17 exactly two feet from each fixture and took the lumen
 18 rating there. Whether it's reflecting off the house
 19 going straight up into the air, it doesn't -- we
 20 weren't measuring the reflective qualities of it.
 21 MR. MARCY: Merlin Marcy, 126 Brinker Road.
 22 I'm a 52-year resident of Barrington Hills.
 23 Time for a little levity. How many
 24 Christmas tree lights can I put on my 50-foot

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1 Christmas tree outside?
 2 MR. PENN: My understanding is that holiday
 3 lighting is exempt.
 4 MR. GIANOPULOS: Skip Gianopulos, 16 Rebecca
 5 Drive, Barrington Hills.
 6 When you are measuring an entrance, does a
 7 garage bay door, is that considered one entrance?
 8 MR. PENN: Yes.
 9 MR. GIANOPULOS: So four single-bay garage
 10 doors would be four entrances?
 11 MR. PENN: That's the way I measured it.
 12 MR. GIANOPULOS: And two double-bay doors
 13 would be two entrances?
 14 MR. PENN: When it came to garages, I was
 15 measuring each one as individual, each fixture.
 16 MR. GIANOPULOS: Each opening as an
 17 individual entrance?
 18 MR. PENN: Each fixture, in that case,
 19 because they weren't close together like a front door
 20 case. So I wasn't looking at, you know, a double door
 21 saying 1800 between them, I was looking at each
 22 fixture.
 23 MR. GIANOPULOS: Thank you.
 24 MR. CECOLA: Sam Cecola again, 45 Lakeview

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1 Lane.
 2 I have a follow-up question when he was
 3 asking about holiday lights. Are party lights exempt
 4 from this ordinance or any special events that you
 5 have on your grounds?
 6 CHAIRMAN KNIGHT: I think swimming pool
 7 lights are exempt. I think, if I read correctly, my
 8 memory is any good, you might have to -- Mr. Stieper,
 9 why don't you answer that.
 10 MR. BOSWORTH: Ken Bosworth. There's an
 11 exemption -- prohibited lighting, special event
 12 lighting has to be approved and permitted by the
 13 Village. The commission thought that special event
 14 lightings can vary from a little to a lot. We didn't
 15 want to try to figure out how to sit there and go how
 16 many lights you could have per person or type of
 17 event. We thought that was something that the Village
 18 should decide on a case-by-case basis and not having
 19 us try to regulate it in advance.
 20 MR. CECOLA: Every time you have a party,
 21 you have to get a permit, is that what you are saying?
 22 MR. BOSWORTH: That's what I'm saying.
 23 MR. GIANOPULOS: Skip Gianopulos, 16 Rebecca
 24 Drive.

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1 There is also a part in the ordinance that
 2 requires covering of windows. Did you measure light
 3 escaping from uncovered windows?
 4 MR. PENN: No.
 5 MR. GIANOPULOS: Thank you.
 6 MS. EKSTROM: Laura Ekstrom again. Just a
 7 quick follow-up to his question. When you are saying
 8 that the distance from one side of the garage to the
 9 other was large enough to measure them as individual
 10 lights, at my entrance, my lanterns on each side of my
 11 entrance are that far apart. How are you going to
 12 apply this evenly? It seems like you are being very
 13 subjective. So I'm just raising that question. If
 14 garages are exempt, if you have one on each side of
 15 the garage and you count them separately, then you
 16 should probably have one on each separate door count
 17 separately as well because many entrances have lights
 18 that far apart.
 19 The only other comment I wanted to make was
 20 in the ordinance, itself, there's three contradictory
 21 statements that you need to reconcile before you
 22 recommend this, which I hope you don't. It says 1800
 23 lumens is equivalent to a 60-watt incandescent bulb in
 24 Section 7. In Section 2 it says 100 -- in Section 3

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1 it says 1800 lumens is equivalent to 100-watt
 2 incandescent bulb; 60-watt and 100-watt are different.
 3 And then in another area it says 100-watt bulb is 1500
 4 lumens and 60-watt bulb is 780. There's three
 5 different sections, 7, 2 and 3 that have all
 6 contradictory terms, which I think makes it very
 7 difficult for him to conduct a study accurately or for
 8 us to interpret. So I'm just pointing it out. Thank
 9 you.
 10 CHAIRMAN KNIGHT: We are going to have to
 11 start cutting questions short.
 12 MR. BARRY: Dave Barry, 127 Buckley.
 13 I'm driving my car on my property to go feed
 14 a horse. Now, if the lights are on, is that shaded or
 15 not? And when I get to the barn and have a
 16 flashlight --
 17 CHAIRMAN KNIGHT: We are not measuring
 18 automobile lights.
 19 MS. COOLS: Pamela Cools, 32 Little Bend
 20 Road.
 21 I had a question. You were talking about
 22 compliance and if you were going to go out actively to
 23 enforce this or not. I look at this from the terms I
 24 think a lot of people do, I want to be a good

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1 resident. I don't want to just go, oh, I hope they
 2 don't catch me. I want to know how many man hours did
 3 it take with the engineering staff to do one of these
 4 engineering studies and could an average resident do
 5 this on their own or do they need to have a designer
 6 or engineer come and do it?
 7 MR. PENN: It took about 40 minutes per
 8 house to do the actual in-the-field readings. If I
 9 knew what the light bulbs were, it would have been a
 10 lot easier, I wouldn't have had to do the conversions.
 11 I think that's the way the committee had designed the
 12 ordinance to try to make it easier for homeowners to
 13 figure out how they are in compliance by looking at
 14 the lumen ratings on the light bulbs when they
 15 installed the bulbs. It makes it a little more
 16 difficult on the enforcement officer to kind of figure
 17 out and estimate what that lumen rating is, so I would
 18 hope it would be easier for the homeowner but, you
 19 know, acknowledging we have -- everybody has existing
 20 lighting systems.
 21 If you wanted to go out and look at that, it
 22 basically takes about, depending on the house, I mean,
 23 some of the houses were over 100 lights to measure so
 24 it took 40, 45 minutes to do that and then it was just

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1 a matter of adding up the lumens and comparing it to
 2 the ordinance, so.
 3 MS. COOLS: My next question is dimmer
 4 switches, how do you account for that in the
 5 ordinance? If you have something that would seemingly
 6 be a non-compliant fixture, a non-compliant bulb, if
 7 I've got a dimmer on it, do you know or don't know?
 8 How do we reconcile that?
 9 MR. PENN: Are you talking about when you
 10 actually go out to measure it?
 11 MS. COOLS: No, I'm just saying I might have
 12 a fixture that appears to be non-compliant but I've
 13 got a dimmer switch on it, I can regulate the amount
 14 of lumens that are being emitted at any particular
 15 point in time, how do you measure that? How do you --
 16 MR. PENN: I think the way the ordinance is
 17 written, it's written based on the lumen rating of the
 18 fixture, so that would be at full power.
 19 MS. COOLS: Even though I don't use it at
 20 full power?
 21 MR. PENN: The way the ordinance is written
 22 for when you are doing your design, you would design
 23 it full power. As somebody coming out to take the
 24 measurements, I don't know whether you have it on a

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1 dimmer. I don't know whether that light is on
 2 typically or not typically. I'm measuring it based on
 3 what it is when I'm out there.
 4 MS. COOLS: Thank you.
 5 MR. SESSO: Ralph Sesso, 15 Moate Lane.
 6 Regarding the study, I'm assuming that you
 7 probably did not measure the possible unintended
 8 consequences of multiple lawsuits that might happen as
 9 a result of people tripping on unlit walkways?
 10 MR. PENN: I did not, no.
 11 MS. WAMBERG: Dede Wamberg, 7 Fox Hunt Lane.
 12 I would like to make a request of the ZBA
 13 since this study was a partial cost study, there's a
 14 lot of barns in the Barrington Hills area that have
 15 their lights on in the evening hours. I really do
 16 think that for best-case scenario/worst-case scenario,
 17 that that also should be part of this study because
 18 there's some large barns, there's some small barns.
 19 You didn't do a barn. You assumed that the lights on
 20 barns were the same as on homes and I just would like
 21 to put that forward because a lot --
 22 MR. PENN: Actually, the only reason we
 23 didn't do a barn was there wasn't a barn that had a
 24 light that was on that volunteered for the study. We

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1 didn't exclude them for any particular reason.
 2 MS. WAMBERG: But since we are an equestrian
 3 community, I would have hoped that maybe someone would
 4 have thought of that. So, thank you.
 5 CHAIRMAN KNIGHT: All right. No more
 6 questions. We'll close this portion. Are there
 7 questions from board members of the study?
 8 MR. JOHNSON: I think what we are talking
 9 about here is a partial compliance study with the
 10 proposed ordinance. We are certainly not talking
 11 about an impact cost study. So just looking at your
 12 numbers, if we average \$700 just to look at
 13 compliance, with Bob's 1400 houses, that's
 14 approximately a million dollars. Would it take a
 15 person of your qualifications to do what you did or
 16 could I do it?
 17 MR. PENN: You can do it. I mean, if you
 18 know what -- hopefully, you know what bulb it is that
 19 you are putting in. It should be easier for you
 20 because you can, you are replacing or somebody that
 21 works for you is replacing those bulbs, you can look
 22 to see what the lumen rating on the box is and it's
 23 just a matter of adding it up. You don't have to take
 24 measurements.

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1 I think the committee designed the proposed
 2 ordinance so that you can do it based on the lumen
 3 rating on the box of the fixture and just add them up
 4 and compare them to the ordinance. The only reason I
 5 had to go out and do this was because we were dealing
 6 with systems where we didn't know it, we were trying
 7 to get an answer quickly.
 8 MR. JOHNSON: That would assume that the
 9 resident fully understood the proposed rules that were
 10 in this item, correct?
 11 MR. PENN: Correct.
 12 CHAIRMAN KNIGHT: Member Mullen, do you have
 13 a question?
 14 MR. MULLEN: No.
 15 CHAIRMAN KNIGHT: Member Masterson?
 16 MS. MASTERSON: No.
 17 CHAIRMAN KNIGHT: Member Anderson?
 18 MR. ANDERSON: No.
 19 CHAIRMAN KNIGHT: Member Freeman?
 20 MS. FREEMAN: No.
 21 CHAIRMAN KNIGHT: Any of the plan
 22 commissioners have questions?
 23 MR. HENNELLY: My name is Pat Hennelly, 1807
 24 Spring Creek Road.

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1 A clarification on the question from the
 2 lighting designer over there where we state you cannot
 3 use HID lighting but actually it's HID fixtures. HID
 4 metal halide lights are approved, if you look at --
 5 I'm trying to find the paragraph right now. The only
 6 light that's not approved is a mercury vapor. It's on
 7 Section 6, paragraph six.
 8 MR. PENN: I think you are looking at
 9 commercial, Pat.
 10 MR. HENNELLY: You can use a metal halide
 11 light bulb, yes.
 12 MR. PENN: Are you looking at the commercial
 13 section?
 14 MR. HENNELLY: No, I'm looking at -- well,
 15 yes, I am. I'm looking at --
 16 MR. PENN: Residential does not allow the
 17 HID's.
 18 MR. BEISER: Because residents aren't
 19 allowed to be efficient?
 20 MR. PENN: In the instance of a metal
 21 halide, I'm speaking kind of for the committee --
 22 CHAIRMAN KNIGHT: We don't appreciate that
 23 line of questioning here. I mean, that's not
 24 appropriate to ask a question in that manner because

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1 we tried very hard to be respectful of one another but
 2 a question like that is out of order.
 3 MR. PENN: Can I make a point about HID?
 4 CHAIRMAN KNIGHT: Yes.
 5 MR. PENN: I think what the committee was,
 6 from what I heard the committee discussing the HID
 7 lights for residences, like, for instance, a metal
 8 halide fixture, the minimum lumen output is about 2500
 9 lumens and I think they felt that, from what I heard,
 10 that that wasn't appropriate for residential
 11 application. You know, we were talking about most of
 12 the fixtures 600, you know, 1800 for doorway and a
 13 fixture that by itself had -- was a minimum of 2500
 14 lumens, that's why HID was not allowed for residential
 15 purposes.
 16 CHAIRMAN KNIGHT: Member Johnson?
 17 MR. JOHNSON: I've got a question for Dave
 18 and Ken, since they were sworn in so nicely tonight.
 19 Art pointed out that none of the seven homes that he
 20 reviewed had evidence of any light trespass. Did that
 21 conclusion, I guess, from your standpoint of what you
 22 did on the Plan Commission, was that planning
 23 consistent with what you found as you developed the
 24 proposal?

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1 MR. STIEPER: Yeah, our mandate was to
 2 attempt to draft an ordinance in conformance with the
 3 Comprehensive Plan. We knew just visually looking at
 4 Barrington Hills that light trespass was not going to
 5 be an issue. It was about the other elements of the
 6 Comprehensive Plan, the glow, sky glow and glare and
 7 that's what this ordinance consistent with the
 8 Comprehensive Plan attempts to remedy. That was our
 9 mandate.
 10 MR. JOHNSON: Thanks.
 11 CHAIRMAN KNIGHT: Any other questions?
 12 (No response.)
 13 CHAIRMAN KNIGHT: Thank you for your
 14 presentation.
 15 MR. PENN: Thank you. I just want to say
 16 again thank you to all the residents that volunteered
 17 for this. Everybody was really helpful and I
 18 appreciate that.
 19 CHAIRMAN KNIGHT: Let's take a five-minute
 20 break.
 21 (Short break.)
 22 CHAIRMAN KNIGHT: We are reconvened now
 23 officially. I think what we are going to do is we've
 24 heard an awful lot. We have a lot to look through on

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1 this study. We have a lot of comments from the public
 2 concerning this study. It's going to take us a bunch
 3 of time and I think most of us are pretty tired to go
 4 to the next phase of this hearing. I think it's
 5 important we probably have a better understanding of
 6 what we've seen tonight, so I would entertain a motion
 7 to -- well, let me just say to continue this meeting
 8 to our -- at this point, I don't believe we have
 9 anything on our agenda for our May meeting. And what
 10 is the date of this meeting, Mr. Kosin?
 11 MR. KOSIN: 17th.
 12 CHAIRMAN KNIGHT: May 17th would be our
 13 regular meeting and I would entertain a motion to
 14 continue this hearing to that date.
 15 MR. MULLEN: So moved.
 16 CHAIRMAN KNIGHT: Member Mullen.
 17 MS. MASTERSON: Second.
 18 CHAIRMAN KNIGHT: Second by Member
 19 Masterson. All in favor?
 20 (Chorus of ayes.)
 21 MS. FREEMAN: Can I just ask a question?
 22 Are we continuing this discussion and then adjourning
 23 this meeting or are we continuing the meeting?
 24 CHAIRMAN KNIGHT: This meeting -- that's

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1 going to be the next motion. We have passed a motion
 2 to continue this hearing until May 19th.
 3 MR. KOSIN: 17th.
 4 CHAIRMAN KNIGHT: 17th, excuse me. I would
 5 like to entertain a motion to adjourn.
 6 MR. ANDERSON: So moved.
 7 MS. FREEMAN: Second.
 8 CHAIRMAN KNIGHT: Member Anderson was first,
 9 second by Member Freeman. All in favor?
 10 (Chorus of ayes.)
 11 CHAIRMAN KNIGHT: No nays. Meeting
 12 adjourned.
 13 (WHICH WAS AND IS ALL OF THE
 14 MATTERS PRESENTED AT SAID MEETING.)
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1 STATE OF ILLINOIS)
2) SS.
3 COUNTY OF C O O K)
4

5 I, CYNTHIA L. PEESEL, Certified Shorthand
6 Reporter and Notary Public doing business in the City
7 of Chicago, County of Cook, and State of Illinois,
8 state that I reported in machine shorthand the matters
9 presented at the public meeting of the Barrington
10 Hills Zoning Board of Appeals on the 22nd day of
11 April, 2010, and that the foregoing is a true and
12 correct transcript of my shorthand notes so taken as
13 aforesaid, and contains all the matters presented at
14 said meeting, to the best of my knowledge and ability.
15
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17
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19
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Cynthia L. Peesel
CSR License No. 084-00265

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24

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