

GOVERNMENT
OF
THE DISTRICT OF COLUMBIA

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ZONING COMMISSION

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PUBLIC HEARING

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IN THE MATTER OF:           :
                               :
Comprehensive Zoning         : Case No.
  Regulations Review         : 08-06
Chapter B-13: Green Area     :
Ratio                         :
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Monday,
December 20th, 2010

Hearing Room 220 South
441 4th Street, N.W.
Washington, D.C.

The Public Hearing of Case No. 08-06 by the District of Columbia Zoning Commission convened at 6:30 p.m. in the Office of Zoning Hearing Room at 441 4th Street, N.W., Washington, D.C., 20001, Anthony J. Hood, Chairman, presiding.

ZONING COMMISSION MEMBERS PRESENT:

ANTHONY J. HOOD, Chairperson
KONRAD SCHLATER, Vice Chairperson
MICHAEL G. TURNBULL, FAIA,
Commissioner (AOC)

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OFFICE OF ZONING STAFF PRESENT:

SHARON S. SCHELLIN, Secretary
DONNA HANOUSEK, Zoning Specialist
ESTHER BUSHMAN, General Counsel

OFFICE OF PLANNING STAFF PRESENT:

HARRIET TREGONING, DIRECTOR
JENNIFER STEINGASSER
TRAVIS PARKER

The transcript constitutes the minutes from the Public Hearing held on December 20th, 2010.

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T-A-B-L-E O-F C-O-N-T-E-N-T-S

Comprehensive Zoning Regulation Review

Z.C. Case No. 08-06

Office of Zoning

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P-R-O-C-E-E-D-I-N-G-S

6:33 p.m.

CHAIRPERSON HOOD: Good evening ladies and gentlemen. This is the public hearing of the Zoning Commission of the District of Columbia for Monday, December the 20th, 2010.

My name is Anthony Hood. Joining me are Vice-Chairman Schlater a Commissioner Turnbull.

I'm going to ask tonight to do something a little different. We have some distinguished guests with us. Well, not really guests, but they're here for the first time. So what I'm going to have everyone do on the dias is introduce themselves starting to my left going to my right. I didn't invent this. This came from former Chairman Marc Loud, so I'm going to try it myself tonight.

MS. BUSHMAN: Okay. I'm Esther Bushman, General Counsel to the Office of Zoning.

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MS. HANOUSEK: Donna Hanousek,
Zoning Specialist, Office of Zoning.

MS. SCHELLIN: Sharon Schellin,
Secretary to the Zoning Commission, Office of
Zoning.

VICE-CHAIRMAN SCHLATER: Harriet?

MS. TREGONING: I'm the Director of
the Office of Planning, Harriet Tregoning.

MR. TULOU: Christophe Tulou,
Director of the District Department of the
Environment.

MR. PARKER: Travis Parker with the
Office of Planning.

MS. STEINGASSER: Jennifer
Steingasser, Deputy Director with the Office
of Planning.

CHAIRPERSON HOOD: Okay. Thank
you.

Commissioners Peter May and
Commissioner Selfridge will be reading the
record and participating in this case.

Also, this proceeding is being

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recorded by a court reporter and it's also Web cast live. Accordingly, we must ask you to refrain from any disruptive noises or actions in the hearing room.

The subject of this evening's hearing is Zoning Commission Case No. 08-06, Chapter B-13. This is a request by the Office of Planning for text amendments to the Zoning Regulations as part of the Zoning Regulations review process. Tonight's hearing is on proposed Chapter B-13, which would add a chapter to the Zoning Regulations that is focused on environmental standards entitled "Green Area Ratio."

Notice of today's hearing was published in the *D.C. Register* on October 29th, 2010, and copies of that announcement are available to my left on the wall near the door.

This hearing will be conducted in accordance with provisions of 11 DCMR ' 3021 as follows: We're going to have preliminary

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matters, presentations by the Office of Planning, the report of other government agencies, report of all the ANCs, organizations and persons in support, organizations and persons in opposition. Tonight before the Zoning Commission asks their questions, we're going to hear from the Office of Planning, other government agencies and then we will hear from the public. And after we hear from the public, we will then ask our questions.

The following time constraints will be maintained in this hearing: Organization, five minutes; individuals, three minutes. The Commission intends to adhere to the time limits as strictly as possible in order to hear the case in a reasonable period of time.

The Commission reserves the right to change the time limits for presentations if necessary and no time shall be ceded.

All persons appearing before the Commission are to fill out two witness cards.

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These cards are located to my left on the table near the door. Upon coming forward to speak to the Commission, please give both cards to the reporter sitting to my right before taking a seat at the table.

When presenting information to the Commission, please turn on and speak into the microphone, first stating your name and home address. When you are finished speaking, please turn your microphone off so that your microphone is no longer picking up sound or background noise.

To avoid any appearance to the contrary, the Commission requests that persons present not engage the members of the Commission in conversation during any recess or any time. The staff will be available throughout the hearing to discuss procedural questions.

Please turn off all beepers and cell phones at this time so not to disrupt these proceedings.

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At this time the Commission will consider any preliminary matters. Does the staff have any preliminary matters?

MS. SCHELLIN: No, sir.

CHAIRPERSON HOOD: Okay. Thank you. What we will do is go right to the Office of Planning and turn it over to Director Tregoning.

Oh, I'm sorry.

MR. PARKER: Just wanted to introduce our panelists if that's all right.

CHAIRPERSON HOOD: Oh, okay. Sure. I'm sorry.

MR. PARKER: I'm Travis Parker with the D.C. Office of Planning. As you mentioned, we've got a distinguished panel of subject matter experts tonight, so I'm going to take the rare step of taking it easy tonight and let others do all the heavy lifting.

We're going to start tonight with some general remarks by Director Harriet

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Tregoning with the Office of Planning, followed by Director Christophe Tulou with the Department of the Environment. And then I'll introduce our other panelists after those introductory remarks.

MS. TREGONING: Are you ready for me, Mr. Chairman?

CHAIRPERSON HOOD: Yes, we are.

MS. TREGONING: Thank you. Let me just start off by saying thank you for giving me the opportunity to address you this evening and I'm going to give you some kind of broad remarks, but it gives you the context that we're coming from when we propose this Green Area Ratio.

The District, as you know, is a city of history, architectural beauty, green public spaces, culture and achievement. One of the things that's important for us is that the District has made a commitment to become one of the greenest cities in the country and has recognized that investing in green

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infrastructure like the Green Area Ratio can provide not just environmental benefits, but cost savings and economic growth that can build equity and opportunity in our neighborhoods.

Being green means more than just protecting the environment. It also means that we use a healthy environment as a lens through which we envision and establish an effective economy that creates new jobs and ensures the District's sustainability over time. And this is why environmental protection efforts can become a foundation for a new permanent economy in the District.

Spending relatively small amounts of money to make the areas around our homes and businesses achieve better environmental performance can produce savings on water and utility bills, provide jobs to District residents, reduce our carbon emissions and ultimately reduce our city's contribution to global climate change.

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Cities can function has highly efficient and sustainable systems as we've seen. Choices we make everyday about the way we construct and maintain our buildings, the way we plant or pave our landscapes, even how we travel effects how much carbon we produce and the quality of both our immediate the global environment.

I won't belabor the statistics about climate change; we know it's a global crisis and the District of Columbia has joined other cities from around the world in both acknowledging the problem and in developing practical solutions to reduce its impacts. It's becoming clear that urban dwellers, like all of us, have a larger role in any climate solutions because cities, depending on how they develop, have the potential to offer their residents a very low carbon, climate resilient lifestyle and the chance to meaningfully contribute to a globally sustainable future.

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We're already well positioned in D.C. as a leader in the sustainable built environment in a number of ways. We rank No. 2 nationally for the number of LEED-certified projects, but really we're one per capita. We have 129 LEED-certified buildings and 814 in the pipeline for LEED certification thanks in part to our 2006 Green Building Act, but I have to acknowledge the leadership and the actions of this Zoning Commission long before the Green Building Act by consistently pushing the development community toward greener development practices. You've really familiarized our private sector with green development and that's translated into really leadership.

Technically most of the private sector development that happens in the city doesn't yet even have to meet the green building requirements that don't' effect until 2012, yet we have all this LEED building going on and not just to the silver standards, the

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minimum that our law requires, but more than 70 percent of all the buildings that have been built are platinum and gold. So that's a tremendous thing.

D.C.'s beginning to address environmental impacts of development through a variety of policy and regulatory initiatives.

From the Climate Action Plan which tracks our city's carbon output to updated storm water regulations and impervious surface fees the District is making great strides to reduce our ecological footprint.

Likewise, the Office of Planning has begun to examine what a sustainable future means to our neighborhoods launching an initiative such as the Neighborhood Sustainability Indicators Pilot, which is a program that we're working on in Ward 3 that allowed the community to set their own goals and measures for sustainability in their own areas.

Numerous conceptual sustainability-

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related changes to the 50-year-old Zoning Ordinance have already been approved in concept by this Commission. They range from improving transit-oriented development standards, reducing and changing parking requirements, explicitly allowing renewable energy generation and new allowances for food production.

The Green Area Ratio is designed to capture and achieve many of the zoning review sustainability actions in a single requirement while allowing for property owner flexibility.

It's a system designed to require environmental landscaping elements and ecologically-functioning land area and new development. The required level of achievement is reached by choosing from a range of environmental landscaping practices each of which have been assigned an environmental performance rating. They include things like turfgrass, vegetated permeable pavement, green roofs, ground cover,

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rain gardens, green façades and other examples.

We've heard concerns about the application of the Green Area Ratio in certain locations, including for single-family homes and downtown, and I think we'll be addressing that in a moment. But I want to ask you to consider that our downtown is one of the most visible parts of our entire region. So many people from all over the region and all over the world come to see it. The investment in green infrastructure in the downtown is not just about local environmental benefits, but establishing a real showcase setting an example for others to follow and one that's being supported and led by the downtown bid as they inaugurate an eco-District project.

We've worked extensively to develop the Green Area Ratio proposal with the Department of Environment and with DCRA from concept to text. The result of this collaboration has been an improved

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understanding of the scope of sustainability regulations within the District and the roles that each of our agencies has to play.

The Green Area Ratio is envisioned as an important step toward the District's sustainability goals working in tandem with other regulatory updates like the Green Building Act, the Storm water Rules and the Building Codes.

In summary, the Green Area Ratio has the potential to be both inspiring and necessary as we work toward our goal of becoming a globally-competitive and world class sustainable city. Thank you.

MR. TULOU: Good evening, Chairman Hood and Members of the Zoning Commission. My name is Christophe Tulou. I am the Director of the District Department of the Environment and it's my pleasure to speak with you this evening about the Green Area Ratio and its role in D.C. zoning.

I'd like to start by complimenting

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Director Tregoning and the Office of Planning for their leadership in developing this concept and moving it forward, and we are here speaking in full support of this initiative.

This change supports the District's environmental goals and advances development that is protective of the District's natural resources and is in step with federal and local initiatives on Onsite Storm water Management and Retention, the District's requirements for U.S. Green Council's LEED Certification, the District's Tree Canopy Objectives, as well as the District's Climate Action Plan.

The GAR, if you will permit me to use that expression, allows property owners to choose from a menu of environmental features that encourage property owners to align their own goals with environmental performance standards. DDOE believes firmly that a flexible science-based evaluation of landscape features will make great strides towards the

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collaborative engagement of all to advance the environmental benefits of this city.

DDOE considers these regulations an important tool to advance the District's ability to comply with federal regulatory mandates and the District's municipal separate storm sewer system; and there's a reason we call that MS-4, as you can see. For that permit and for DC Water's Consent Decree for addressing water quality pollutants from the District's combined sewer system.

The GAR regulations will support many of the District's larger environmental goals, including a move to onsite retention of storm water, the tree canopy goal, as I mentioned, and the Climate Action Plan.

We are prepared, after a year-and-a-half of discussion with your colleagues at Office of Planning, to use existing review procedures to help move this process forward.

So from a technical and staffing perspective we think we're well equipped and ready to move

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forward with the implementation of a GAR component of the Code.

And if we were to find that, for example, the demands on time and effort were greater than we're anticipating right now, we've identified resources through the MS-4 funding, our impervious surface fee, as well as the Chesapeake Bay Program Grant that would allow us to add additional resources as required and necessary in order to implement this change in the Code.

We also will use this as an opportunity to continue technical assistance that we're providing to folks in the community already through our River Smart Programs. We have River Smart homes, River Smart schools, River Smart green roofs, and soon you'll see River Smart communities, a program initiated by the Department of the Environment, all of which are geared toward the same goals basically as this change in the Code would embody, which is basically to make the city a

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little spongier, act a little bit more naturally. And in the process not only make it a better environmental performer, but a much more beautiful city, which the nation's capital of course should always be.

DDOE is responsible, as I mentioned, for implementing this MS-4 permit.

This is a permit that the federal EPA issues to the District directly, and whereas most people see it as a problem to manage storm water, we see it as a real opportunity for the city to accept a commodity that is becoming more and more expensive all the time and ask it to do work for us. And we see this change in the Code as a wonderful complement to those efforts and is very consistent with our Storm water Regulations and will certainly help us to meet aggressive federal requirements, which include, for example, converting 18 million square feet of impervious surface in the District to more pervious surface. And so, if we are incorporating environmental design

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considerations into the Code, we are furthering our ability to have the District in compliance with these federal requirements.

Talk a little bit about trees. Trees are certainly a part of the heritage of the city and it's a resource that has been thoroughly abused for years and years and years. And so, the city has made a commitment to increase our tree canopy from the existing 35 percent to 40 percent by the year 2035. It's a wonderful goal and has multiple benefits. This is not just an aesthetic move; it is something that is incredibly important to storm water management in the city. It's important to our climate adaptation, it's also something that takes greenhouse gas out of the air and of course makes us more beautiful and cooler and provides habitat. There's all sorts of good things for us and this change in the Code would provide the incentive and the opportunity for folks who are developing property to incorporate more trees into that

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work.

And speaking now about the draft Climate Action Plan that we have out there. I've mentioned some of the climate benefits of trees, but certainly anything that greens our environment is going to be a huge benefit. And I would just note that among the things in which D.C. is leading the country, it is the installation of green roofs. Who knew, but that the end of this coming year we're going to have about 1.3 million square feet of vegetated green roof on buildings in the District of Columbia. Putting it in a different perspective, that's getting close to 30 acres worth of green space that did not exist before and where frankly a few years ago nobody would have imagined it would be.

So if you're a bird flying over the city, all of a sudden it looks like a pretty cool place to hang out. But it's also a wonderful way again to manage storm water. It's a great way to insulate buildings and

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help them use less energy. It's a terrific way to cool the city off and mitigate the impacts of climate change. And this change in the Code would provide yet another driver and another piece of leverage in the process of getting more of those roofs in place.

We are doing our part as an agency to provide incentives, and some of them financial. Those financial incentives can't be used to meet regulations, but they can certainly be used to go beyond them. And the District has already, as Director Tregoning mentioned, providing a lot of leadership even without that policy direction. We've got a market that's ready for this sort of stuff, so this kind of change in the Code is in part a reflection of reality, but it also just expresses the District's intent to make sure its policy is consistent with what most of us living here in the District understand already, that we want this to be a leading city in the country, not just for government,

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but also for environment as well.

So having said that, we strongly endorse this proposed change to the Zoning Code and we'll appreciate the opportunity to answer any questions you may have.

CHAIRPERSON HOOD: Before we continue, let me ask both directors, do you have time? Are you going to stay throughout the hearing, or do you need to leave or anything, because we can ask you questions now if you need to leave.

MR. TULOOU: I'll be here for the duration.

CHAIRPERSON HOOD: Okay. Okay. Great. Okay. Mr. Parker?

MR. PARKER: Before we get into the bulk of our presentation, I see we have our representative from the Deputy Mayor for Economic Development. Brandon Mitchell I think has a few introductory words as well before we get into the bulk of it.

MR. MITCHELL: Thanks. Good

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evening. My name is Brandon Mitchell. Good evening, Chairman Hood and Members of the Zoning Commission.

I'm a project manager with the Office of the Deputy Mayor for Planning and Economic Development. DMPED is responsible for the New Communities Program, as well as an extensive real estate development program.

First, I'd like to thank my colleagues at DDOE and OP for their extensive research, analysis and their proposals for a Green Area Ratio. On behalf of DMPED I'm pleased to lend our support to their efforts and to offer our assistance in the continued evaluation and implementation of the GAR.

I'm encouraged that the GAR will enable the District to continue as a national leader in the development of a more sustainable community. The GAR is another useful tool in our efforts to meet national and local mandates, particularly for storm water. As one of the District's primary

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catalysts for real estate development, I am especially encouraged by the efforts and the commitment of DDOE, OP and DCRA to work collaboratively to train personnel and provide technical and cost-sharing support to property owners. The flexibility that the staff has integrated into the draft text makes it more likely that we'll achieve not just compliance, but innovation.

The successful implementation of GAR, along with many of the other initiatives currently being implemented, including the Green Building Act, the Climate Action Plan, renewable energy generation, will help make the District not just sustainable but a restorative place to do business, live and recreate. And again, I want to offer my compliments to my colleagues at DDOE and OP, and I reiterate our offer to be of any assistance that can provide. Thank you, Mr. Chairman and Members of the Commission.

CHAIRPERSON HOOD: Okay. Thank

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you, Mr. Mitchell. Do you have a copy of your testimony?

MR. MITCHELL: I do. I have copies.

CHAIRPERSON HOOD: Okay.

MR. MITCHELL: Sure.

CHAIRPERSON HOOD: All right. Mr. Parker?

MR. PARKER: Thank you. With that we're going to get a little bit more into actually what the GAR is. I'm going to do two slides myself and then turn it over to our final two panelists tonight.

You've seen before basically that the Green Area Ratio is a flexible green site design tool. It allows us to set a requirement for a certain level of greening of new development sites in the city and allows property owners to choose from a range of environmental benefits that they can, you know, meet our environmental goals and the city's environmental goals in a number of

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different ways, and as Director Tulou said, you know, combine our goals with their own goals. It includes, you know, basically anything that adds green landscape elements to the site, including trees, landscaping, green roofs, vegetated walls, rain gardens, bio-retention; the list goes on.

And the general way that it works; and you'll hear a little bit more about this later, is that the square footage, each individual landscape element is multiplied times a multiplier that takes into account its weight performance in terms of environmental performance. And you're going to hear more about that in a minute. That total number is divided by the lot area. That equals the GAR score.

We're going to get into a lot more about these individual components right now, and so I want to introduce our last two panelists who are going to do the bulk of tonight's presentation.

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First, Dr. Melissa Keeley. She's a professor at George Washington University, previously with the University of Maryland. She's been working with us for a number of years now on this program. She started working with us I think back in 2008 when we were first working on sustainability recommendations. She's previously worked with the City of Philadelphia, with the Anacostia Waterfront Initiative in green site design and programs like this Green Area Ratio. And she's going to have a lot more to say about what's gone into this program.

And then after Melissa talks, we're going to hear from Laine Cidlowski who's been the primary Office of Planning force behind the Green Area Ratio.

So with that, I'll turn it over to Dr. Keeley and Laine Cidlowski.

DR. KEELEY: Well, thank you, Travis.

I wanted to spend my five minutes

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talking about three different points today. The first is just talking a little bit about my background and why the GAR. Then I'd like to give a sense of the scientific basis for the metric and the work that I've been doing over about the last four years on this. And to end my section I'd like to talk a little bit about my hopes and continuing involvement with work in the GAR and storm water management in the city.

I completed my doctorate actually at the Technical University of Berlin in Germany. I went there because I was interested in looking specifically at green roofs and permeable pavements and the real innovation that they've done in that country in the long term experiences that they have with these urban-compatible green infrastructure techniques. And, you know, my degree was in engineering, but I became really fascinated by the green area ratio there. It's called the biotopflaechenfaktor, which

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they've used since the '90s to integrate these techniques into their urban landscape. And I became pretty convinced that it was a very interesting tool that had some implications in the U.S.

So my doctorate was funded by the National Science Foundation. Upon returning to the U.S. I have received funding from the U.S. EPA and from CICEET, which is a partnership between NOAA and the University of New Hampshire to look into what would be the scientific basis of the green area ratio and develop it for application in this region and in D.C. in particular.

So kind of moving to the second point that I wanted to talk about today, I just wanted to give you a sense of these multipliers; I call them environmental performance rankings, which are sort at the heart of the Green Area Ratio, right? Rather than trying to assess the environmental performance of each of these things on every

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parcel, which would be an overwhelming task, we're just sort of trying to get a sense of how much environmental impact a tree has versus a green roof.

And the first thing that we did together with a lot of folks here at the Department of the Environment and the Department of Planning was to try to figure out the categories of environmental improvements that the city most cared about. We identified air quality improvements, urban heat island mitigation, storm water quality and storm water quality issues. Then I led a team of about five folks who spent hours and hours, two years really, trying to figure out how we could compare the apples and oranges of these different techniques to each other.

So we identified specific metrics; and you can see them kind of listed under each of those categories, that we could use to compare techniques. And they're not always the most ideal comparisons, but they were ones

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that we found actually information available for all the different techniques out there.

If you move to the next slide? Just to give you a sense of the data that goes behind these weightings, on the X axis, on the bottom axis you see that we've got the different kids of green techniques that we looked at in our study. There's bio-retention, un-vegetated permeable pavement and the rest. And on the Y axis in this graph is the percent reduction by volume of storm water flows.

And so this is a graph that really compares -- each data point is a different study. We were combing peer review literature and gray literature from the government to try to understand the relative environmental performance of the different technique.

So here you just get a sense of the range, the variance, the numbers of studies that we're basing these findings off of. And the darker points are the means. So the mean

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percent retention by volume for each of the different techniques. And those are what we used to kind of relatively rank the different techniques.

So if you move to the next slide? So what we're able to glean from that, you know, we've kind of combined these, you know, into the final scores that Laine will present to you, or I guess we're calling them multipliers, the final multipliers that Laine will present to you in a few minutes. But what we're able to glean from this data is the relative performance of different techniques as they relate to different environmental concerns.

And so this is the kind of information that I have and my research team have been able to provide to the Office of Planning and they've used to base their weightings and assessments.

And if you move to the next slide? The other thing that we've been providing is

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an analysis of data availability, because of course, you know, our ability to provide this data was based on the availability of this information within primary sources like peer reviewed journal articles, and that was better for some techniques than others. And so, you know, that's also something that we're taking into account as we put these multipliers into place.

To kind of end this section, I suppose I'd just say that as an academic there's a peer reviewed journal article that will be appearing on the Green Area Ratio in the next few months and several others looking at the data analysis that we've done on environmental performance will be coming out within the next year. So the information that the Planning Department is using is going through the peer review process.

And I think the final slide then? Oh, okay. Then I guess the last thing that I'd like to say is that I and a number of

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researchers from George Washington University and a few other area institutions are actively working with the Department of the Environment and the Department of Planning to find funding such as the EPA Chesapeake Bay Urban Storm water Grant that was mentioned before to fund ongoing monitoring and assessment of the Green Area Ratio and some other of the real innovative approaches to integrating green infrastructure into urban areas that D.C. has already moved forward with or is, you know, considering right now.

My interest is monitoring the environmental, social and economic impacts of the Green Area Ratio, and I certainly hope to have the opportunity to continue to work with this fine group of colleagues in the future. So thank you very much for your time.

MS. CIDLOWSKI: All right. I am Laine Cidlowski with the Office of Planning. And so, I'm going to cover the updates to the text since our last setdown meeting.

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So if you could just flip forward to the next text, what we're going to do is go step by step through the recommended updates to the text from the advertised text from the earlier hearing. We'll try and just skip over very quickly the areas where there are no changes. And then we want to directly address some of the questions you all had at the hearing that might not fit neatly into a specific item of text. And then give some specific examples of some of the case studies and other analysis that we've done.

So the one thing to note here is the order. Two of these sections changed. Special exceptions used to be before a submittal of requirements, But that's about it as far as the organization overall changing.

So there were no recommended changes into the introductory section, so we can sort of skip past that one.

No recommended changes as far as

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the relationship to the zone-specific chapters and subtitles of the Zoning Code.

One thing that did change as a result of the last hearing is you asked us to look a little more deeply into the idea of flats and accessory dwelling, which we had originally proposed having the requirement applied to. In doing further study that was included on our report that's submitted in the file, we found that there really were a large number of flats and accessory apartments in the District, but they don't cover a large percentage of the District's land area. So in looking into your concerns, we found that the impact of including them in the overall requirement, at least initially, would not be very large in terms of land area affected, but it would be potentially onerous as far as number of applications we'd be seeing initially. So our recommendation now is that the requirement does not apply to the R1 through R4 zones for the time being, but it

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would still continue to apply in other zones.

So there were some questions about the standards for renovations and what levels of renovations should the GAR apply to as opposed to new construction. We underwent a complete analysis of the standards for renovations, substantial renovations in a variety of District regulations from the Green Building Act to the Storm water Regulations to the Building Code and other Zoning Regulations that exist now, and we decided to retain the 100 percent assessed value.

There are a large number of other regulations that have 50 percent assessed value as their renovation standard for entry, however, that would add a large number of additional properties to the requirement initially. But usually in the other regulations those standards are set to a lower level. So then we would have had to have two separate standards, one for renovation and one for new construction. And since this is a new

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requirement we're really trying to streamline the process at least initially and keep things consistent so that somebody doesn't have to first determine whether they're renovation or whether they're new construction in order to decide if the requirement applies to them.

There was a question of whether the requirement should apply in public space. After the last setdown hearing we did speak with DDOT and DDOE about their feelings on the matter and their sort of overall policy. We investigated the legality of applying this in public space. We found while there aren't any legal barriers there would be additional sets of policy and regulatory barriers potentially if we were to apply this in public space. For example, everything that would happen in public space would have to meet all the public space requirements.

Additionally, DDOT is in the process of establishing their own sort of storm water management plan, so that could

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potentially be another set of regulations that someone would have to meet. And generally, DDOT informed us that they were not necessarily in favor of having private property solutions applied to the public space in general.

So at this time we are not going to recommend the application of the GAR in public space just due to those concerns, although there are other sort of benefits to it as well.

So in Section 1303, it's another order change to the text. The square foot equivalency of trees and plants used to be before how you measure your landscape elements, and that switched.

So now I'll go through the particular sections of 303, because there were a number of changes.

There was no recommended changes to the formula to calculate the GAR, so that remains the same. No recommended changes to

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the definitions based on the last hearing.

And no recommended changes on a number of other requirements that just sort of give further detail about how to calculate your GAR.

Where there were changes based on the recommendations in the last setdown hearing that we had was we provided some further detail and changed some values for the square foot equivalency that you're given for trees; i.e., when you measure the diameter of the tree, how much total area of tree are you allowed to count in the GAR? This is Section 1303.7.

If you go to the next slide, you'll see that these are the changes that we did make. The top line, which talks about plants and not trees; i.e., if you have a plant that's two feet tall, you get a total square foot area of nine square feet. That did not change. What we did do is we expanded the number of trees and the equivalent square

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footage differences in diameters that you can look at to see what your square foot equivalency for the tree would be.

In an earlier hearing we had heard some comments from the Board that maybe they were too few and that the numbers were off a little bit, so we evaluated general arboreal standards for what one inch of diameter of trunk should equivolate as far as the canopy area and expanded this and updated the numbers appropriately.

We had no recommended changes as far as measuring, how to measure specific landscape elements in the table, which is the chart of landscape elements and multipliers in the draft text. And you can see on the next slide we updated those tree diameters that we just showed you in the square foot equivalencies. We also updated the depths of green roofs, or vegetated roofs. When we went and looked at the greening the Building Code updates, in their definitions we found that

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our definitions were a little bit off for the depths of green roofs. We had had them at six inches; the Building Code had them at eight inches, so we changed it to make it more consistent with the Building Code.

So since we changed our definitions slightly, we also changed the multiplier so that it matches more appropriately the actual standard that we're asking you to meet for different types of green roofs, whether intensive or extensive.

The other thing to note in here is the inclusion of area for renewable energy. It's down right above the bonuses. In the last hearing we heard some sort of discussions about, you know, oh, there are other sustainability things that we can do that are not necessarily green infrastructure. And if somebody decides to put all solar panels on their property, we don't necessarily want to penalize them.

So in response to that research and

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that sort of interest there and our sort of desire overall to encourage sustainability on the whole as opposed to only by green infrastructure, we wanted to make sure that there is an option that gives people some credit for doing other sustainability measures without penalizing them if they're not necessarily green infrastructure, and so we added that in the multipliers as well.

Other things that were updated included updates to the definitions which we've attached in the appendix for our report to include things like our locally-adapted bay saver technology, which is a type of rain garden that's been specifically designed for the Chesapeake Bay area, and it's a sort of known technique. And that was based on the comment of some of the task force members.

The other thing we did add is that it was a little confusing trying to decide how to measure your vegetated walls. We wanted to make sure that -- if you look on the middle

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picture, you get credit for that whole area that the plant covers, not just the area that the plant is planted in. So we clarified the text in order to make it a little easier to understand.

The other thing that we updated in terms of the specific landscape elements was the concept of enhanced tree growth or structural soil-type of ground cover. We heard some comments about the importance of making sure that these soils aren't contaminated or compacted and not just that they are a certain type of soils. So we updated the language to specifically state they should not be meeting federal standards for being compacted or contaminated soils.

As far as the submittal requirements for the Green Area Ratio, we heard several times some confusion about what was the purpose of the work sheet as opposed to the score sheet? The work sheet was intended to be an additional measurement tool

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to help applicants figure out how they could do a variety of different things on their lot.

But I think what we heard is it was more confusing than useful, so for the time being we've eliminated it. We'll still have it on hand for applicants for maybe want an additional tool besides the score sheet, but it shouldn't be a requirement if it's not adding the value that it's intended to add.

There were some questions about programs to certify landscape experts and if we were to have our own program to certify landscape experts. We looked further into the qualifications of Maryland and Virginia certified landscape expert programs and found that they're really quite comprehensive and generally that people who work in D.C. tend to have one of those other certifications since we don't have our own certification program. So we're not recommending any changes to that at this time.

As far as the special exceptions to

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the GAR, the initial requirement was for historic sustainable sites. We heard some questions about this idea again of retaining or allowing other sustainability equivalent measures on the site, and that being a sort of special exception. For example, if there's nothing green on your site, but it's entirely covered with solar panels, maybe you wouldn't meet your GAR. And so, we explored the concept of having an equivalent sustainability relief as a special exception option.

It is in our draft text in the attached document, but at this time we're really not wanting to recommend it because what we found when we were looking into it a little further is it would end up putting the onus on the Zoning Commission and the Board of Zoning Adjustment, who may not have the sort of technical expertise that they would actually need to evaluate that. So while in concept we certainly don't want to penalize anybody for doing something sustainable, but

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that might be the sort of thing that really is more appropriate for a variance rather than a special exception.

So as far as the maintenance requirements there was a question that came up at the earlier hearing about, you know, what happens 10, 20 years down the line when someone new has moved in and maybe doesn't know what the original planting and maintenance and GAR submittal was? We made sure that the language was clarified so that you could see that as long as you're still continuing to meet your zoning requirement, your GAR score in the future, it doesn't matter to us how exactly you're doing it, if it doesn't match the initial submission from 20 years ago. You know, if you have to come back in for a new zoning update and a new zoning regulatory status for your building permits, then you will have to turn in a new GAR score sheet anyway. So we just want to clarify that, you know, it doesn't matter

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whether it's a pear tree or an apple tree as long as your tree ends up adding up to the total requirement for us.

The one thing that is the same as we go forward is that the actual requirement will be found in the land use subtitle text. So it will be in the Development Standards charts and saying to the zones this is what your GAR is for each zone.

The score sheet was updated to reflect these changes and is included in the attached appendix. Other than that nothing changed besides the proposed changes to the text.

There were a number of questions that maybe didn't fall as neatly into the requirements that covered these basic topics; existing conditions, cost benefit analysis, implementation and administration, maintenance and enforcement, and how we decide to set GAR levels for different zones.

So in response to a lot of the

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questions about the existing conditions, since the setdown hearing we furthered a lot of our analysis based on the land cover data that Dr. Keeley did provide to us and the mapping abilities that we have. So we looked on a zone by zone basis at land cover, lot occupancy use, ward-specific data and really broke down all of these factors for every zone and by different uses and different lot occupancies. And we've included a lot of this data in the report included in the file.

But generally what we found is that most of the parcels in the District fall between 0.02 and 0.38 as far as an existing GAR. And that generally the lower your lot occupancy standard -- so the less of your building that's developed, the higher your GAR score, which makes sense because the sort of intended environmental performance, it's assumed to be the best would be a meadow or a long-term growth forest as opposed to an entirely concrete plot. So these are things

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that we would expect to see, so we're glad to see that the data did correlate appropriately.

We also spent a good deal of time researching what the anticipated training time -- if there were any necessary additional employees, what potential cost to the applicants might be, and we looked at these in a number of ways. We talked to Seattle where the program is currently being implemented and they found that they did not have to hire any additional staff. So I think we can assume an equivalent sort of level of staffing, especially with the agreement that we have in principle with DDOE as far as their storm water managements. And we'll get specifically into how we anticipate doing that a little bit later.

We looked at the cost to the applicants in a number of ways. We used some baseline cost values that range from low to high based on locally-based cost estimates that we got from DDOT and some of their other

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contractors within the past couple of years. And we did some case study analysis for different zones and for different building types across zone. And from that data generally what we found both from our research and from what we've heard from our colleagues in Seattle is that typically the cost to implement the GAR is less than one percent of total construction costs, which I actually didn't believe when I first heard it. I thought that must be wrong. But we went back to the data again several times and double checked it, and that's really -- compared to the overall cost of development in large cities it's relatively minor.

There are also a number of benefits that have really been discussed a little more in depth by the directors and Dr. Keeley as far as some of the benefits for the city, some of the benefits for individual property owners as far as, for example, our impervious area fees that now property owners have to meet in

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the District. D.C. Water has one of these fees and DDOE has one of these fees, both based on impervious surface and they're intended to escalate over time in order to discourage impervious surface. So that's a fee that can be deferred through the implementation of the GAR.

In addition, there's a number of benefits that are more fully studied in the report, talking about both the environmental and financial benefits of implementing a lot of the options that we have in the GAR. So I won't belabor them in detail, but they are available in the report.

We had a lot of questions at the last hearing about how this will be administered and implemented over time. So we've set up a flow chart which is included in appendix C of our report if you want to see it in its full easier-to-read format. Initially we have our applicant. We go through the building permit stage. DCRA will issue the

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building permits. We'll have construction. There will be a post-construction inspection and then there will be a Certificate of Occupancy, and it has to be maintained over time.

We're going to go into a little bit more detail on the building permit stage, so I think this is where a lot of the questions were last time, is you know, who does the paperwork go to and when does it go to whom? So we've fleshed this out after discussions with DCRA and DDOE since the last hearing in a little bit more detail.

So the applicant will actually turn their paperwork, get their certified landscape expert to sign all their documents, submit their landscape site plan, submit their GAR score sheet and submit their maintenance plan.

Those will go to DCRA and then DCRA will transmit them to DDOE. There the storm water plan reviewers will check them for compliance.

They'll make necessary edits and working with

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the applicant if for some reason they don't meet them. And we're anticipating a time frame of 10 to 30 days to get them back. This would be similar to the sort of requirements that go on now for other things, like for example antennas in our office.

There were some other questions further about compliance and maintenance and enforcement of these requirements over time. We looked into our best practice case studies for other updates to the zoning requirements and generally found that zoning enforcement on a whole is largely complaint and enforcement-based. And as all of our other zoning requirements are right now, it currently would be -- this is the same as our PUD system. And for example, the Office of Zoning has a sheet on their Web site that lets you sort of see what the compliance path is for figuring out how to make a actual complaint. So we anticipate having something similar to that.

There were a lot of questions as

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well that say, okay, well, this system is all well and good, but what is the standard going to be in my zone? So what we tried to do in anticipation of our first subtitles of actual text coming forward is to establish a methodology for setting the GAR in different zones.

Because our production, distribution or repair zones will be coming forward to the Zoning Commission first, out of other zones we studied them initially. So we looked at the CM1, CM2, CM3 and M Zones and we did a number of case studies to use the land cover analysis from Dr. Keeley to see what our existing conditions are. And this is an average of not just all the area in the zones, but all of the properties specifically in the zones. So we're not counting anything in public space. This is just an analysis of the actual properties themselves. So we have a sense of where we're starting out.

And what the overall data had told

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us earlier is that this would be the lowest complying zone compared to other zones in the District. And we did find that the scores are pretty low to start. You don't tend to think of industrial areas as being very green, and that's pretty much what we found.

So then we tried to examine using the cost data that is included in one of the appendices, looking at the highs and lows of implementing some of the options in the GAR, how much it would cost you to increase your GAR by one point. And what we generally found is that the cost went up the higher you went in points. But on an overall basis they really didn't equal any more than less than one percent of the total construction costs, and a lot of the specific data is included in the report for that, for where we found those figures. But generally it was even under half of a percent of the total construction costs.

So based on that data, you know, we can sort of assume that if the average is

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0.13, half of the properties in there are probably complying with that already and half or not. So we knew that we wanted to set the bar higher than the existing conditions, but we don't want to set the bar so high that it's financially burdensome or possibly impossible to meet. A lot of these buildings there may be 100 percent lot occupancy and that limits somewhat what your choices are. So we are recommending potentially setting the GAR for production, distribution or repair zones at 0.2.

So that was our analysis and methodology that we used to set this. So we'll be looking for some feedback from you all if this is the proper methodology that we should be using as we move forward in the other zones as well.

We also heard some good feedback at the last hearing about the importance of case study examples, so we've included three here just to give you a sense of how this would

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work. So these three case study examples represent a cross-section of case studies. So for each of these types; 100 percent lot occupancy, multi-family residential and small-scale commercial, we looked at building types across different zones and different wards of the city and we looked at about a range of 10 to 20 case studies in each of these typologies.

So the first one here, you asked us to specifically look at a 100 percent lot occupancy building downtown and also to sort of look at a cross-section of, you know, can LEED buildings already do this? So this particular building is LEED platinum. Its existing GAR is 0.3, and that's based on a sort of thinner rather than thicker layer of green roof that it has. If it were to put in place, for example, a thicker green roof that has more storm water absorption and air quality impacts, it could get its score up to be a 0.4. If it retained its existing green

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roof and put in place renewable energy generation in some of the areas that are blank on the roof right now, potentially its maximum score could get to up to 0.56.

So I think what we found in doing these initial examinations of 100 percent lot occupancy buildings is that while your options are more limited for what you could do, it was rare that there was nothing that you could do to raise your level of GAR to some degree.

So we also looked at multi-family residential. This one is 900 G Street. Its existing GAR is 0.18, and that is due in fact to a lot of large trees, plants and existing grass cover on the lot. So if you were to convert a portion of the paved area and add a couple of trees in the parking lot, say bringing it up to our proposed parking lot standards with a five percent land cover area for green areas and trees and landscaping, you could get your score up to a 0.36. If you say took the top of one of the roofs of that part

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of the building and covered with green roof, you could get your score up to a 0.48. If you did all of the above and added a rain garden in part of the landscape area, your score could be, I believe it was a 0.55. And you could potentially keep going with the implementation on the site with this big of a footprint.

We also looked at the sort of other end of the spectrum, which is the small-scale commercials. This was C1 zone. Its existing GAR is zero. It's entirely paved and entirely built upon all the areas that are paved. So it had a long way to go up, but there was a good deal that it could go up. if you were to say put half of the roof with a thick green roof, you could get up to a 0.1. And it is quite a large lot and most of it's parking, so that limits somewhat how much score you could get on as far as the roof ability.

On the other hand, you could also convert half of the paving, which would still

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be less than the one-third requirement for your total lot area that could be permeable paving and get the same score and it would cost less than half. So I think we'll see as this requirement gets implemented that choices will be made based on either wanting to be innovative or more cost basis, just sort of depending on people's priorities.

If you did all of the permeable paving and the green roof and added some trees, you could get up to a 0.26. And if you added additionally a rain garden, you could get up to a 0.37. So there tends to be a top limit to what you can on any given property, but we haven't really found any cases where you can't do anything.

So that's a sort of summary of where we are right now. I hope that we addressed a lot of your questions and concerns from the previous hearing. We're happy to answer any questions you might have.

MR. PARKER: That's all we have

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tonight. I think we're all available for questions as well as a cadré of Department of the Environment folk is.

CHAIRPERSON HOOD: I want to thank you all very much. Very well done presentation. Very informative. Do I understand all if it? No. Do I have questions? Yes. And I excited about it? Yes.

But what we're going to do tonight first before we ask our questions, if you all can indulge us, we want to hear from the public. And right now the only person I have signed up as a proponent is Ms. Alma Gates.

Is there anyone else who is a proponent in support?

(No audible response.)

CHAIRPERSON HOOD: Is there anyone else who's in opposition?

(No audible response.)

CHAIRPERSON HOOD: Is there anyone else who'd like to testify?

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(No audible response.)

CHAIRPERSON HOOD: Okay. Ms. Gates?

MS. GATES: I want to thank the agencies for their really insightful presentations tonight.

Good evening, Members of the Commission. I am Alma Gates testifying on behalf of the Committee of 100 on the Federal City formed in 1923 to act as a force of conscience in the evolution of the nation's capital city.

It is in that spirit that the Committee has participated in the Zoning Regulations review and is before you tonight in support of Green Area Ratio. The Committee participated in a the task force sessions on sustainability GAR and also contributed to the development of the Department of the Environment's pending storm water regulations.

GAR is timely and necessary to help minimize impacts resulting from increased lot

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coverage and the potential for excessive storm water runoff, a deterioration of air quality and a more intense urban heat island. The outcomes of greater lot coverage have grown exponentially over time as areas of the city have expanded and developed and will continue to affect the urban environment unless and until regulations are put in place that help prevent environmental deterioration.

Additionally, the purposes outlined in Section 1500.4 further define the how, what and when GAR will be applied.

The relationship between the sections on land use and applicability, 1501 and 1502, limit GAR to buildings requiring a Certificate of Occupancy. While COO is the control level for sign off approval, GAR regulations apply to all zones and all land use sub-titles. If this chapter is to be comprehensive and effective, green site design must apply to all new buildings as well as significant additions, alterations and/or

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repairs. Afterall, a house in an R1A Zone may have a lot size in excess of 10,000 square feet and could exceed the square feet in the building addition or alteration requiring a COO. The same potential for environmental impact exists whether or not a COO is required.

Landscaping, whether natural or created, plays a critical role in our environment. The hydrologic cleansing that occurs when storm water rushes across an open grass field into a stream bed or the control of the terrain exercised by a grove of trees is difficult to recreate in the manmade environment. However, the Office of Planning has begun to explore ways designed to help Mother Nature through eligible landscape elements and a related point system that will be calculated for each given lot. The landscape elements outlined in Section 1503.9 resemble the format presented in the amenities chart for PUDs. This was an area the task

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force felt needed further consideration in beefing up. Also it appears a necessity for a land owner to replace/remove trees is missing from this section.

Section 1505 submittal requirements for Green Area Ratio is a well-designed step by step process that should apply to buildings in all zones rather than limiting the requirement to those requiring a COO. Lot size may be the determining factor for inclusion in the GAR regulations for residential not requiring a COO.

A noted earlier, the Green Area Ratio is critical to maintaining environmental stability as more and more of the District's land is developed. To ensure long-term GAR outcomes are realized a timed reporting system for buildings and lots considered under this section of the Code needs to be developed. Otherwise, there is little incentive for a property owner to maintain installed landscape features of the life of the project and this

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is especially important in the event property is sold. As an example, a green wall would be very easy to ignore if plants fail to return after several summers of heat and drought.

One point that needs clarification is whether or not there would be occasion when a developer could transfer GAR requirements from one project to another and still receive credit.

The Committee of 100 supports the addition of the GAR text amendment to the Zoning Regulations. Areas of this chapter may need further refinement or additions, but overall this chapter will have long-term positive outcomes for the environment, the city and its residents. Thank you.

CHAIRPERSON HOOD: Thank you very much, Ms. Gates. And if you could just hold your seat for a little while, we may come back and ask some questions along with the panel.

Let's go right to it, Mr. Parker, and I'm going to go straight to you. Let's

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look at what Mrs. Gates has in her testimony.

One point that needs clarification is whether or not there would be an occasion when a developer could transfer GAR requirements from one project to another. Are we going to kind of do this like TDRs?

MR. PARKER: That's not been proposed so far. So far a requirement is on the lot and has to be met on the lot. We've had questions and talked about that, and it's something that we're willing and able to consider. It's just it'll need more research.

CHAIRPERSON HOOD: Okay. I'm not pressing you to do that, because I think that takes away from what I think we're trying to achieve. But I don't know, like you say, you want to continue research.

Let's look at the regulations about the special exception. I think, Ms. Cidlowksi, you mentioned about special exception and the -- what was it, in the regulations it talks about a special exception

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and I think it's a variance. I don't have it right directly in front of me.

I think an applicant can go in front of the BZA for -- I don't want to say a waiver, but a way to opt out. Is that what that's intended to do?

MS. CIDLOWSKI: You're referring to Section 1306.2 in the appendix A?

CHAIRPERSON HOOD: I'm not reading it. It was a special exception. I don't know exactly where it was. Should have marked it.

MS. CIDLOWSKI: The one that refers to additional sustainability measures, or the one for historic properties?

CHAIRPERSON HOOD: The one for historic properties. That's the one I'm talking about.

MS. CIDLOWSKI: Yes, that is the one we're recommending at this time. And the concept for that is that it's a special exception not a variance for occasions when historic site constraints lead to the

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inability to meet the GAR. We do have a number of historic properties. And maintaining historic character has to do with more than just the building itself at times, and so we wanted to have a provision for that specifically.

CHAIRPERSON HOOD: So historic properties would be the -- and I'm sorry we're getting such feedback. I'm almost scared to say too much about, because then the mics have cut off and then we won't have any sound.

So, is that what it is, we have too many mics on? Okay. So maybe if we only have two mics on at a time, but everybody's mic is off, I believe. Is that one off, or is it on?

MS. CIDLOWSKI: Is this one better a little? Okay.

CHAIRPERSON HOOD: Okay. So historic properties is the only way is to opt out, the only way that we can use that special exception process?

MS. CIDLOWSKI: That's all we're

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recommending at this time.

CHAIRPERSON HOOD: Okay. Good.

MS. CIDLOWSKI: I mean, I think because it is a new requirement maybe over time things will come up when there are perhaps better occasions for special exceptions, but right now we don't see any besides the historic properties.

CHAIRPERSON HOOD: And, you know, I was looking at your stats on PDRs. I know I had an interest in that. Is there a lot of new construction going on in PDR Zones in the city?

MS. CIDLOWSKI: Not a terribly large amount, no.

CHAIRPERSON HOOD: Yes, unfortunately I live next to a PDR Zone and some of those things would be very helpful. And I'm wondering if there's a tool or a mechanism. The way -- even if we -- and I'm not sure if this proposed. Even if it's renovated. I mean, even if it's renovated

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that maybe some of this can apply. I'm not sure if that's already proposed. Is that already in the pipeline, or did I miss that? It's already in the pipeline?

MR. PARKER: Is that right? Go ahead.

CHAIRPERSON HOOD: Okay.

MS. CIDLOWSKI: What we're recommending right now is for renovations of over 100 percent of the assessed value. So if many of the industrial properties were to undergo a complete renovation, that would very likely get them over the 100 percent assessed value, especially if they're value is relatively low at this time. So that would be one way in which they would fall into this sort of compliance.

CHAIRPERSON HOOD: Okay. Ms. Cidlowski, let me ask, have we heard from a lot of developers?

MS. CIDLOWSKI: No.

CHAIRPERSON HOOD: Okay.

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MR. PARKER: Not to say we haven't reached out. I mean, we've talked with a couple business improvement districts. So we have reached out to some people, but we have heard only general concern, not any specific reactions or complaints.

CHAIRPERSON HOOD: And in Seattle this is very successful from what I'm hearing.

Okay. And I want to commend Director Tregoning and also Director -- I wrote your name down -- Tulou, Director Tulou.

All the work that your staffs have done on this, I am very impressed with this. I like it and that's why I wanted to hear what the developers -- see, I don't develop anything, so I wanted to hear what the developers had to say.

But I think this is a major attribute. I'm advocating for it. This Commission is going to push for this. I think it's great, and it's also something new. In my 13 years, going on 13 years down here on

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the Zoning Commission, this is something different and pushing. And I know we might have to tweak it, we might have to do some things to make it work and make it successful.

But the only issue I see is making sure that DCRA at the building permit stage, everybody's on the same page. And I guess Office of Planning and the DOE will be taking the lead on that to make sure that everybody's on the same page.

If I was to stand here and tell you, or sit here and tell you that I understand this fully, I would be lying; I don't. But I can tell you all, Dr. Keeley and others, you all have done a lot of great work and I will tell you this Commission is very impressed.

So enough of my soap box. Let me see what colleagues have.

Okay. Commissioners, any questions? Commissioner Turnbull?

COMMISSIONER TURNBULL: Yes, thank

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you, Mr. Chair.

Yes, I want to thank everybody too for the input and all the hard work. I think this is a great initiative and we want to see it succeed.

I do have some questions; and I think it was Director Tulou. You were talking about it at one point, the tree canopy. I don't know if you were talking about going from 35 percent to 40 percent by the year 2035. Is that only because of the length of time it takes for a tree to grow that? I'm just wondering why we aren't more aggressive?

MR. TULOU: Well, that's a very good question. In terms of aggressiveness, certainly it could be more aggressive. But at that rate we'd be adding I think about 4,150 trees per year.

COMMISSIONER TURNBULL: Yes.

MR. TULOU: Which is -- you know, if it's --

COMMISSIONER TURNBULL: Keeps

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people busy, yes.

MR. TULOU: Well, keeps people busy. It's in line with what we think is a reasonable expectation, given budgets the way they are. But it's certainly not a prediction as to what the actual amount of tree planting and stewardship is going to be going forward.

I would say that there's a fair amount of opportunity for that rate to increase, but we have to figure out how to make that happen.

COMMISSIONER TURNBULL: So is that basically a minimum standard? I mean, you could be more -- I mean, we're looking at 25 years from now.

MR. TULOU: I would call that a healthy baseline which could be expanded, again if we can figure out the drivers and the financial opportunity to move it forward.

COMMISSIONER TURNBULL: Okay.
Thank you.

I had one. In the OP report on page -- starts on page 2 and 3, we list all

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the other local policies and regulations. Mr. Parker?

MR. PARKER: Yes?

COMMISSIONER TURNBULL: How is the Zoning Reg going to interface with -- and I'm looking at the Height Act situation where we have Height Act, Zoning Regs. I see Zoning Regs for GAR, but 10 different agencies. We've got all this interface. Are we going to be -- if somebody upgrades their limits on something, how does that affect what we're putting in place now?

MR. PARKER: Well, that's a good question. I mean, this is a lot different than the Height Act in that with the Height, you know, we've got competing regulations. We've got the Federal Height Act and then we've got our D.C. Zoning Regulations. A lot of what's listed here are policies, Comp Plan policies, other things that zoning is intended to implement.

And so what we're proposing in

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terms of GAR is intended to implement a lot of our storm water, air quality, water quality goals for the city. But it's also intended to work with some other regulations, none of which, other than I guess the MS-4, you know, which are federal, but all of which are local.

So we're designing this in conjunction with DDOE and what they're doing and intending to dovetail, you know, GAR with storm water. It's not that they are like the Height Act and Zoning competing two sets of different regulations. These are two sets of complementary regulations that get at the same goals in different ways.

COMMISSIONER TURNBULL: So you don't see if DDOE changes something the Zoning Reg has to suddenly go back and look at it? Are we going to be more generic and they're more specific, or how od you --

MR. PARKER: It's a little bit different than that. It's slightly different goals. So DDOE has storm water requirements

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and this gets at the amount of storm water that must be retained onsite basically.

GAR is a little different. It gets at how green a site can be. And basically what it does and how it works with storm water requirements are the GAR basically says you have to do certain green things. They will help you meet your storm water requirements, but you know, they're green elements of your site.

The storm water requirements just say you have to retain an amount of water, so you could do that with a cistern. So if you only had storm water requirements, you're not guaranteed green site design. If you only have green site design, you may or may not be guaranteed a certain amount of storm water requirement, depending on what items you choose.

So basically these two things work together with two different goals, but you can meet both goals by doing both processes.

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COMMISSIONER TURNBULL: Okay. On the multiplier --

MR. PARKER: Yes?

COMMISSIONER TURNBULL: -- again I'm confused on how we often get to these specific numbers. And I can remember Dr. Melissa Keeley pointed out -- we had a chart up there, a graph for the data available summary. But I would say almost 80 percent of the boxes up there are rated fair to poor. So if we're basing on availability of data from fair to poor sources, the multiplier, if it's coming from these sources, how reliable are we in picking something like that? And I'm just concerned that we've got these multipliers, but if I look at the evidence that we're looking at, it's fair or poor.

DR. KEELEY: Well, I mean, I think it's important to put that information up because these are developing technologies. You know, for some of the techniques like turfgrass for instance, a lot of the data that

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we have actually on how turfgrass performs are on very optimal turfgrass, like golf range sorts of turf rather than urban landscapes.

So you know, my hope; and I think I share this with the folks in Planning and Environment, is that we need to have sort of an iterative process about this, that this is an area that a lot of research is happening now as more information becomes available and as we understand how this is impacting conditions in the city, that it might be iteratively readdressed.

COMMISSIONER TURNBULL: So these multipliers can be changing quite a bit over the next few years?

DR. KEELEY: Well, I don't think they would be. You know, the truth is, you know, we have so much data behind each of those, you know, individual data points that you're seeing right now, the weightings of 0.3 or 0.4. I mean, I've got several data points on storm water quantity, I've got several many

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data points on storm water quality, I've got many data points on urban heat island and by the time you average those all together I think you come up with kind of a more general sense of -- I guess what I was trying to convey to you is that there's a lot of science behind this, but by the time it comes to a policy level, it's sort of trends of different techniques. And I think you probably wouldn't see a lot of change at this point. But, you know, particularly as regional data becomes more available, there might be some movement.

COMMISSIONER TURNBULL: Okay. I was just a little concerned when I looked at that chart and saw fair and poor predominating all the boxes.

DR. KEELEY: Well, that's actually also kind of maybe a dig at the scientists who are doing a lot of good research but research that's very difficult to compare to each other.

COMMISSIONER TURNBULL: Yes. Okay.

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I can see that.

I guess the other thing that came out, there was a cost of less than one percent of all the cost for how much GAR is going to be, one percent of all construction costs, but

I just heard that you've really had very little input from developers. And I'm just wondering; so where are we getting the one percent cost from? If we haven't had a lot of talk with developers and builders, how are we pitting up -- is that just a dart that's thrown with one percent on it?

MR. PARKER: Well, I'll let Dr. Keeley talk about where the information came from on the cost of the improvements in the GAR, but we have some pretty good sources for current construction costs. So we did a lot of research, a lot of --

COMMISSIONER TURNBULL: You mean on specific projects that you could point to?

MR. PARKER: On specific projects we can point to and just region and area costs

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for different types of construction. Industrial construction specifically is what we started with in PDR, but we got good numbers on --

COMMISSIONER TURNBULL: Commercial?

MR. PARKER: -- current commercial and residential construction costs. So that's sort of the denominator that we're looking at. And I don't know if --

DR. KEELEY: Well, the land use component is a lot of information that we got from your office, and then DOT's vegetation analysis. So we were using land cover data from the city to understand current land cover on individual parcels throughout the city. And that has been integrated into an interactive calculator that folks in the Planning Department have used to come up with a lot of these prototype numbers and kind of estimate what costs would be of compliance in different parcel types throughout the city.

COMMISSIONER TURNBULL: Okay. I

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guess my last question is kind of a combination for Ms. Gates and -- we've basically said that we're exempting R1 through R4 from GAR.

MR. PARKER: Based on feedback from the Commission.

COMMISSIONER TURNBULL: Right.

MR. PARKER: We had originally said everything but single-family homes. The Commission showed an interest in also exempting flats.

COMMISSIONER TURNBULL: Right.

MR. PARKER: And so, we actually took that from applying it to single-family homes and flats specifically to applying it to the zones where those are predominant. But we are more than willing to consider going back the other direction and --

COMMISSIONER TURNBULL: No, I'm not saying to go back. Just her one question was a house in an R1A Zone may have a lot size in excess of 10,000 square feet and could exceed

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the square feet in a building addition or alteration requiring a COO. Do you have a response to that? It's on the second page of her --

MR. PARKER: Well, I think what this is getting at is that we have a lot of land area in R1 Zones in the city. And with the fact that you don't have to get a Certificate of Occupancy for a single-family home, there's the potential for a lot of new development in single-family homes, a lot of additions, a lot of new single-family homes that don't require a C of Os. And I'll let Ms. Gates speak to the point about whether it's a good or bad thing to let all that happen without --

COMMISSIONER TURNBULL: Well, would that then need a special exception or a variance?

MR. PARKER: Well, no. I mean, the current recommendation is that GAR doesn't apply.

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COMMISSIONER TURNBULL: It doesn't apply? So you don't have to --

MR. PARKER: Does not apply.

COMMISSIONER TURNBULL: Okay. All right. No, I'm just saying in light of what she's bringing up, should that trigger something? I mean --

MR. PARKER: Should that trigger GAR?

COMMISSIONER TURNBULL: Yes.

MR. PARKER: I mean, we're more than willing to look at that, especially maybe for large lots.

COMMISSIONER TURNBULL: Yes.

MR. PARKER: But yes, we're certainly willing to look at whether it should apply to single-family and flats.

COMMISSIONER TURNBULL: I guess that's what I'm getting at. I mean, in certain circumstances we're saying they're basically exempt, but there could be circumstances where it might trigger something

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where they might be required?

MR. PARKER: Perhaps new homes.

COMMISSIONER TURNBULL: Yes.
Perhaps, yes. Or as she's saying, a
significant addition. But wow, I can't
imagine that.

MR. PARKER: Maybe 100 percent the
cost of the --

COMMISSIONER TURNBULL: Oh.

MS. GATES: No, Mr. Turnbull, my
comparison was that the lot size for the R1A
could be equal to or larger than the
alteration in a building that would require a
COO. So that we've got a big house over here
with a large lot and then we've got a building
over here with an alteration that is going to
require GAR, but this guy gets away with it.

COMMISSIONER TURNBULL: I guess
we'll have to think about that.

CHAIRPERSON HOOD: Yes, I'd like
for us to keep that open. I'm trying to
figure out, the Commission, did we say

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exempted from R1 to R4?

COMMISSIONER TURNBULL: Well, we had -- R1 was down originally and we started -- I think Commissioner May brought up the idea of flats.

CHAIRPERSON HOOD: Okay.

COMMISSIONER TURNBULL: And then it kind of snowballed from there.

CHAIRPERSON HOOD: Let me ask this; and I think Mr. Turnbull brings up a good point, what are they doing in Seattle? Do they exempt certain zones?

MS. CIDLOWSKI: When they started their requirement, they started in mid-level commercial and mid-level residential zones and have since then expanding outward from there.

Now the requirement's moving into the downtown and a lot of that's based on the fact that they're updating their zoning codes similar to us. So as they update each section, then they examine existing conditions and develop a GAR standard for it. Right now

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they don't have one for single-family homes and small low-density dwelling units, but they haven't updated that portion of the code. When I last talked with them, they're anticipating some version of the GAR, although standards might be different as we sort of similarly anticipate having different standards in high-density areas and low-density areas.

CHAIRPERSON HOOD: Okay. But I think, Mr. Turnbull, we can still probably leave that open where we can look at what's going to trigger that. I guess we need to just leave that discussion open for us to --

COMMISSIONER TURNBULL: Yes, I'd like to hear Commissioner May's thoughts on it, and Commissioner Selfridge, too.

CHAIRPERSON HOOD: Okay. Yes, let's leave that open.

MR. PARKER: We'll take further guidance from you at the proposed action.

CHAIRPERSON HOOD: Okay. Let's

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see, there's five of us up here. Okay. Yes.

All right. Okay. You finished,
Commissioner?

COMMISSIONER TURNBULL: (No audible
response.)

CHAIRPERSON HOOD: Okay. Vice-
Chair?

VICE-CHAIRMAN SCHLATER: Thank you,
Mr. Chairman.

Everybody said it; it was a great
presentation. I think there's been a lot of
research that's gone on behind this. It's
clear from the presentation that you've
thought through all aspects of this proposal.

I think part of the reason why you
don't have developers here proposing it is
because it is well thought out. I mean, I
know people have read it. I've seen the
notices from DCBA and some of the other
organizations. They've had the opportunity to
come before us today and testify on it. And
the fact that they're not here indicates that

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they're not alarmed. So, I think that's good.

I think in the end it's going to depend on where we set the GAR ratio in each individual zone, because that's going to determine the cost of it, and I think it also depends on the breadth of its applicability.

So with respect to the issue of the R1 to R4 Zones, what percentage of private land in the District roughly is occupied by those zones?

MR. PARKER: We have that information, just not with us tonight, unless you know.

MS. CIDLOWSKI: The R1 through R4, I think I have a statistic for R1 through R5A, so it's going to be a little bit off. We're at about 80 percent of the land area actually.

Because we had looked at this initially when we brought forward in concept and we were talking about applying it to all lots below 5,000 square feet. So it's a large percentage of the land area of the District, but they're

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all relatively small parcels.

VICE-CHAIRMAN SCHLATER: So, I think just from constructing something that's going to have a serious impact on storm water and, you know, the environment of the District, we have to look very closely at whether to include those parcels. Because if you're excluding 80 percent of the land area, you're minimizing the impact of this idea. Now, I think it comes down to cost for the homeowners in the R1 to R4 areas. I'm certainly open to it and I think when we're considering the text at proposed action I think we should include those areas, those zones, I should say.

And I also think that in terms of the applicability for the standard of the renovation -- right now it's at 100 percent, is that correct, 100 percent of the assessed value? I think we should take a look at whether 100 percent is the right threshold. I think an argument can be made that it should

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be 50, which is a standard that's used elsewhere, at least in other parts of the regulations. So I'm open to that.

I think the question then comes down to what are the costs associated with this for a homeowner? The one that I'm somewhat concerned about is the fact that they would have to engage a landscape architect if they were doing renovation on their home, which adds some costs to the project. And I'm not sure how much it adds to the overall project, but it's something to think about.

The other thing I'd like to look at, there was a chart about -- it was a graph that showed costs relative to the GAR ratios.

So this is looking at the PDR Zone and where we're going to set it. And right now it's proposed that it would be at a 0.2, correct?

MS. CIDLOWSKI: Correct.

VICE-CHAIRMAN SCHLATER: And so if I'm reading that chart correctly, by setting a GAR score threshold of 0.2, we'd be adding

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roughly \$3.20 per foot in construction costs?

MR. PARKER: Per square foot of lot area.

VICE-CHAIRMAN SCHLATER: Per square foot of lot area?

MR. PARKER: Lot area, not building area. And that assumes that you're starting from 0.0, which is a very, very low percentage of the lot. Most parcels in the city have some existing GAR score.

VICE-CHAIRMAN SCHLATER: So that chart confused me a little bit because I was thinking, well, if it costs \$3 per square foot of construction, that's well over one percent of costs.

MR. PARKER: Right.

VICE-CHAIRMAN SCHLATER: But if it's \$3 per square foot of lot area, it depends what the density of the use is, that's what it would say there?

MR. PARKER: Correct.

VICE-CHAIRMAN SCHLATER: In your

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typical PDR Zones what are these buildings built out to in terms of FAR?

MR. PARKER: Existing FAR is fairly low in these zones. There's a lot of open land. What we generally saw in our sample size in PDR were two types: We either saw very small buildings with lots of parking --

VICE-CHAIRMAN SCHLATER: Yes.

MR. PARKER: -- in which case the costs are lower because it's easier to -- even though your building is smaller, so the percentage of the -- as a percentage of the building is higher, it's easier to pick things that -- permeable paving and tree planting, etcetera. The other type of lots that we saw a lot of are 90 to 100 percent lot occupancy, and these often were one story, but sometimes were two or three stories.

So the long answer to your question is FAR varied greatly, but it's generally pretty low, two or less.

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VICE-CHAIRMAN SCHLATER: Two or less? I think, you know, before we vote on this I'd like to -- I think we're getting there in terms of understanding what the costs are and at some point we just have to jump and pick a threshold. And then if it seems too burdensome on people, they'll come screaming to us and we'll take another look at it and see whether or not we adjust it.

But I think the analysis that backs up the one percent; I don't know if we have that on the record, but I need to take another look at that.

MR. PARKER: Sure.

VICE-CHAIRMAN SCHLATER: Because on top of, you know, the costs associated with your GAR, you do have a lot of fees that have been cropping up over the last couple of years and ultimately we don't want this to become an impediment to new development in the District. We want it to complement it and make the District --

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MR. PARKER: One thing that we didn't do that we probably should have done is subtract out the savings that come from -- like we've just looked at the cost of constructing GAR, but if you implement GAR on a lot, you're going to lower your storm water fee and you're going to lower a lot of these other fees. So there are a lot of costs benefits that haven't actually been factored into this construction benefit, not to mention long-term energy savings costs.

MS. TREGONING: And I will just point out that the construction cost is a one-time cost with some small amount of maintenance, whereas the fees occur, you know, episodically over and over again. So you're savings, you know, goes out in perpetuity.

VICE-CHAIRMAN SCHLATER: And the other form of cost that we can look at is just this process which looks pretty similar to your building permit process. I mean, there's a lot of different things going on when you

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get a building permit reviewed.

I guess the question would be, someone said it would be a 10 to 30-day DDOE review period. Is that meant to go in parallel with all other DDOE reviews and is it going to extend that review period at all?

MR. TULOU: It would be concurrent with the other reviews that are being done and pretty consistent with some of the reviews we'd be doing otherwise, so not anything I think we anticipate being an extra burden of significance.

Yes, and Sheila Besse.

CHAIRPERSON HOOD: If you could come to the table and introduce yourself and turn your mic on so we can make sure we have you on the record.

MS. BESSE: Hello, I'm Sheila Besse. I'm Associate Director for Watership Protection Division, and we're the ones responsible for reviewing plans for storm water management, and as part of that whole

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process they come through my shop. Most of them have a landscape plan as part of the storm water management plan because of the fact that that's incorporated into meeting your storm water management requirements. So we don't see that there would be a large additional burden. It would be really calculating those out. Now, there might be additional ones that would not meet the storm water management piece. They might be coming through, so there might be an additional -- we figured maybe 20 percent that might come through that would not be -- have a storm water requirement, but we think, you know, that we could handle it and it would be about the same time frame or less.

VICE-CHAIRMAN SCHLATER: Great. That's very useful information. Thank you.

Mr. Chairman, I don't have any further questions. I look forward to reviewing the record again and taking this up for proposed action.

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CHAIRPERSON HOOD: Any other questions?

(No audible response.)

CHAIRPERSON HOOD: Okay. Great.

Ms. Gates, did you have any comments or questions since you're a part of this dialogue?

MS. GATES: Thank you. In terms of storm water management, and I want to go back to the R1 through R4, R5A; that's fine with me, District Zones, in Palisades. And I believe I testified to this at the initial hearing, we have a terrible, a terrible problem with storm water; Ms. Besse has worked with us, the ANC, over time, so bad that a storm sewer study was undertaken by WASA. It has not been implemented yet because of the costs of it. But when you think about 80 percent of the land area being in those districts and the ability for significant runoff in areas where there are hills, that sort of thing, uneven terrain, this is really

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incredibly important. So I'm delighted to see it coming and I hope the costs won't prevent it from being applied across all zone districts. Thank you.

CHAIRPERSON HOOD: Okay. Thank you very much, Ms. Gates.

Okay. Mr. Parker?

MR. PARKER: One clarification, because it's come up a couple times in our discussion here. When we say 80 percent is in R1, that's 80 percent of the zoned land. There's a big chunk of land in D.C. that's federal or unzoned. We're just talking about 80 percent of the land that's privately controlled and so on.

CHAIRPERSON HOOD: Okay. I think that's about it. I want to thank both of our directors from the Office of Planning and DDOE. Appreciate you coming out and sharing your testimony and your thoughts. And want to thank Dr. Keeley and Ms. Cidlowski and Ms. Steingasser. Mr. Parker, we thank you all the

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time. And I also want to thank the Office of Zoning staff and the folks to my left.

For me, this is a very interesting topic. Like I said, I don't I understand all of it, but as Ms. Gates said, I think it's very important and that's why I want us, Mr. Parker, to look at R1 through 4. Let's look at that and see whether we need to put a trigger there or not.

And with that, Ms. Schellin, do we have anything else?

MS. SCHELLIN: I believe we'll just schedule when we're going to take this up.

Mr. Parker, you want to take this up January 24th or do you want to put it into February?

MR. PARKER: Let's do February.

MS. SCHELLIN: Okay. And I believe you have a couple things that you'll provide us with?

MR. PARKER: We'll provide you with just a work sheet, the normal work sheet to

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walk through. Is there anything else that you specifically wanted?

MS. SCHELLIN: I'm sorry, what was that? What was the one thing you named?

MR. PARKER: We'll provide you with the standard work sheet and --

MS. SCHELLIN: The analysis of the one percent GAR construction costs?

MR. PARKER: Analysis of the one percent construction costs. And then a further recommendation on R1 to R4? Or you want to wait and hear from the other -- okay.

MS. SCHELLIN: Right. And so then we would take that up. I believe our January meeting is going to be the 7th. That's going to be first Monday, since the second is the 14th and I don't think we want to meet on Valentine's Day. So that would be the 14th. If we could have your responses by January 31st? Does that work?

MR. PARKER: What's the next date after that, February 28th?

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MS. SCHELLIN: The 28th. February 28th.

MR. PARKER: Let's aim for that.

MS. SCHELLIN: Okay. So then if I could have your response by February 21st?

MR. PARKER: Certainly.

MS. SCHELLIN: 3:00?

MR. PARKER: 2:55.

MS. SCHELLIN: Okay. That will work. Thank you.

CHAIRPERSON HOOD: Okay. Thank you, Ms. Schellin.

MS. SCHELLIN: And other than that, the record is closed for everything else, everyone else.

CHAIRPERSON HOOD: Yes. Do either one of our directors have any closing comments?

(No audible response.)

CHAIRPERSON HOOD: Okay. Again, I want to thank everyone for their participation and the exhaustive research and study and

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providing us information tonight. Greatly appreciate it.

And with that, this hearing is adjourned.

(Whereupon, the meeting was adjourned at 8:15 p.m.)

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