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[00:00:00] Okay. Good morning, everybody. It's nice to see those of us that are here. I'm going to call the Land Use Policy Committee meeting to order. We have definitely interesting topics today, very detailed, and lots that I know staff had to learn to do these. But first, we have the minutes from the last Land Use Policy meeting. Are there any corrections or additions to those?

[00:00:28] Okay, those will stand as accepted. So the first, oh my goodness, where is Supervisor Stork? The first presentation is DCA South of Airport Noise Study.

[00:00:44] And so I'm going to turn over to Katie. Good morning, everyone. Thanks for being here this morning. My name is Katie Herman. I'm an assistant director of the planning division within the Department of Planning Development. And I have a few folks here joining us this morning.

[00:01:02] To my left is Tracy Strunk, our Director of Planning and Development. And then I'm joined here by Jim Alderice, who is a consultant helping on this project. He is with Bionair and is the Chief of Consulting Operations.

[00:01:20] And then we also have Kareem Bebek, who is a Senior Planner here in the Department of Planning and Development. And at this point, I'm going to hand the presentation over to Jim, and we'll go ahead and have him get started. Morning, everybody. As Katie said, Jim Allardyce.

[00:01:38] I made the screen go blank already. There it goes. With Vionair, just a quick background on me. I started my career in the Air Force in 1980 as an air traffic controller. Went into the FAA in November of 1983 and ended up in Atlanta TRACON in the last part of my career.

[00:02:03] Got to Atlanta in 1991. My background was the development of flight procedures. And we had a project west of the Atlanta airport where we did a lot of community engagement and went out and asked the folks about the impacts to them and designed procedures with feedback from them.

[00:02:26] So we were doing community engagement before community engagement was cool. So that's where I kind of got my start on that, and that's what kind of drove me towards these kind of processes with you all. So we'll go through this, talk a little bit about the project objectives, the design team philosophy.

[00:02:46] I want to spend a little time on that because it's the most important part, I think. The recommendations and next steps, and then we'll have Q&A. So how did we get here? This was the genesis of the Metroplex project, which I'm sure you're all familiar with.

[00:03:04] Happened around 2015. The slide on the left is pre-Metroplex, and that's when the aircraft were being vectored by the air traffic controllers. What that means is when the aircraft take off, the controllers will assign headings, altitudes, speeds.

[00:03:21] They'll tell the airplanes when to turn and what speed to use, what altitude to use. And that result resulted in a more dispersed pattern. But after Metroplex, they went to space-based navigation, GPS.

[00:03:40] And we call it area navigation or RNAV. So I usually talk in acronyms, so if I say something and you don't understand it, just stop me, or Katie will kick me under the table, one of the two. But the RNAV departures that are depicted here show that the dispersion went away and became a much, much thinner line.

[00:04:08] This happened on both arrivals and departures. In this particular slide, it's just showing where the aircraft turned to the west. That kind of affects the folks here in Fairfax. This is the folks that were involved in this.

[00:04:24] Thank you very much, Fairfax County, for giving me these two lovely and intelligent ladies to keep me straight on this project. It's been a lot of fun. And the steering committee is what they're part of on the right side of the screen here.

[00:04:40] on the left side is the community working group representatives, of which the Fairfax representatives were on the design team. All right, design philosophy. Anytime you talk about aircraft noise and moving aircraft from one place to another, if you have somebody who has the airplanes over their house, they're not going to be so happy. If you have somebody whose house the airplanes got moved away from, they're going to be ecstatic, right? So ultimately, we had to come up with a

[00:05:19] way of defining success that didn't come down to the my house level. It had to be a regional approach. So what we did was we came up with this design philosophy philosophy, and we were trying to define what success looks like on the front end. In this case, this is the design philosophy that the design team came up with.

[00:05:44] So what Vionair did in this case was act as a facilitator. And the design team itself came up with these ideas and refined them. So the ultimate was maximize flight paths over the center of the Potomac

River and compatible areas, including industrial areas, major highways, utility quarters, and government land.

[00:06:06] Government land, by definition, is also compatible. Then we want to maximize altitude. In this case, we talked about optimized profile descent to reduce noise over noise-sensitive areas. We also looked at maximizing altitude on departures.

[00:06:21] How could we get the departures higher faster? Increased track variability. So that's a chore to increase track variability when you're talking about the RNAV, the space-based navigation, because everything is so narrow. So what you try to do in that case is have kind of an equitable, if I can use that word, distribution of the noise, and that has to suffice for track variability because the FAA is loathe to go back to pre-Metroplex methodology.

[00:06:54] Avoid disproportionate impact in any single entity, county, city, town, neighborhood. That one is especially of concern for Fairfax. And I think when we get into this, you'll see that Fairfax benefits probably the most out of this project on that bullet number four. And minimize overflights of noise-sensitive areas and schools, hospitals, churches, historic sites, et cetera. So this is meant to be a hierarchical list. We try to do number one first. If we can't do number one, try to do number two and so forth.

[00:07:30] But it doesn't mean that we can't do number one, number three, and number four. If we can do all of them great. So we tried to do as much of that as we could, but we wanted to do it in a hierarchical order. So the last thing I'll say about this is when the final designs are finished, the test of success is can you map those designs back to this design philosophy? We believe we can, we believe

[00:08:03] we did. And so we believe that the design is successful by definition. All right. So within the blue wedge to the south is the primary study area that we looked at. We looked at arrivals and departures in this area and tried to do as much as we could to mitigate noise for as many people as we could within this area. We'll talk about north flow and south flow. Simply north flow is when the aircraft are coming from the south, landing to the north, and departing to the north.

[00:08:38] So the primary runway is runway 119. That's the middle runway, north and south. So in a north flow, they're landing and departing runway one to the north. And in a south flow, opposite, departing runway 19 to the south. And just for edification, the runway numbers are based on compass headings. So runway 19 is closest to 190 degrees. Runway 1 is closest to 10 degrees.

[00:09:08] So that's how the runway numbers happen. Okay, so airspace changes. The place where the blue line and the red line cross is kind of the bullseye here in Fairfax County. This was kind of the definition of what we really wanted to address and really wanted to solve. And the reason this is so significant here for you all is because in a south flow when they're departing runway 19 they come from the airport down the river they turn to the west and they overfly the same area as the

[00:09:47] arrivals do that come from the northwest on the red line turn south and there's a crosshair right there so the folks that live in the vicinity of that area have airplanes over them regardless of whether the airport is landing to the north or landing to the south. So this was kind of the problem that we really wanted to solve here for you all. So what we did was the westbound departures that turn to the southwest on the red track there are the existing departures. So they come down the

[00:10:24] river, they turn to the west, they get out to that intersection. It's hard to see, but it's it's called gate, and then they turn to the southwest. There's also departures that hit that intersection and go to the northwest. But the ones that go to the southwest are the ones that we wanted to address. So there are a bunch of airplanes that continue west and go to the northwest. That amounts to approximately 57-ish percent of the airplanes that go to the west and then to the northwest. The ones that go to the west and then to the southwest, about 43 percent

[00:11:00] of the airplanes, and those were the ones that we were able to keep over the river and move to the southwest on those new green lines. So what that does is takes aircraft from over people's houses and puts them on the river, and unless somebody has a houseboat, they shouldn't be overflowed by these airplanes. When the airplanes come back over land, they come back over very sparsely populated land and government land. So we felt like this was a good solution. It's not a total

[00:11:34] solution, but it should give 43%-ish relief to the folks that are underlying that track that turns to the west in the red there. So on the arrival side, the red line is where the troops and Freedom Stars, standard terminal arrival routes, come in from the northwest. These are aircraft that are transitioning from the en route stratum to land. And they come down that red line and they come down to 4,000 as low as 3,000, maybe even 2,500 feet. So they get really low

[00:12:10] coming down on that red line and they overfly that same area in Fairfax County. So what we wanted to do was we wanted to move it from more densely populated area to less densely populated area and this is this is kind of the definition of track variability as so far as we can do it with our nav is to move that to a less densely populated area and also it's as in the design philosophy to keep it over the river as much as we can so we kind of put it in that little notch in the river, and we came back down to the point, that Hero intersection, where they join in,

[00:12:50] and they continue turning to the south. So from Hero down south, nothing changes. But on the Green Line, the lowest altitude that we have recommended is 3,000 feet when they get down to that Hero intersection, but up to the northwest, they'll be higher. What this ends up doing is it ends up where the people of the green line get quote unquote new noise, it's not all the time. It's only when the airplanes or when the airport is landing to the north. So those airplanes flying that green line will not be there when the airplanes are departing to the south. And that

[00:13:30] red line goes away. So now everybody gets 100% relief at certain times. So when the aircraft or when the airport is departing to the south, the departures will still, let me just go back, a picture's worth a thousand words, right? When the aircraft are departing to the south, that blue line right there is still going to exist for about 57% of the departure. So they'll get that. But when they're landing to the north, that red line goes away. So the blue line goes

[00:14:03] away too, nobody in that area where that cross is now will be overflowed in a north operation. So everybody gets relief at some point. So we thought that was pretty good. So we're here today, June 17th. The design team is in the process of gathering all of the public comments. We have one more meeting where we have the email that folks can mail in comments. We've responded to them pretty quickly on most of them. A lot of the stuff that was asked, we put into the frequently asked

[00:14:43] questions on the website, the project website. So once we gather all that data, we're going to have one more meeting of the design team to see if there's anything significant that we may have

overlooked that we need to address, and if so, we will. So far, there hasn't been anything earth-shattering that's come through. I think everything stays within the design philosophy.

[00:15:09] The survey that we put out a while back agreed with the design philosophy, so I think we're good. So the CWG final briefings, the CWG is a community working group of the MWA roundtable for DCA, And we're going to meet probably the end of July, I think it was July 24th, did we say?

[00:15:32] And so that's when the full working group gets this briefing, basically, only for also including Alexandria and Prince George's County, the whole nine yards. And then once that briefing is done, we anticipate a vote of the CWG to send these recommendations forward to the FAA.

[00:15:53] the likelihood of that vote being successful is very high we made the same deal with you all that we're making with the north side now when when we did the north side we said okay whatever we do up here is not going to affect the south side and now we're saying the same thing whatever we're doing down here is not going to affect the north side basically that's the only thing they really have to agree with is is no you didn't do anything that affects us so we're cool but the representatives on the south side, they're on the CWG, they were also in our design group. So

[00:16:27] the likelihood of it passing is very high. Once that happens, it is sent forward to the FAA as a recommendation from the roundtable. And then who knows? One of the questions that was asked earlier today is how can we help shepherd this along? I would say once those recommendations go to the FAA, then fair game, right? You can write the FAA, you can write your Congress people and say, hey, these recommendations have gone forward, we fully support them,

[00:17:00] please implement them as soon as they can. The bad news is that from the FAA, we've been told four years-ish for implementation. And the reason for that is primarily due to staffing in Oklahoma City. Oklahoma City used to turn out about 150 flight procedures per cycle, and a cycle is 56 days. Now they're turning out 50. So the only thing that they're really looking at right now is safety-related stuff. So we tried to do as much as we could within this project to address

[00:17:39] safety and efficiency, and without really getting into the weeds, we've done that as well. So that's kind of the timeline. We hope to have this submitted in the fall of this year to the FAA. And let's see.

[00:17:56] I think that's it. Questions, comments, complaints, or suggestions? Thank you, Jim. Well, you're pushing on the FAA, right? Yes, ma'am. I appreciate that you had the background memo, which ends with that. The decision is with the FAA, and I think there's the frustration.

[00:18:12] I'm sure that the community is happy this is moving forward. Mr. Chairman. Yeah, great presentation. There's a lot to like here except for the timeline. But I guess just a couple of questions just so I'm clear. The work that you've done here was in no way directly or indirectly coordinated with the FAA or EMWA.

[00:18:34] Is that fair to say or what role, if any, either of them played? No. So there were no approvals by EMWA or the FAA. I did have conversations with folks within the TRACON.

[00:18:50] One of the promises that I make to these folks in the TRACON when I talk to them is I will never say that you approved anything. The only thing I've ever said was, hey, I talked to them and they didn't hate it. And if they don't hate it, then you're kind of over a first hurdle because the very first place where this could get stopped is the TRACON, right?

[00:19:10] Those are the controllers that have to deal with this stuff, right? they have to be the ones that implement these procedures and be able to use it within their airspace safely. So as long as they don't hate it, I think we've got a very high likelihood of it going forward, at least past that point. So EMWA, they've been aware of what's going on, and we've also reached out to the airlines. As a matter of fact, I have a briefing next week to American Airlines to show them all this stuff, so. Okay. I mean, it would be sure great at some point to get MWA to support this because obviously anytime there are concerns about noise, I mean,

[00:19:49] they made quite a passionate push in this very room about airline noise and how it affects residential neighborhoods. Yes, sir, and that's the purpose of the CWG meeting. Once that CWG meeting is voted on and they have a recommendation, then kind of by definition, MWA supports it.

[00:20:07] Okay. I think that's going to be important. My other question is two-part. I mean, one, there was a long push by Congress and well-documented to increase the number of flights coming to and from National Airport.

[00:20:23] And so I presume that all of your analysis assume the same number of flights that currently exist and also are projected in the future. And I ask that question because I don't see anything here in the route changes that would tell me whether or not this creates a capacity issue in terms of airport volume.

[00:20:42] So, no, sir. Actually, one of the designs that we did for the departures actually corrected a criteria fault in the FAA's current system and will actually enhance capacity.

[00:21:00] will actually allow them to move the aircraft. Now, I know people don't like to hear that you're enhancing capacity. As you know, the number of aircraft is set by Congress, so we really don't have any control over that, nor was that within scope.

[00:21:16] But what we tried to do was to say, whatever amount of airplanes they have, where can we make them go that has the least impact on the communities and maintain safety and efficiency? I think that's really important because I'm certainly not pushing for any more capacity.

[00:21:34] In fact, even EMWA would tell you they're trying to steer more traffic into Dulles for obvious reasons. Right. Capacity and less safety issues. But I didn't want this to be dead on day one because it assumes some type of a reduction over today's volume.

[00:21:50] No, sir. You have to give the FAA something. You know, that you have to give them some benefit out of the process or you're right, then it's dead. So what we did was increases the likelihood of it being implemented.

[00:22:06] Okay, and related to that, since you were presumably meeting and conducting this analysis at the same time the tragedy occurred at National Airport, I'm just wondering if there's anything that we need to know relative to that. I can't assume it would have necessarily changed any of the recommendations you made, but maybe you can explain that.

[00:22:27] No, sir. So as a matter of fact, on the arrival side of the airport and the operation that was in process when that occurred, we didn't touch that. We had no intention of touching it before the accident.

[00:22:46] And after the accident, you know, there's everybody and their brother is looking at it right now. So, yeah, we were pretty much hands off on that. So nothing we did positively or negatively affected that situation. I think this is very good.

[00:23:02] I'm looking forward at least to, you know, once this gets submitted to the FAA, doing everything we can to push for some of these modifications. They seem like no-brainers and could dramatically improve quality of life for tens of thousands of Fairfax County residents.

[00:23:17] So thank you for your good work. Yes, sir. Thank you. I have Supervisor Stork, then Lusk, then Walken. Jim, it's a pleasure to meet you in person. Yes, sir. Absolutely. After all these days and meetings, et cetera. And I want to start, first off, by thanking Mike Rio and Bob Meyer, who represent, frankly, all of us, but especially been very involved, deeply involved with this, not only because they were living it, since the FAA unilaterally changed how that was done in about 15 years

[00:23:52] ago or so, and that really changed people's lives substantially without any notice or community engagement, et cetera, and that was just flat wrong, and that really is where a lot of the anger and irritation comes from, and my colleagues may not remember, but we had a meeting, and I may get the date wrong, but I would say it was about 10 years ago at the National Airport, and the FAA had the meeting, and there were hundreds and hundreds of people there in the terminal, and we heard a lot of things from the FAA then that they

[00:24:29] were going to do and mostly it never happened so this process of bringing you on board I want to thank I particularly thank the county executive who who really led the charge to get Prince George's and Alexandria and others to put up some money to make sure that this all happened that's to me is a big deal of why we're here today so thank you executive Hill we have a big challenge with this not in terms of the work you've done because I think it's been first-class we have a big challenge in this is I think in general the community

[00:25:07] is going to be supportive I know I'm not speaking for the whole community I know there's some impacts from some of the areas that and individuals who who may not perceive that they should have to have any additional flights over their neighborhood and that somehow it's better just to let somebody else deal with all of it and they get none of it or very little of it I personally don't feel that way I live in the flight path I hear this planes uh not anywhere near the folks that that live in this area and and particularly here uh for me it's typically at midnight and one in

[00:25:40] the morning uh and they are flying below their uh their assigned levels of altitude which is another whole story and so the first part of this is I think I'm looking forward to the further community engagement. I'm hoping that Prince George's and Alexandria are on board. I realize we still have work to do. The part that I think is particularly of concern, not that there aren't some tweaks here that we want to see, but we recognize it's whatever we do and get together and advocate for, it's going to be a long journey to get the change. Is there anything in particular

[00:26:17] that we as a county or we should be doing that can help expedite that so it's not four years and Maybe it's only three years. Again, you're looking at people who've already been suffering, for the most part, for 20 years. And how do we at least reduce some of that and do what I know we've believed?

[00:26:38] One of the first things I did when I got in office 10 years ago is I formed the South Flow Alliance, which was community members who could engage. And so it's taken us 10 years to get to here. So any suggestions, recommendations about how the county and what else we can do to move that along potentially?

[00:26:56] Sure. A couple of things. First of all, once the recommendations go through the CWG and are passed or sent forward to the FAA, like I said, at that time I think it's fair game. I think trying to engage prior to that would be premature just because it's kind of got to go through the process, right?

[00:27:17] But once the recommendations have been forwarded to the FAA, allowing the congressman to know that that's been done, that it's sitting in the FAA for them to take a look at, you know, writing the administrator, whatever, I mean, whatever kind of political things that you want to do at that point are fair game.

[00:27:35] And two, more immediate effect could be there are some discussions going on with MWA, with the CWG about implementing a formal fly quiet program, formerly informal.

[00:27:56] I was going to get there too. Fly quiet program. And I think that would be more of a short-term initiative to support. And I don't think – I've heard you talk about fly quiet today, so maybe you could explain to folks here. And, I mean, we are a very data-driven world, and particularly I would say Mike Rio, who has been a Navy pilot and does this kind of work, similar kind of work, all over the world.

[00:28:21] He's a resident. Yes. And then Bob Meyer is a scientist, and he's taken this data, and as you know, to whole new levels of help and support. And again, I would also echo Don Beyer, and particularly Noah, has been very involved and very supportive.

[00:28:38] But the fly quiet is definitely, in my mind, the way to automatically manage this more effectively long term. So can you maybe explain to folks here what it is that we're talking about and why it matters? Sure. First, I just want to acknowledge Mike and Bob.

[00:28:53] They've been phenomenal throughout the entire process. Their expertise is very valuable in the whole process. And they're involved in the FlyQuiet process as well. So what FlyQuiet is generally is it's a program at an airport or an airport authority that evaluates and takes the data that they collect from flights, noise complaints and noise reports, and they meet periodically with the airlines to see if there's anything that they can do voluntarily to try to mitigate noise.

[00:29:29] Even though you cannot put, like, a curfew on the airport anymore, you know, that's not within the legal limits of what's available to do right now, what you can try to do is maybe have conversations with the airlines to say, can you adjust your schedule at all?

[00:29:48] Can you make better choices about the types of airplanes you fly at certain times of day or night because some of the airplanes are quieter than others? So those types of things, it's just a collaborative process that the community, the airport, and the FAA and the airlines can use to try to, you know, take some mitigation measures in the short term.

[00:30:12] Thank you. And sensors, that's, in my mind, we've talked, I know particularly Mike Rio talks about having sensors, noise sensors, sound sensors, and I know Bob in particular has used the limited data we have to try to understand that.

[00:30:30] Any sense of others in the country that have used or added those kind of sensors that help us to really assess truly what's happening, not just speculate that this airplane was a little bit lower than it should have been and was noisier than it should have been, et cetera? Sure, sure. So there's a couple of different types of noise monitors, if you will. There's a physical noise monitor that they put out in certain spots, and it hears acoustically what's going on when the airplane flies over.

[00:30:58] Our system, the Vionair software, has a patented virtual noise monitor system. And the advantage of that is you can cover a broader area. We have a grid of up to 1,000 of these that we can put over an entire area.

[00:31:16] And then you can see specifically where noise is occurring, how it's changing. You get all the flight data about how high they're flying and stuff like that. So this is one system that has been put forth to EMWA as a possible tool for them to use within the FlyQuiet program.

[00:31:41] So without making it sound too much like a commercial, that's just another way of doing it. And it's more versatile because you can see, you can cover more area. It's very hard to do it with actual physical noise monitors.

[00:31:57] Usually they're somewhere in the neighborhood of about 20 that they deploy-ish. And order of magnitude cost for something like that? For the virtual noise monitor system? It depends on the airport.

[00:32:14] Here it would probably be in the neighborhood of \$120,000 a year for ongoing reports and customizations and things like that. Thank you very much. Appreciate it. Thank you. Professor Les. Thank you, Madam Chairman.

[00:32:31] Let me start by saying I very much appreciate the work that you've done here and appreciate the methodology, and we'll acknowledge it will make a difference, particularly at that convergence point. Yes, sir. I acknowledge I've learned something by looking at this, and clearly the idea to take it over areas that are less populated using the Potomac River that one's like a no-brainer to me um and then thinking about uh some of the governmental lands as well so just appreciate that and it will make a difference i think for a number of the residents uh in my community um i just wanted to

[00:33:10] ask a few questions one is um i noticed that there's a little more coverage with Fort Belvoir. Have we talked for Bell Board? Are they a part of this discussion around having more flights kind of coming across their property?

[00:33:26] Is that going to work? Not specifically. Other than the Fairfax representatives on the design team and the opportunity for anybody to give input, but we haven't specifically gone out and talked to them. Okay.

[00:33:42] So that will be something we'll have to do. And I guess I'm not sure if there's any policies or points of concern that they might have as it relates to the flights over their property, and particularly near the – because they've got – Davidson Airfield is closer to a portion here of our – my district, and I guess it looks like it's flying over there as well.

[00:34:09] Yes, sir. Okay. We'll wait and hear from them, I guess, on what their – And that was actually a point that was asked in the frequently asked questions is did you consider them because they got helicopter operations there and, you know, obviously the heightened awareness around helicopter operations.

[00:34:26] Normally helicopter operations happen below 1,000 feet, maybe mostly below 500 feet, and the airplanes, the lowest that they come over on the flight procedures that we're doing is 3,000 feet. So for what we call instrument flight rule separation, they're separated by twice as much as they need to be, by VFR, visual flight rules, five times as much as they need to be.

[00:34:50] So there's plenty of separation built into the flight path that comes over Fort Belvoir. Okay. Just thinking about the safety, I noted that you mentioned the FAA is going to care about those two things, efficiency and safety. Yes, sir. Can you maybe just some more to ask me very quickly as a point, what are the safety reasons for this that might be supportive for the FAA?

[00:35:15] And then what are the efficiency reasons that they might? So the first primary safety initiative, and it's not just arrival or departures, but arrivals as well, is that criteria continues to shift.

[00:35:33] And when I say criteria, that is the rules by which flight procedures are designed. And it continues to shift. So when flight procedures are implemented, they come up with new safety initiatives on those things, new distances, bank angles, all kinds of criteria that goes in to developing these procedures.

[00:35:58] And as it progresses over time, procedures that are existing become outside of criteria. So this will bring all the procedures within criteria. So that is a huge safety improvement. As far as the efficiency improvements go, a couple of things that we did.

[00:36:17] On the arrival side, we did what's called an optimized profile descent. So that allows the aircraft coming in from the south on the CAPS arrival that come up through Prince George's County, Overfly, Acoqueque, to come on a continuous glide path into the airport, which allowed us to raise the altitude from 2,500 feet over Acoqueque up to 3,000 feet.

[00:36:41] So that's an efficiency part there, as well as, and I think the biggest efficiency gain that the airport is going to get, is that the way the departures are designed right now do not meet the criteria or the separation rules, the air traffic control separation rules for what they call ELSO, which is equivalent lateral spacing operations. Some crazy guy down in Atlanta came up with this thing. But anyway, what it was was that the aircraft today, the way they come off

[00:37:19] the airport, as I'm sure you all know, some of them turn slightly right, some of them turn slightly left, the FAA has interpreted that as not meeting the rule. So they want one of the airplanes to come straight off the runway and the other airplane to diverge by at least 10 degrees and both of them being flying RNAV departures. That's in this design. What that allows them to do is use those flight procedures, whether it's clear in a million or a day like today. And as of now existing, they cannot use those flight procedures on a day like today. They actually have to go back

[00:37:55] to the old way and vector the aircraft and turn them and take them off the SIDs. And if the airplanes can stay on those RNAV SIDs and the pilots can fly them more automated, that also reduces workload for the pilots, increases safety in the cockpit as well. So we feel like that was the single biggest improvement in efficiency that they will enjoy. Okay. No, that makes perfect sense. And I'll just say, again, appreciate what you're doing. We want to make sure we share information with the community so there might be, if there's some way we can have a truncated

[00:38:32] version of the presentation that we might be able to provide for members of the community and things that we can share ourselves on our websites talking about this. I think that's going to be, Okay, I apologize. Maybe a little more, just so we can help folks know really what's happening kind of quickly and easily.

[00:38:53] And just want to be clear in saying supportive and want to do what I can to help move this along. So thank you very much. Yes, sir. Thank you very much. I appreciate the information. I know

especially some of my colleagues really appreciated this information.

[00:39:09] And I'm going to keep us moving on to our next agenda item. Thank you, Jim. Okay. Next up, we have flood risk reduction policy. And I had trouble sleeping last night. So I got up about 2.30, 3 o'clock and stayed up till about 4.30, read the April 23rd, 2024 memo again. So I think I'm all prepped for this.

[00:39:36] Am I going to turn it right over to Ellie when everybody's ready? Yes, I'll go ahead and start while we get seated. Good morning. I'm Ellie Cotting with the Department of Public Works and Environmental Services. And I'm here today with Bill Hicks of Land Development Services. He's the director and director of Department of Public Works and Environmental Services, Chris Harrington, and Joni Kornbacher, the Stormwater Planning Division director.

[00:39:58] And we are here today to update you, as Supervisor Smith talked about, on what we've done in the last year and mainly to seek your recommendation on a flood risk reduction policy. And it's important for us to get this policy so we can align with the board's vision for things, including our \$100 million current 10-year CIP for flood projects alone, as well as our projected estimated \$600 million for long-term completion of mitigating known structural flooding.

[00:40:27] So the policy focuses on establishing a level of service to protect habitable structures against the 100-year storm and include a margin of safety to account for climate change. And we want to acknowledge that we can't stop the big storms from coming, but the goal is to reduce the risk and help residents protect themselves from life and property damage.

[00:40:52] And the policy will assist staff when they are standing in the yards with owners and residents to be consistent and answer questions about flooding and also to address our residents' concerns about how climate change is changing the rainfall. As a reminder, we have three tools that are represented in this balloon.

[00:41:10] And although regulations are a very important part of the three tools, The incoming development alone only changes a small percentage of the county-wide lands. And so we need to rely on our programs and projects to do a lot of the work. And unless we grow the balloon itself, then we are competing with existing resources.

[00:41:29] And again, about the level of service is to protect habitable structures against the 100-year storm event. That does not include garages or sheds. And the other part of that level of service would include that future development would provide safe conveyance, and that would be the incoming development would also account for climate change as proposed in the policy.

[00:41:53] And then I want to underscore that managing flood risk is a shared responsibility. For example, in the pictures on this slide from Tropical Storm Lee, that exceeded even the 500-year storm. And so at some point, there will be a storm that overwhelms our system, and it's important for the residents to understand the county can only do so much, and it's incumbent upon owners to understand their own risk and be prepared so they can be resilient. And now Bill will talk about regulations. Good morning. I'm Bill Hicks. I'm the Director of Land Development Services, and we see all new construction coming into the county, both public and private.

[00:42:34] And as Ellie described a moment ago, that this is one area of that three-pronged approach that we're going to take to reduce flood risk in the county. It's not new. We have existing regulations and I've highlighted several of them up here. We have floodplain regulations in our zoning ordinance.

[00:42:54] Chapter 124.1 is our stormwater erosion and sediment control and stormwater ordinance. Our public facilities manual is our regulations. This is the requirements for how to do those things. It references NOAA documentation for what those big storms are. And then we've got some policies like Technical Bulletin 2206, which is also kind of more nitty-gritty about how to protect our downstream neighbors. We define in those various codes and ordinances what adverse flooding

[00:43:32] is. And it sounds very technical, but it has to be. I mean, that's what regulators do, right? And so I'm just going to take a moment and kind of read through these, that we are talking about minimizing and certainly not exasperating structural flooding associated with the 100-year event.

[00:43:53] And the 100-year event is one of those terms we've coined in the industry. It really means that the probability of that size storm has about a 1% chance of happening in any given year. Could that happen twice in a year? The answer is yes.

[00:44:10] could it happen year after year? Yes, these are probabilities. Number two is that we would not want it to create or worsen erosive velocities for a two-year event. And a two-year event is one of those 50% things. We see those routinely. And so those are erosive velocities. We want to protect, uh, landscapes, et cetera, at that 50% level. Um, we want to keep our, our stormwater

[00:44:41] flows inside our pipes and our ditches generally at that 10% level, 10% of our storms beyond that would exceed our ditches in our, our, uh, stormwater infrastructure. And then for particular developments, I mean, all developments, we want to make sure that the same flows at the two year event and the 10-year event are the same flows that happen after the construction takes place.

[00:45:09] So that's how we define adverse flooding. So in this new policy, we have eight regulatory objectives. And these are generally the same objectives that we have today. And I'm going to show you this on my next slide. But these talk about waterway obstructions, they manage flood airplanes, conveyance, flooding impacts, erosion, access to your structure during floods.

[00:45:38] And I've taken these eight items and I've put them in this table. And what is different in this policy as we move forward with regulations really comes down to three things. One is that the storm, that 1% chance of storm happening, that 100-year event, will be adjusted for climate change.

[00:46:01] We're going to do that with a safety factor. There may be other ways in the future that this is done with better information from the federal government or otherwise, but for the moment, we're aiming for a safety factor. The second thing it does is that right now, you really are concerned about managing structural flooding in your regulated floodplains, those FEMA floodplains.

[00:46:24] We're going to expand that to say that any flood-prone area or areas of known flooding, you would also do flood protection or flood proofing. We published that data in a GIS layer.

[00:46:40] We published that publicly, I think it was about two years ago, that we put that out in a flood awareness website. So it's easy to find, so you know whether or not you're in that area. And then the last area of change is that access to your structure.

[00:47:00] Right now, we allow if that access from a public right-of-way to your structure is through your driveway, we would allow about a foot of inundation. Moving forward, we would try to limit that to no inundation in that driveway or your access.

[00:47:17] That, of course, is impossible in areas where the roadway is already below that standard. So we would not hold a new development to that standard. And just to reiterate, all of these eight pieces are for new development.

[00:47:33] It is not, we would not come back to an existing home and say, you do not meet this criteria and you have to adjust for that. So this last slide just sums up those three regulatory change. It's that 100-year event adjusted for climate change, the flood proofing requirements outside of regulated floodplains, and lastly, the no inundation for access to your property.

[00:47:59] And I believe I hand this to Joni. Hi, Joni Kahnbacher, Stormwater Planning Division Director. So for prioritization for the capital projects, the proposed policy continues to prioritize those projects necessary to address legal mandates or other critical safety issues.

[00:48:18] For example, that would include a repair to a county-owned, state-regulated dam. Next would be to reduce flooding impacts for existing habitable structures up to that stated level of service. And as Ellie stated, that would not include sheds or garages, habitable structures are those structures that are suitable for human occupancy.

[00:48:44] After that would be reduced flood impacts on roads within county control, and then finally reducing yard flooding. So constituents should expect to have flooding in their yard. That would be something that would be occurring. With the confirmed flooding that we know of huddle structures, we know that it will take a long time to get to the flooding impacts on rows and yard flooding. So since we were here about a year ago, we've undergone many

[00:49:24] efforts and we wanted to provide an update on those different program of different program updates. So the county's flood mitigation assistance program or FMAP was launched in July of 2024. It's administered by Northern Virginia Soil and Water Conservation District with \$2,500 of funding per year for staff and for additional grants and for disbursement for grants. FMAP empowers the owners to make improvements on their lots and reimburses them

[00:49:59] for up to 50 percent of those improvements, up to \$5,000. As of June 1st, Northern Virginia Soil and Water has received over 30 grant applications and over \$80,000 has been dispersed. In addition, we continue to prioritize our flood-related outreach. In May of 2024, we released our flood information webpages, and that was a series of webpages with information on how to prepare and how to understand your flood risk. Just last month, we hosted a coastal flooding open house

[00:50:38] in the Bellhaven community. And understanding the extremely challenging budget, we also submitted a grant application for an additional staff member in January of 2025 this individual would be leading the effort for flood risk reduction planning and then implementation

[00:51:10] also last month the board adopted the repetitive loss area analysis report so that report identifies areas at higher risk for riverine flooding as staff went through the development of that report we did realize that with recent grant funds, we were able to acquire properties that resulted

[00:51:43] in the county having no severe repetitive loss properties. So with recent acquisitions, those parcels with the homes on them will be demolished, and then the county will have no severe repetitive loss properties. Moving on to recommendations and future work, we have our FEMA CRS verification coming up this summer with the goal of getting enough points to achieve a 25%

[00:52:15] discount for our flood insurance policyholders. We'll continue to support FMAP and then also look at additional opportunities for grant programs, including the potential for a voluntary acquisition program. We'll focus on partnering with various other agencies on county projects to see how we can further install flood risk reduction mitigation measures on county projects. We'll

[00:52:46] continue outreach and then we'll continue looking for staffing and support. Regarding our projects, we continue to make progress, but the flood related projects can be challenging and time consuming. Our active CIP project list includes 95 million of projects in various stages of design and construction. So this work includes new infrastructure, upsizing existing infrastructure,

[00:53:19] and also on-lot solutions to ensure that effective overland relief is established on properties. So when looking at and considering all confirmed structural flooding, the magnitude of this work increases significantly.

[00:53:38] So we're looking at approximately \$600 million in addition and then 70 years to complete projects related to the known structural flooding. And then just to say that that does not include any coastal areas for mitigation.

[00:54:03] And then finally, in closing, we seek the Board's recommendation to adopt the proposed policy. We've identified next steps in implementation, including LDS reporting out on the flood regulations in early 2026, DPWS applying the flood risk reduction prioritization to our CIP projects, and DPWS continuing to implement and developing our flood programs.

[00:54:28] Thank you. Thank you for the presentation. It is kind of overwhelming when you think of all the projects that need to be done and all. And I appreciate the work on the regulations because I do think that we need to make changes to protect our community.

[00:54:50] I'm going to turn it to the chairman. Yeah, good presentation. The one question I have on the 100-year event and the safety factor that you mentioned, can you give me an idea or a margin of what that could be?

[00:55:05] I mean, beyond a 100-year storm, you know, how high could that go? What have we seen? And what would be the differences in terms of mitigation between what we require now versus what we would require for an application in an area that has a safety factor above the 100-year?

[00:55:25] Thank you, Chairman McKay. This is Bill Hicks. That's an excellent question and one for which we're only partially prepared to give you the answer today. We will be back in early next year to walk through where we are. We've got some really smart people looking at it.

[00:55:41] But generally, that answer is this, is that we are looking at roughly a 20% increase. A safety factor of 1.2 would accommodate what I think is kind of the middle of the road. And I could be wrong on that, but I think it's about the middle of the road of the projections that many really smart people have been looking at.

[00:56:01] We have a consultant on board. They've been working with us for some time, and part of their calculus includes the cost associated with accommodating this additional storage on site. I don't have those answers today, but when we talk about it in full, we will have better answers for you about that.

[00:56:18] Okay. I appreciate that because I think us, you know, understanding what a ceiling might look like is going to be important because, you know, in some cases, as you've well articulated in this

presentation, the source of the flooding challenge could be coming potentially from development. We've seen that in cases where new development has created drainage problems downstream. But we also know a lot of our flooding problems also exist in older neighborhoods that haven't seen any meaningful redevelopment and therefore no improvements to stormwater management over a long period of time. And we know that in order to address this problem, we're going to have

[00:56:58] to be playing in both of those sandboxes. One, looking at the areas where old infrastructure is failing us, and then two, making sure when new development comes in that it's upholding its end of the deal to not exacerbate problems downstream. And so, look forward to getting more information on that, but I think this is a prudent way to go forward, and we'll look forward to the details.

[00:57:22] Thank you. I have Supervisor Jimenez, and Supervisor Lutz, did I see your hand go up? You'll be next. Well, thank you, Madam Chairwoman. Thank you all for this presentation. I lived in one of those neighborhoods for eight years that didn't have good stormwater. And as many of you know, where I lived in the backyard after it would rain, it was a complete flood for a very long time. And the backyard was completely, we were unable to use it. And I'm sure you all have seen videos in Mason District of the

[00:57:55] impacts um and how real uh climate change is i had a couple quick questions one um have you looked at other jurisdictions or localities throughout the country that are dealing with the same issue and has that played any impact on how to move forward on mitigating stormwater management this is ellie coting with dpwes yes we work with our neighboring jurisdictions we're also members of the uh cog and we work with our partners there to all get together and and plan regionally. In fact, the Northern Virginia Regional Commission is working on more rainfall

[00:58:31] projections to account for climate change because, of course, it should be a regional approach. Flooding doesn't stop at the district boundaries. So we work closely with all our regional partners and we keep up to date on state of the industry across the country. So what we are doing is following with what the most active jurisdictions have done. You've heard me say before, Fairfax County is blessed by having had good planning, and the Park Authority is a huge land owner around a lot of the creeks and streams, and that has been protective. Fairfax County also has had land development regulations in place regarding flooding since the 1960s, and that has largely

[00:59:09] kept us protected. As a newer jurisdiction, we don't face some of the same problems that our older jurisdictions who our neighbors do. So it's a long way of saying, yes, we are looking at what other jurisdictions are doing, and our approach aligns with theirs. When you look at the repetitive of lost property. Is that self-reported? How is that reported? So we obtain that information from FEMA. Okay, so and how often does that reporting coming in? We request that information from FEMA yearly. So it's one, okay, once a year. Real quick, and you were talking about, Joni, you were talking about the community outreach, which I think is great. You said that you had a website and that,

[00:59:49] you know, residents could go there. Do you ever look at the metrics of that site to see if, you know if residents are actually going to the site so we do look at metrics in general and we do revisit them to see if there are certain time periods when they're visiting metrics visiting the websites more frequently for example we had a lot of rain over this past weekend so we would expect to see an uptick in website hits through through that process but yes we do visit them and we look to continue to get feedback on those web pages and improve them through both feedback from our residents and then internal staff.

[01:00:26] I'm real happy that as you look now and projections that you're incorporating the impacts of climate change because it's not going away and it is real and we need to make sure that our residents are aware of what's going on. And those 100-year storms, as mentioned, are not just 100 years anymore.

[01:00:41] We can be seeing a lot of those due to climate change. So anyways, thank you for that and I'll pass it on to... Can we put in a plug for the website? So if you go to fairfaxcounty.gov and search on flood information, you land on the page with the tools that Bill mentioned about knowing your own flood risk, as well as understanding the tools that you have available to you. Or you can search on flood mitigation assistance program to be directed to the link to the Northern Virginia Soil and Water Conservation District page.

[01:01:09] And if you work with our office, I'm sure like many other offices, we're happy to push that out through our newsletters and through different sources. So especially around this time of year, when the rain's picking up, that we can let our residents know that there are tools and resources that the county has, and I do want to echo something that the chairman mentioned real quick, and it's the opportunity of new development.

[01:01:29] That opportunity in the county can help mitigate some of our stormwater in neighborhoods that have infrastructures that are severely older, can't keep up with all the rain. So thank you, Madam Chair. I appreciate Supervisor Jimenez bringing up the information so we could put in our newsletters.

[01:01:45] I think we'd all like to do that. I have Supervisor Lusk, then Walkinshaw, then Stork. Okay, thank you, Madam Chairman. I'll go quickly. First, I wanted to just note under the flood mitigation assistance program, you indicated that there were \$80,000 that had been dispersed. Would you be able to maybe describe some of the types of projects that people are doing so those who are listening might think about this program in a way that could be a benefit to them? The flood mitigation assistance program is a reimbursement program for any approved practice. And then if you have a practice that's

[01:02:21] not on the approved list. You can't even ask for more. So we have seen all kinds of different applications, including even, you know, landscaping to get the floodwaters away from your yard and then things like sump pump battery backups. But the Northern Virginia Soil and Water Conservation District will close out there one year and then they will be providing a formal update which we can share. Okay, that's perfect. And as a person who's a sump pump, I will make sure that people will remember to test their batteries at least once a year and make sure that they are working properly because when you need it to work you might not be awake and if it doesn't you'll find

[01:02:57] up and you'll find out the next morning you've got a whole bunch of water in your basement um let me also ask um and i do appreciate this on the continued community outreach and i think i'll just pivot from something that supervisor jimenez said um there are certain communities where they they might not ask for help and i guess i'm just trying to be a little proactive here too in thinking about where we have floodplains that are, you know, 50% of the land area, and I'll give you an example, for the mobile home park that's called Harmony in my district,

[01:03:32] it's right at Little Hunting Creek, and that community certainly is at risk of flooding. So the question here is we could maybe go into that community proactively, but I just don't know if that has already happened, but just making the point that happy to coordinate and work with your team because I can see the value of us helping that community learn about some of the things that they can do to mitigate some of these adverse impacts.

[01:04:04] We have done outreach in Harmony Place and Audubon. It is difficult with manufactured home communities because very often the landowner is different from who lives there, and so that can be a complication. What we've done is started a project to increase resilience by increasing the number of people who are enrolled in the notifications and then installing stream gauges to have better advice as the storms approach so people can have real-time warnings.

[01:04:29] But we continue to work with them and we'll work with your office to make people aware of what is available. Yeah, I'm thinking more so for those properties that are kind of right along the creek bed. I mean, they're the most vulnerable. I mean, obviously, the way the topo works there, there are some that are on a higher elevation, probably less risk for them, but just making sure we're addressing the needs of those that are the closest to the creek.

[01:04:53] And then the last point I wanted to raise is with regard to the discount on the flood insurance. You said it's a 25% discount. Can you talk a little bit more about what that means exactly, what the cost is and the discount itself?

[01:05:08] Joni Kornbacher, Stormwater Planning Division. For the NFIP-backed FEMA floodplain and policyholders, the county participates in the community rating system program.

[01:05:27] So our participation and the efforts that we do related to that program allow us to provide results in a discount to those policyholders. So currently we are CRS Class 5. We are looking, or I'm sorry, CRS Class 6, my apologies.

[01:05:43] We are looking to obtain a Class 5 rating this summer through this verification cycle. So that is our goal, and then that would result in a 25% discount. Currently we are a Class 6 with a 20% discount.

[01:06:02] Okay. And then if someone doesn't have flood insurance, are there any programs to support them if there's a need for assistance or is there no available programs if they don't have flood insurance and something happens on their property?

[01:06:18] Can I ask for a clarification? Are you asking, is there a program available to help people pay for flood insurance? Well, I'm thinking more if, well, we could do both, but I'm thinking more if there's a problem in terms of a loss. Are there any opportunities to support those who don't have flood insurance?

[01:06:38] So at this time, the county does not have any programs available like that. Okay. All right. Thank you. Thank you. I have Supervisor Walkinshaw Storkin and Beerman. Thank you. I was going to ask the same question as the chairman about the definition of the safety margin, So I'd be interested to see that. Building on that question, should there be in the policy a regular schedule or cadence of reviewing that safety margin?

[01:07:09] It just seems to me that obviously it's a moving target, both with respect to the realities of the climate and, you know, the ability of science to track what those impacts are. And I don't think we want to establish a safety margin in 2025 and then in 20 years be operating with that exact same margin, whatever that is.

[01:07:36] So should there be in the written policy every, I won't state a number of years, but a check-in and review of that margin? So I appreciate that question. That's a question I had as we looked at this. And I think we're going to discuss a lot about that at regulations.

[01:07:55] I think the policy is broad. It is there to say we want to make sure we're protecting our residents against a changing climate. And I think that's the word that we use. So we recognize that what we know about our climate today may be different in the future. How we got to the 1.2 certainly will be explained.

[01:08:15] This is just the trailer for what's to come. But it does look at worst possible scenarios out in many decades in front of us. But I agree that we should be reevaluating that, and I think that's true for all programs that we have.

[01:08:34] But I don't think it belongs in the policy. I think our policy generally should be written as it is, that we want to protect our residents from this changing climate. And how we do it in those regulations will be the point of discussion about those regulations. But, I mean, I certainly will follow your lead.

[01:08:52] So is it your view that the regulations should have a specific time interval to review that 1.2 or just state that they should be reviewed, that it should be reviewed? That's a question I'm not prepared to answer that question today.

[01:09:10] But we do periodically, and that's not the same thing as every year or every five years, but we do periodically review those regulations. Okay. All right. Thank you. Professor Stork, then Beerman. Thank you, Madam Chairman. First off, a big, big thanks to you and your teams for so many different responses that you've provided, particularly in the Mount Vernon community.

[01:09:38] But I know when there's been disasters that we've encountered, whether it's in Great Falls or wherever, that you all have been there and you step up and you're, I know, sensitive to these issues as we are. And maybe sometimes even more in terms of some of our residents are a little bit more willing to accept risk that they don't, in my mind, truly understand.

[01:10:03] And so a key part of that thank you is now I think we have an annual event in Bellevue that we do to kind of constantly remind the residents that this is coming. It's not a matter of if, it's a matter of when. And we have a number of steps that we're willing to do.

[01:10:21] But the most important thing is you. And I think the CERT program and the work that we do with CERT is another great example of how we kind of can support folks. And I, again, very much appreciate that. I know that the other part of it is we have other areas, in particular Holland Hall.

[01:10:40] And we know we're looking at a, if you will, stormwater study there. I strongly support that. The community and the Mount Vernon Council has been invested a lot of time in working with you all and looking for ways to try to monitor that.

[01:10:57] Again, this goes under the older neighborhood communities that didn't have some of the protection that they should have had and needed to have. And finally, the prevention with the floodgates and your responsiveness to that.

[01:11:15] I always get very worried when they're predicting this because I know that in the past we've had options that we can provide community members. I know that those are ones that I have to work a little bit harder at, sandbags and the like, that I realize we're not standardly offering that.

[01:11:31] But when those kinds of events look like they're going to happen, people really want to know that the county is in there with them. And having even a minor thing, maybe not minor, but even a

significant thing like stormwater flows or rainstorms or derechos or whatever we were encountering, having sandbags when we know that those things can work can really look like the county cares.

[01:11:56] And so I'm going to put that plug in there because it does matter. And two more things. One is the coordination with particularly the federal government. not only along the Potomac River, but in some of our other waterways, a lot of federal land there.

[01:12:16] How do you see that? That's the Corps of Engineers. How are you experiencing that? Are we getting, are they buying into some of the things that we're doing, and how do they ensure that that happens? Ellie Cotting with Public Works. I assume you're talking about in the tidally flooded area?

[01:12:33] That's a key part, but the Army Corps of Engineers I know has, with Fort Belvoir and other areas, maybe they have other impacts. And then BLM, which is not, it's a more quote-unquote rural area, but I don't know if there's any kind of engagement that we'd have in those areas, but especially along the George Washington Memorial Parkway, of course, and the Potomac, and the Great Hunting Creek areas, cover and run areas. We do coordinate with our federal partners, especially when there's a specific clog going on, as has recently been going on. So we do keep in touch with them, we can never do enough coordination. We appreciate your office's coordination when

[01:13:11] passing of information to us as well. We also continue to work with the MER, the military installation work that we do with NVR. And so we do coordinate. We want to continue doing that. Okay. So at this point in time, you're getting the support and assistance coordination that you need from them to reflect our own particular work that you're doing with this study and the whole kind of a flood risk reduction process you're getting they're engaged they understand they're they are complementary part of that I realize I mean I know that this is a county project

[01:13:51] but there has to be some integration between the two of how this gets done or maybe not maybe I don't understand that part of it we can never do enough coordination so we need to keep on doing that as if we move forward with this policy which sounds like we're getting mostly positive recommendations here, then we would do even more coordination on that front. But yes, we are getting what we need. Okay. And then last is just, I definitely want to engage with you all, and I think I've talked to Chris about this and maybe you, Ellie, the particular plans for the

[01:14:24] coastal flooding, because I see that as a more impactful, larger area impactfulness. And I want to make sure that we've engaged on that and we understand, you know, because coastal flooding particularly you can kind of see it coming and you can plan for it in ways that we otherwise couldn't plan for some of the super storms and making sure that people have places that they can move their cars that would be outside of the flood areas and as well as you know ways that we can support any other kind of movement that that would be probably done in a matter of a couple

[01:15:00] days at most so look forward to engaging that. Mr. President, Chris Harrington, Director of Public Works Environmental Services. I actually have a meeting later today to plan for that exact briefing for you with our partners and the Department of Emergency Management and Security to talk about to answer some of those specifics. To Ellie's point, you know, there is no viable structural solution on the table from the Army Corps to address the tidal storm surge inundation in your district. And so there's a lot of uncertainty at the federal level. Hopefully we continue to get those accurate advance forecasts that we rely on to inform the community.

[01:15:36] But key to the underlying policy is that we want to make sure that the community understands that we are managing their expectations and that we are sharing the fact that managing flood risk is a shared public and private responsibility. And so we have our FMAP program. There's actually something better than a sandbag that you can actually get through that program at a discounted price for us through the Northern Virginia Soil and Water Conservation District.

[01:16:01] But I think there's a lot of coordination happening at the regional level there. The feds are not knocking on our doors to support us, but we've delivered a draft policy that is certainly reflective of industry best practices from what we see from stormwater professionals across the U.S.

[01:16:17] Thank you. I look forward to seeing the plan and then ultimately sharing that with the community to get their engagement as well. Yes, sir. Thank you. Thank you. Supervisor Beerman. I think Bill knows what I'm going to ask about.

[01:16:30] Infill development. So we had this board matter back in January about looking at the localized flood mitigation policy for residential infill development. Can you talk about how that study and that aspect, how that fits in with everything else related to our overall flood policy and what we can do with infill development to try and not make some of this stuff worse?

[01:17:00] Thank you very much, Supervisor Beerman. Yes, we have that board matter. We are actively working on that to bring that back before you. That is an evaluation of Technical Bulletin 2206, which came out, I think, about a year and a half ago, which is now the main requirement of that has been surpassed by the adoption by the board of Chapter 124.1, the new stormwater regulations, which previously had exempted until that technical bulletin and this had exempted single-family homes from that downstream impact

[01:17:39] that now they have to do mitigation on their site to manage those flows, those flows of that two- and ten-year post-construction. I don't have the details about how that looks when we roll it back out. I do know that I've met with staff. Staff are working on that, and we're aiming to get that back to you. I think this fall, I don't have the details in mind saliently. Thank you.

[01:18:06] That's all. Thanks. Thank you. So, it looks like the board is positive with moving forward with the policy. I want to repeat what Chris said and what Ellie said at the beginning. I think it's important for the community to hear that managing flood risk is a shared responsibility among the county, residents, and businesses.

[01:18:27] Because local government can't do everything, we do a lot. But thank you for all your work on this and the continued work I know you're going to do. Thank you. Next up, something that's not technical at all, battery energy storage systems.

[01:18:46] Okay, Jackie has learned so much in this process, I know that, at best.

[01:20:09] So I'm going to turn it right to Jackie to get us started. Okay, thank you. Good morning. Jackie Camp with the Zoning Administration Division Ordinance Administration Services. I'm going to be talking to you today about the potential zoning ordinance amendment for battery energy storage systems. We also have that staff summary document that provides some additional details along with the draft text that we're proposing at this time. So our hope is to get this out there for some feedback and to learn any more information out there for people to share

[01:20:44] with us as we move forward. And I also have Chief Walzer here with me. So he will be here to answer any questions about fire safety or the codes and anything else. He has a great experience or resource for that. So I'll move forward here. This is our project timeline. As you recall, we were before you back in January to do an intro to what battery energy storage systems are, some of our initial research what we were learning about from looking at other zoning ordinances and potential standards that we might be considering as we move forward also presented to the planning commission committee

[01:21:21] at the time and then in april we did a similar presentation to the public at two community meetings and that leads us here today with of we've put out some draft text for consideration to get that discussion going and we plan to do some the similar kind of pattern and we'll be doing community meetings in July to get feedback from the public with our initial goal to have hearings in the fall. So this is a graphic that I think I shared in January as well, but it's a good

[01:21:58] way to kind of see how a battery energy storage system kind of fits in with the electrical system. ABES is a technology designed to store and manage energy for later use. It uses rechargeable batteries to store energy from the electrical grid and renewable energy sources like solar or wind power, which can make the electric grid more clean, flexible, and reliable. Because solar and wind can be inconsistent depending on the weather conditions and the time of day, BESS can store that surplus energy produced during high wind conditions and when the sun is out and release

[01:22:37] that energy when it's needed. It can provide a more stable energy supply, making renewable energy more viable, and can reduce reliance on fossil fuel-based power. For critical infrastructure, such as hospitals and emergency services, BESS can provide essential backup power during outages.

[01:22:55] And one of the big advantages of BESS is its ability to store that excess energy during off-peak hours and release it when demand spikes. So storing the electricity during periods of low demand when rates are cheaper and using it during peak demand when prices are higher can help lower electricity prices. So this graphic shows the components of an electrical system with the inclusion of a BESS.

[01:23:19] It shows the batteries and other associated components. The most used battery chemistry is the lithium-ion battery. These batteries are used in a variety of devices, as we all know, from cell phones to electric vehicles to large-scale BESS. The safety of lithium-ion BESS is a common concern, especially given reports of BESS fires that have drawn public attention in other parts of the country. However, these incidents have also driven the industry to improve its understanding of the issues and develop more robust mitigation measures, codes,

[01:23:56] standards and how they do their site design. Some of the components that help operate the BESS that you can see in there can also generate noise. Based on a noise study report provided to the county by an acoustical consultant, those large container units associated with BESS and their accompanying cooling fans, condensing units, can produce noise levels exceeding 90 dBA at the source. In addition, the power conversion devices, and this is what converts that direct current into

[01:24:30] alternating current for integration into the power grid, can also contribute significantly to the overall noise and has been cited by the noise consultant to exceed 80 dBA at the source. So while BESS do offer several benefits to communities, their development often raises concerns related to safety, sound level, and visual impact. So our zoning and safety standards can help communities address and mitigate those concerns. For zoning purposes, battery energy storage systems can be

[01:25:07] either a principal use or an accessory use. And so best that store power that is used solely by a home or business where the battery is located, such as those first two photos on the right, are typically accessory to the property's primary use.

[01:25:25] They can vary in size, ranging from as small as a residential circuit breaker to as large as outdoor heating and cooling equipment. BESS as a principal use could include systems that charge from and discharge directly into the electrical grid. They could support a large-scale commercial use or the systems that are integrated with wholesale energy generation, such as solar and wind facilities.

[01:25:49] The zoning ordinance standards presented today are for those principal use large-scale battery energy storage systems. Regarding our existing zoning regulations, a proposed BEST facility would be part of the electrical distribution system and would be considered a light utility facility use in the zoning ordinance. So those permissions are, it's currently not allowed in the II and RA and PCC districts, is allowed by right in the I3 through I6 districts, would

[01:26:27] require a special exception in all the other districts. And then for the P districts, except for the PCC, it would be required to be part of a development plan or would require a special exception or review and approval. They currently would not be subject to any use-specific standards, so there's no specific setbacks or use specific requirements for a battery energy storage system. And then the transitional screening and barrier requirements are only when the use is adjacent to residential.

[01:26:58] So as a BESS would be considered a light utility facility use in the zoning ordinance, staff is proposing as part of the draft text a revision to the light utility facility definition to include large-scale battery energy storage systems and to then add a new definition for that use, for battery energy storage system large-scale. The definition would define it with a specific capacity threshold, and the proposal provides a range for consideration that goes

[01:27:37] from an energy capacity of greater than 600 kilowatt hours to 10 megawatt hours. Those systems with a maximum stored energy less than the principal use would be considered an accessory use. That 600 kilowatt hour threshold comes from the National Fire Protection Association Standard for Energy Storage, NFPA 855, which requires additional safety standards when a system is above that 600 kilowatt hour threshold. We also have at the end of that range 10 megawatt

[01:28:13] hours, which comes from Dominion Energy's model ordinance, which they provided to us. We've also found other thresholds found in the research that have included one to two megawatts, which is different than the kilowatt hours of the hour measurement, so it's measuring power capacity versus stored energy.

[01:28:34] And as you can see, we have a photo there of a Dominion Energy pilot program, which indicates that it's a two megawatt, four megawatt hour facility, so that some jurisdictions will have those thresholds for like an hour, watts versus watt hours. Based on the rapidly evolving nature of the technology, potential noise impacts, safety considerations, and review of other local government zoning standards for battery energy storage systems. Staff is proposing at this time

[01:29:14] that large-scale battery energy storage systems would not be permitted in residential districts, the PDH, PRC, PRM, or PCC districts, unless it was co-located with a substation or solar power facility, and that would happen through a special exception process. A special exception would then be required for large-scale bests in all our commercial districts, all industrial districts, and in the PDC and PTC districts.

[01:29:49] Now we're going to move on to proposed use-specific standards specifically for battery energy storage systems. The use of setbacks can provide both a visual barrier and help mitigate noise and safety impacts. So based on review of counties in Virginia with zoning standards for BESS and other resources such as the county's use-specific standards for data centers, which have similar noise concerns as BESS, The setbacks are being proposed to include a 100-foot setback from all property lines and a 200-foot setback from in our district or residential use

[01:30:25] with ranges around those distances for your consideration. We also are proposing at this time that there be adequate public water supply for fire protection. We're also proposing if a fence is provided or proposed as part of a large-scale BESS, that they could exceed the maximum fence height indicated in the zoning ordinance to a maximum of eight feet. For example, in some districts, a fence or wall is limited to four feet in a front

[01:30:59] yard. We also are proposing a best provide an emergency operation plan that outlines procedures and requirements for the safe, sorry, including showing equipment and systems will be safely shut down under emergency conditions, procedures to follow in case of a fire, and information related to drills and training of local first responders, among other requirements.

[01:31:24] We're also proposing decommissioning. Since lithium-ion batteries are considered hazardous waste, the project owner should be responsible for managing them appropriately. An application for proposed BESS could be required to include a decommissioning plan, which describes the timeline, the manner in which the facility will be decommissioned and the site restored to a condition similar to its condition before the BEST was established. We're also still continuing to learn more about requiring a financial security package with a decommissioning plan and as we learn and we talk more internally about how that process would work we may be

[01:32:01] proposing something in a preceding draft. Regarding a landscaping screening and barrier requirements staff is proposing requiring more intensive transitional screening for BESS than would be currently required under a light utility facility use. The proposal is adding BESS to the solar power facility row in the table in the ordinance, which has a screenshot here, to require a type three transitional screening and barriers D or E adjacent to single family uses and type D, type

[01:32:41] 2 and barriers D or E adjacent to other residential uses. The draft text also adds a requirement for type 1 transitional screening for solar power facilities and BESS, and BESS when adjacent to other public, institutional, and community uses, commercial uses, and craft beverage establishments in addition to the already existing barrier requirements of D or E. And just to note that the transitional screening and barrier requirements could be within the required setbacks.

[01:33:14] Another section of the zoning ordinance pertains to specific submission requirements for a special exception review. And so this is what this slide is referring to. This is where we would provide kind of more specific details of what we would want to see in a submission for specific requirements.

[01:33:34] So along with the specific requirements for the emergency operation plan, which I noted, and decommissioning plan, This section would also propose the requirement for a noise study, demonstrating that the design and operation will comply with the noise ordinance.

[01:33:50] And as we mentioned earlier, we're still looking at a security package proposal, if that was something that, how that would work in the zoning ordinance and here in the county for the

decommissioning plan. When applicable, best facilities may require a state corporation commission review and approval. And those that are a public utility facility or public service corporation facility supporting the grid would require also a 2232 review. Another potential approval is a citing

[01:34:25] agreement where an applicant and the board could negotiate an agreement. It would require a public hearing process that could also coincide with a 2232 review essentially and meet those requirements. Under Virginia Code Enabling Authority, that a siting agreement could include terms and conditions such as mitigation of project impacts, financial compensation to the county to address capital needs set out in the CIP, or the current fiscal budget.

[01:34:55] So some more things we're learning about there. Lastly, of course, there are requirements for these facilities through the building, fire, and electric codes that a project would need to meet. This last slide just gives a kind of snippet of the jurisdictional research for the zoning ordinance amendments. So it's included a review of Virginia jurisdictions that have incorporated standards for battery energy storage systems in their zoning ordinances, including the counties listed here and other resources such as Dominion Energy's model ordinance for BESS, among other

[01:35:33] resources reviewed and that we provided cited in the staff summary. This slide provides an overview of those ordinance standards for best kind of compared to what the staff proposal is here today. Well that concludes my presentation and I'm here to answer happy to answer any questions or receive any feedback and we have Chief Walzer and any of our our team here as well to assist with any questions. Thank you Jackie I'm just gonna start a little bit and I'll turn to the chairman. You

[01:36:10] know it was interesting we have our presentation we talked about water being available. And then you think about the safety of the batteries. And then in your report, when you look at other considerations for stormwater, there's a sentence here, this risk supports an emerging consensus in the firefighting community that water suppression should be used sparingly on battery fires for exposure protection. And so I didn't know if Chief Walser could provide any insight for us into this. Sure. John Walser with the Fire and Rescue Department. And runoff is a significant concern with any fire, actually. It's not just battery fires. We know that there are

[01:36:49] chemicals. There are heavy metals that are contained from the runoff from any fire. So that's a concern across the board. Right now, though, the only way to control the thermal runaway that happens in a lithium-ion battery is through water. It's through cooling. But we do try to look at the impact of what the actual battery that's burning what that is doing and do we mitigate the exposure concerns and just let the battery system burn itself out and then that ultimately is the safest way to dispose of it because there is no stranded energy in an

[01:37:25] extinguished battery but one that has fully burned itself out has become to the the essentially that ground level. It's at a safe level. So there's not always the opportunity to use that protect exposure mindset. There are times where we do have to employ water to fully extinguish a fire, but lithium ion batteries are very difficult to extinguish in and of themselves across the board.

[01:37:50] Thank you. I appreciate that insight into it. Mr. Chairman. Yeah, two questions, but first just a comment. I do want to thank staff. Supervisor Smith was talking about how this makes her head explode, the technical components of this, but I do think it's a really important thing to get ahead of, and that's, you know, why we're having this conversation. The two questions I have, and I just want to be clear on this, is the prohibition in residential zones applies to these as a principal

[01:38:22] use. But help me understand what happens if we determine it to be an accessory use. That is a matter of right in a residential zone? Correct. And I would still need to meet whatever electric building fire code standards for that system. Okay. And that's the norm? I mean, I'm looking at the chart and I'm seeing the use permissions, but I'm not seeing really the distinction between a primary and secondary use is the norm that a secondary use is allowed as a matter of right in residential districts in these other jurisdictions yes that's what it says in

[01:39:01] their zoning ordinances that the principal use standards for the zoning ordinances are when it's above that threshold of 600 kilowatt hours and then they have the old site that the accessory is for anything below that okay and just related to that an accessory is defined obviously as the the wattage that's here, but the picture that has the trailer there, are there not existing temporary best devices that exceed that number? And is there a special provision

[01:39:34] in the event of disasters or other things where larger than the accessory use unit could be allowed as a temporary use? Mr. Chairman, Leslie Johnson, Zoning Administrator. To your first point about accessory use. I mean, typically by definition, an accessory use serves the principal use. So for example, a multifamily residential project that might have solar panels, they could

[01:40:08] use a battery energy storage system as an accessory use. The question is, where do we draw the line between, you know, the size for an accessory use versus a principal use. And then with an accessory, there are already location regulations that would limit the location. They're not as expansive, although depending on the height, they still would have to meet typical side setbacks and front yard setbacks and things like that. With regard, I think your point about emergency, And maybe that's something we haven't looked at, but I think we could take a look at.

[01:40:48] I know in the noise ordinance, we have provision, you know, for generators that during an emergency, we're not regulating the noise on generators. So I do think that we could look at, you know, incorporating something similar to that.

[01:41:05] And in the state of an emergency, you know, that is declared, you know, I think that we could do that by interpretation also. But I think getting out ahead of it and putting it in the ordinance would be the better way to go. Yeah, I think it's just something to think about because clearly in that picture, there's a market for a mobile device.

[01:41:24] And so that tells me that, you know, there's a need for those to be rolled in on a temporary basis in some circumstances. And obviously, there could be circumstances where those could be manufactured and created in excess of the wattage line that we've drawn here.

[01:41:41] And I just want us to give some thought to that. maybe they're allowed, as you said, an emergency situation, but ones that exceed the line we've drawn here might have other requirements for placement or other things, even in the event of an emergency. Just a thought, just something to think about. And then lastly, the plan and security. I'm looking at the jurisdictional research chart, and I see you mentioned the security element is still something we're thinking about. I see that as more the norm for other jurisdictions, and I'm unclear exactly what that means. We said we're going to look into it more, but is that secure? What does that mean? Security, because to me instinctively that

[01:42:19] was security surveilling these devices and that's not what it is. So help me understand what that means. Sure, and I'm still learning too. So it's a financial security. So my understanding is that looking at

other ordinances, they seem to be, you know, a bond, an escrow, a letter of credit or other you know whatever is approved or allowed by the counties that it's in so that's kind of what we're still learning about how figuring out what those options would work for the county if we were to do that and where it would fit in the zoning ordinance correctly yeah i you know for for

[01:42:54] me at least given the timeline that you're on um allowing that in the advertisement even if we haven't made a final determination of that is important i would presume that if it's not in advertisement, we can't add it. So if it is any advertisement, we decide not to do that. We can still move forward. It just strikes me that that seems to be the norm other places, and I don't know all the reasons for that, and look forward to continued research on that. But I do think we should drill down on that and figure it out, because obviously what we don't want to do is be left holding the financial responsibility for a decommissioning or removing of one of these,

[01:43:29] and that concerns me a little bit, just in terms of the public's responsibility for that. that. Thank you. John. Thank you. And I want to take a step back to the energy requirements. And the 600 kilowatt threshold is for zoning. The fire code still regulates any battery energy storage system, specifically to lithium ion batteries, above 20 kilowatt hours. So there still is a regulatory requirement for a very low-powered device. So it would be separate from the zoning requirement but we would still have that oversight good point yeah thank you i have supervisor

[01:44:09] jimenez and pal check then lusk thank you madam chair uh just a couple quick questions and thank you for your presentations obviously lots lots to go through here um what is and i don't know who's best prepared to answer this question but what is the difference between noise of a battery storage in the data center like are they kind of even is one way more than the other like what are i think they're pretty similar, and that's why we looked at the kind of setbacks related to kind of give

[01:44:44] a comparison in the staff summary document, that we have the equipment that's on the ground for data centers requires a 300-foot setback, I believe, and then from the building is 200, because they do have similar, I guess, mechanisms that have that louder noise at the source.

[01:45:03] I guess I just look at the setback and I think about it, because with data centers, I've never heard of one exploding, right? With battery storages, it might be a little bit more, we might want to be a little more cautious. So something to, I think, think about. Second is, so, you know, and I think it was page five, you outlined the kind of the allowances of buy-right in the different areas.

[01:45:28] When you look at neighboring jurisdictions, how does that buy-right play? Is it very similar or? So on page five of the presentation? Yes. Okay. You talk about it's allowed in Bi-Rite and I-3, I-4, I-5, and I-6.

[01:45:44] So if you look at surrounding jurisdictions, what are they doing when it comes to Bi-Rite with battery storage? So the ones that we have compared to here that have specific standards for BESS, not all do. So that's like the slide here shows if we didn't have use specific standards for BESS, it would fall under this light utility facility generic use.

[01:46:07] And then all the standards related to light utility facility would apply. The ordinances that we've reviewed in Virginia have specific, they've updated their ordinances to have them specific for battery energy storage systems, which is what we're doing today or talking about today.

[01:46:23] So the ones that we've looked at specifically here in Virginia, there's no buy or write for the battery energy storage systems, and they are required by special exceptions. The chart shows kind of but

mostly in their industrial or those that have agricultural zones That's where they're allowed by a special exception or a conduct conditional use permit. Okay, that gives me some food for thought Thank you. Thank you madam chair. Thank you Supervisor Peltik was spent Thank you madam chair. Thank you so much. I'm this camp and and John I think we're all still learning a lot of this So I guess my number one question and I appreciate that you have the decommissioning plan

[01:47:03] And, I mean, the technology continues to evolve, right? It's continuing to evolve. So my first question is more, right, how flexible or permissive are the plans knowing we have no idea when they will be decommissioned?

[01:47:18] And so I don't know if it's under the fire code or probably more under the fire code to ensure that they're working with your office or making sure it's up to date when it comes to decommissioning. Yes, and I'll go ahead and take that one. All of the technology is dependent on, obviously, the batteries that they're going to source.

[01:47:39] And then they do a hazard mitigation analysis for those particular batteries. So once they install that battery, they have to provide that hazard mitigation analysis, almost in all cases where we would see these large-scale devices. And then all the plans that would follow not only from the installation, the commissioning, but then the decommissioning would be based on that particular battery and the failure mode and effect analysis that they've done through that HMA.

[01:48:06] So it's all based on the technology that they've installed because of the singular battery cell that they've adopted for the cell, the unit, the module, just across the board. And if that changes in the future, it will be, I think, impacted by the code at the time.

[01:48:21] Yes, so if they would do a retrofit in that facility, they would have to go through the same exercise with the different technology. Then another question is because I represent the most urban areas. And so some of those situations, I don't know if we're there yet, but if it gets to a point where, you know, battery storage is able to be done, you know, in the basement of, in the PTC areas, have we looked at whether other places, probably not even Virginia at this point, but around the country, you know, if we're looking at is this adequate

[01:48:58] when you talk about non-residential or PTC, where those could be and how we encourage them. And, you know, I'd rather have them if we can't underground than, you know, outside. I don't know how far we are in looking at that and reviewing, or will we review that as there's more information?

[01:49:17] Yes, I think so. I think we're looking at these like large scale, almost like to support the grid. Um, and it seems like the current kind of site design are these container styles and less inside buildings, but, you know, things change.

[01:49:32] I believe there's, um, battery under storage systems in Manhattan. Um, so, um, we're, you know, still learning about that and we'll keep track of that. And, you know, the zoning ordinance, we can update standards and, you know, as we learn and make changes as needed over time.

[01:49:49] But that's kind of where we're seeing, at least my research has shown, that the site design has been these cabinet styles for these large scale. Yeah, and I would request that we do that continually, because I'm even hearing perhaps status centers are getting to that point, too, before they would say no, because of security, we can't be within another building.

[01:50:10] But I think there's starting to be movement in both of those. So I don't know if you have more information, if we can do this more regularly. So I just wanted to add that you can probably tell by the range for consideration that we have for the threshold 600 kilowatt hours up to 10 megawatt hours is really large.

[01:50:30] So that is a topic that we are still really trying to learn more about. And so maybe I'm suggesting that there might be some changes in upcoming drafts as we learn more about the accessory use of BESS in conjunction with facilities such as hospitals or data centers and where that's located and how that relates to other regulations.

[01:50:53] So it's a big topic, and we've been working hard on it, but I think we still have more to learn, and we'll get back to you. And I think that does relate to some of the more urban and building considerations as well. Okay.

[01:51:09] And I assume with that, you are reviewing or have reviewed some of the legacy existing more urban data centers and the power that they are using and may need to use. Okay. Thank you. Thank you, Carmen, for those comments. I think that's important for everybody to realize that you're still doing your research and your work going through this.

[01:51:28] I have Supervisor Lusk, then Stork. Yes, I'll say I appreciate all the comments on the decommissioning and specifically having a way to securitize it so we can have that paid for if necessary. The question I wanted to ask is probably more for Deputy Chief Walzer.

[01:51:45] Thinking about the different vest systems, are there, like, best practices for those systems that might be able to suppress a fire if it's caused within the system? So thinking about are there types of these rectangular boxes that are safer than others?

[01:52:07] The real challenge with any of the lithium-ion technology is the electrolyte solution that's contained within the battery, all the technology out there, that solution is flammable. So anytime the separator is damaged, it could be mechanically, it could be thermally because of heat, it melts.

[01:52:28] When that electrolyte solution gets heated up to a point and it's not really that hot, it's below 200 degrees Fahrenheit, that it starts giving off explosive flammable gases. And when that happens, it's very difficult to do anything other than cool it.

[01:52:45] If you use an extinguishing system that's not water-based, you extinguish the flame, but the gas is still being produced. So now you have an explosive environment. So it's almost counterintuitive that a fire is better than just having the gas released because you don't want the explosion.

[01:53:05] So that's the real challenge of using any other technology right now other than water because water does cool it. It reduces the gas being released from the battery. And we'll see the technology change over time. There are electrolyte solutions out there that are not flammable, but they're either very expensive, They can't go through the repeated charge-discharge cycle.

[01:53:29] So we'll get there at some point, but by the time we get there, there will be a different technology that we'll be talking about. Now, I guess the important thing is to try to stay on top of it and basically pay attention to what the changes are. But I appreciate what you've described because you're right.

[01:53:44] I'm thinking if you could suppress it, suppress the fire, then you've kind of made the situation better. But it's counterintuitive because you're just saying it makes it worse. It could then become an explosive device as opposed to something that burns and causes other damage. Okay, thank you very much.

[01:54:00] Supervisor Stork. I just want to make sure I understood one point. By right uses in industrial areas, particularly I'm looking at the attachment one, I-5, I-6, it says all light utility facilities except for large-scale battery energy storage systems, Are those then, they exceed the 600 kilowatt?

[01:54:28] So you're looking at how much more than that? Is that? Sorry, my apologies. So whatever threshold is determined to be, so if it's above 600 kilowatt hour facility, then the proposal is if it's proposed in an industrial district, it would require a special exception review and approval.

[01:54:52] So 600 kilowatt hour, that's the threshold that you're looking at right now. That's kind of the lower range in what we're seeing in a lot of zoning ordinances. So essentially there's no by-right with the adoption of this. And is that a safety issue?

[01:55:12] Yeah, help me understand why. The only by-right at this point that we're proposing is if it's in conjunction with, like, a substation or something else. When we're not convinced that that's going to happen, given what we've heard from Dominion.

[01:55:28] So right now, our proposal is it's not by right. The only by right would be if we deem it to be accessory to whatever principal use it's serving, like a multifamily residential that wants to, you know, store from their solar panels, just like some people have it on their home roof, and that's the smallest one.

[01:55:49] It's like on the utility panel. You know, that's accessory. We're not regulating that. So that's, I think, to Carmen's point and Jackie's point. We're wrestling with what should that threshold be. And it's not to say as these systems continue to evolve that we wouldn't come back and say we think they're safe enough.

[01:56:14] You can do them by right in certain areas. I mean, but at this point, we're just, you know, we're being conservative. If I could add to that point, the 600 threshold in NFPA is just a prescriptive threshold.

[01:56:31] There is a performance basis that they can go above that. So it would be separate from the zoning ordinance. But there is a mechanism where they go through that HMA and they determine the effects of the failure and how they can mitigate that so that they can still go beyond the 600 kilowatt hours.

[01:56:48] They just have to put different mitigating effects in place to do it. Mine was, again, focused on industrial areas and focused on, frankly, safety enough to give them the buy right, the ability to do that without having to go through extra steps and, again, encouraging them, frankly, to install these kinds of backups. I think those are positives, particularly in the microgrids that we're looking at maybe needing in the future. This is another way of trying to address that. So, all right. Thank you. Thank you. It was a wonderful presentation.

[01:57:23] I know there's more work to be done. And Leslie has almost half an hour, which we were going to do 30 minutes for the work program, and we'll see if she can beat that. So thank you, everybody, for all this information. I appreciate it. And we will go on to our work program.

[01:57:50] Okay. Let me get myself situated. I have too many papers. And I've lost some of them. Trying to take notes. So, okay. Leslie Johnson, Zoning Administrator. I'm here again on our yearly foray and to kind

of give you an update on our zoning ordinance work program, and I have Bill Maland with me and Tracy Strunk, and I'm going to let Bill talk about some of the real hard stuff, the priority two issues. But as you know, each year we come back to give you kind of highlights of what we've accomplished on the existing work program,

[01:58:30] And this year, it's the fiscal year 2025 work program. And then we want to set the stage for the next two-year cycle of the work program. And we do it as a two-year cycle because, quite frankly, as you will see with our current ordinance and our current work program, close to, you know, 40% of the items get carried over to the next year.

[01:58:53] Because, you know, we spend a lot of time, as, you know, Jackie's been almost a year now doing all the research on the battery energy storage. So it takes a while to get all of the facts, the information, the jurisdictional research. So that's why we kind of call it a two-year program. But we want to come back and update you every year to make sure that we're still in alignment with the policies of the board, with the comp plan, with one Fairfax and all of that. And things change and priorities change. So we want to make sure we're keeping up to date. So what we've distributed is the summary memorandum, which

[01:59:31] includes for attachments, the status update for this year, the proposed priority one for the next two fiscal years, our timelines, and then the priority two update. And so for the highlights, so this year we've done a number of reports to the board, one that's missing on there.

[01:59:53] this spring. We recently sent you a memo on where we are with the electronic display signs. And when we did go back and review that information, you know, we realized that maybe we need to do a little bit more outreach because we found, we did doing some inspections and we found that there was some noncompliance. And so we're going to kind of send out some materials and encourage people to to comply. So I think it's a good thing that we come back and kind of do that look back, if you will. We also did a memo in early April on murals. You know, we had talked about last year perhaps

[02:00:31] amending the ordinance to specifically reference murals, but we really think given the changing nature of, you know, speech and commercial speech, we think we're in a really good place with murals, and we have a good process for encouraging the mural programs and to working with other staff who want to do those. So we have put it back on priority two, just to keep it as a placeholder in case we want to look at that in the future. We also had presented to you, and I called this a report to the board, we had presented to you in March at the Land Use Policy Committee

[02:01:07] the discussion on the state legislation regarding the limitation on retail sale of tobacco and vape retailers within 1,000 feet of schools and child day centers. We kind of presented some initial recommendations. There were a number of questions. We are currently working with the Health Department, County Attorney's Office, to kind of put some of, to answer your questions, to do that cost-benefit analysis, and we're hoping to bring something back in a memo to you within the next three weeks or so, four weeks. We're making some good progress on that.

[02:01:48] And we have put that on the Priority One work program for next year. It's not going to be probably a zoning ordinance amendment, but will be a county code amendment, but DPD and our zoning permitting folks are going to be the implementers if anything gets adopted on that. Other completed amendments on the screen. You know, we did the special events. We have the PDH district and PDC district amendment coming before the board for public hearing on June 24th. We did the minor

[02:02:21] edits. We did the accessible parking, and we did repeal 112.1 after a number of years. So I think we've done a lot. We've actually, 11 items have been completed, or 55 percent of the work program, And we're very close, as you saw today, on substations, on the best, on manufactured homes.

[02:02:45] We'll be bringing back to the board in July, a discussion on manufactured homes. And then on the gas pipelines, we're making progress with our gas partners to put together a memorandum of understanding.

[02:03:01] We've been going back and forth with some thoughts and ideas and recommendations. And so we're continuing to work through that. And hopefully by the end of the year, we'll have a memorandum, draft memorandum that the board can take a look at. And then currently under staff review, we've got our accessory living units and we plan to come back to you.

[02:03:23] It's been four years. We've had two reports. We've put some recommendations and we think that we might want to make some tweaks to those regulations to perhaps streamline it a little bit, make it easier for folks. People just don't, they don't even want to get an admin permit, to be quite frank, but we're hopeful that we can come back with some good recommendations on that. Congregate living facilities and the floodplain item was alluded to a little bit earlier today, but that is to basically take the FEMA changes and

[02:03:59] the FEMA map changes and make the tweaks to the ordinance. They're also looking at how we might want to look at single-family detached when they want to make changes and whether that should continue to be an SE or there are other protections out there already that could look at that. So LDS is taking the lead on that, and they'll be bringing that back probably in the beginning, later this year, early next year. This is just kind of a bar chart of where we are, what's been completed, what's in progress.

[02:04:30] The one item that's not started will be started in the fall, and that's our fees. As you know, in 2024, we approved a fee amendment. It's a two-year implementation. We did half last year and half go into effect on July 1st, but the board asked us to make sure we're keeping looking at that every two years, so we're putting it on our Priority One work program, And we're going to look at one of the things we are going to specifically look at is acreage fee and how we calculate some of those fees to maybe if there's a way to look at high

[02:05:07] density areas versus, you know, your regular single family and other types of projects. So our proposed work program for 2026-2027, we've kind of reorganized it a little bit.

[02:05:24] We've now got three kind of topic areas. We've got ongoing, we've got your first tier, which we anticipate, you know, the first six months, and then we have second tier, which is on the next slide. But our ongoing topics, and these are the ones that we're going to look at on a regular basis, the application fees and recreation expenditure, the, you know, updates, minor and editorial revisions and state code updates.

[02:05:47] We have a number of items that came out of the legislature this year that are on there dealing with, you know, some of the civil penalties and amounts that we want to kind of look at and consider, some advertising issues that we're going to go back and look at. And then we have reports to the board, which is a catch-all. And on this one, on this work program, we are going to include the special events tier one report that we promised to come back to you this December timeframe to kind of give you an idea of what's been happening with our permitting process and

[02:06:23] the timeliness of those Tier 1 permits. And I think we're actually doing a pretty good job, so I'm happy about that. The other first-tier items, most of these I've already talked about, and they are, in essence, carryovers from last year's work program. We are continuing to work on the PRC plan exceptions. Bill's working diligently on that. We're getting closer and closer, and hopefully we can bring something forward in the fall for you to look at on that.

[02:06:55] And then our second tier items have some of the newer items that we've either pulled from the priority two or, you know, we've heard from the board. Like, I'll start from the bottom, home daycare facilities. That was a topic of discussion at last year's work program, and so we did some initial research that, you know, kind of a look back. We looked at some old, you know, some of the cases, and we do think that there could be some process updates. We need to look perhaps at the submission requirements, some of the use standards. I know there was discussion

[02:07:34] about numbers, and so that's something we'll also look at, and also which body it goes to, whether it goes to the Board of Supervisors or whether it goes to, you know, the Board of Zoning Appeals. And I think, you know, initially we had the P District, particularly the PDH, go to the Board, but we're thinking that maybe they all should go to the Board of Zoning Appeals. So that's something we're going to look at and bring back to you for consideration and discussion.

[02:08:04] And then going from the top, we are going to, again, look at accessory structures. I mean, you know, we made some initial tweaks when we did ZMOD. We put limitations on height and some locations. We want to, we're looking at, do we want to open up permissions for allowing perhaps more types of structures kind of in the front yard, depending on where things go if you have more need for stormwater facilities on site on houses you know where where can you put some of these structures but we also are very cognizant of

[02:08:43] what that could also mean from a visual standpoint and an impact standpoint but those are some of the things that we want to look at and we there's we have a rule of thumb it's not in the ordinance we talk about 50 percent of the size and we struggle with that because you know sometimes You have structures that are accessory but are a little bit larger, so we want to look at all of that.

[02:09:06] Building height is one of the infill topics, and we actually have staff starting to do some research on that and to start pulling some of the plans and what we're seeing. This isn't really to look at the height of 35 feet, but it's to look at how do we calculate it.

[02:09:23] And, you know, and we are seeing that some of the newer designs on the roof structure is kind of inching up the midpoint a lot. And that's where we measure it from so that you're kind of in some cases we're seeing almost a seven foot height difference just because of where they put the ridge lines and how they're doing it.

[02:09:44] So we need to look at that, and we need to kind of get a concept together, and then we need to definitely, you know, that's our first goal is to go out to industry because we know that that's going to be a very hot topic, so. And then we've also added from the priority to a number of commercial and industrial uses that we tweaked a little bit with Zima, but we think maybe we need to do a little bit more, And we're also seeing different, you know, we promised you, and that was part of our ZMOD promises,

[02:10:18] that as things change over time and we get new types of uses, that we need to kind of keep up with that. You know, some of them are like the online sales, and we want to talk about how that is looked

at.

[02:10:36] Can we start doing some of those in some of your office districts versus, you know, just in a retail district to kind of expand the potential? Food trucks was coming out of the special events to look at maybe expanding the hours. Associated service uses, those are a type of accessory use that we allow that perhaps normally wouldn't be allowed in an industrial district.

[02:11:00] One of the ones that we're really looking closely are our personal service establishments, like your hair salons, your nail salons. And they're allowed as an accessory, associated service use in industrial office parks, industrial parks, how many hair salons do you need to serve the people that – because they're supposed to serve the businesses in that park.

[02:11:24] And I think we need to relook at that. And so that's – we need to tweak it some more and maybe kind of relook at what we allow and what we don't. So I think those are the second tier items.

[02:11:42] And then here is our estimated timelines that we have. The gold is that we're kind of doing the background research and we may end up coming to you all for direction. And then we have the green is kind of we're really getting into the weeds. We're doing the outreach and, you know, and we're getting ready to, you know, getting close to public hearings.

[02:12:01] So with that, I'm going to turn it over to Bill and he's going to walk you through the priority to process. So Priority 2 has been on the work program since the late 80s. It really became a repository for ideas that really wouldn't go very far.

[02:12:17] So prior to ZMI, we had over 120 concepts, ideas on the Priority 2 work program. With ZMI, a lot of those were addressed or removed from the work program because it was no longer relevant. And we got down to 40 items on the Priority 2 work program just a few years ago, and we looked at those very carefully two years ago and cut that in half by removing anything I've been on over for five years for the most part.

[02:12:42] So we figure if we haven't done anything for five years, maybe it's no longer a priority of the board. So right now we're at 20 items. Leslie mentioned six of those have been moved from Priority 2 to Priority 1. We're retaining all the existing items on the Priority 2 work program, and we are adding 10 brand new ones in addition to the three, removing them from Priority 1 to Priority 2.

[02:13:04] So about 24 items, which seems manageable. on there. So some of the things we're adding relate to the RC district, public uses. Is there a need to potentially allow an increased FAR, particularly for schools, through a special exception process? Schools can't go out of the RC district. We're not rezoning them, but there is a need in many cases to expand the capacity. So we need to look at a different way to address those public uses in the RC district. We're looking at big picture for our commercial

[02:13:38] districts and uses permitted. In our C5 through C8, we have a restriction on office percentage. Is that still necessary or not allowing retail in some of our commercial districts? Again, really looking at the permissions and uses and streamline and be more, remove some of the restrictions that we may have in place. The board was recently delivered an industrial district report on trends. So we want to kind of look bigger picture at our industrial uses. One thing that's got a lot of attention at the General Assembly the last few years has been

[02:14:16] religious assembly and nonprofits providing affordable housing. Is there a way to incentivize that type of relationship, maybe through a special exception, with some sort of multiplier like we do with independent living facilities? So that's an idea that we're having a back in mind, the state is supposed to be, at the end of the year, delivering concepts and ideas to develop and how to promote that as a future use in the state.

[02:14:47] We also had work with a number of religious assembly uses that want to expand their community footprint beyond child care or special instruction centers, looking at art galleries or looking at health clinics, in some cases even, you know, coffee shops. Is there ability to provide additional non-residential, non-religious uses in those facilities? Again, probably through a special permit, a special exception process, so there's some control. So that's something that we've added to our Priority II work program. Other items, you know, we're looking at home-based businesses.

[02:15:26] We've had a number of questions related to the sharing economy. Swimply, where you want to rent someone's pool or sniff spot. We want to rent a yard for your dog or a tour or you rent a car. Should they be permitted or not permitted? And then there's a couple more we add on there.

[02:15:45] We also add in small modular reactors. So a future topic that's going to be certainly very complicated. So we put it on there. We're not quite ready to really study it yet, but we know we want to bank that idea for the future. So the next steps is really to provide input from the board today and provide you a board matter in July for adoption of the work program, and then we'll obviously post it and provide that information on our website.

[02:16:14] So happy to answer any questions. And I would like to add one thing that I forgot to mention, that we had two placeholders on the Priority One work program dealing with climate resiliency and affordable housing. And when we started to look at those, we didn't have any specific amendments related to those topics.

[02:16:34] I mean, a lot of our amendments kind of provide, are somewhat related to that. And we work with OC, Office of Climate and Energy Coordination. And we, you know, we track that, but we didn't have any specifics.

[02:16:54] So we've moved to those two. And affordable housing, you know, we had manufactured housing under that, which is a type of affordable housing, But it's not really what we're talking about. So we've moved those to priority two. They will continue to be placeholders. And as we identify items that we need to tackle, then we will bring them forward for that.

[02:17:17] So I just, I didn't, full transparency, I wanted to make sure that people were aware of that. But we're trying to be nimble and really just kind of focus on the things that we're actually going to work on and bring forward to you and that have specific topics.

[02:17:35] So now I'm finished. I'm sorry. I mean, the thing I like about this is we're looking at things. We're relooking at things. We're seeing where we need to be creative and change things and tracking how things are changing in the world. And so to me, that's the important part of the work program, that we don't stay stagnant.

[02:17:54] We move forward and we look at things differently. So I want to thank you for all the work on this. And maybe I'll get a couple of other things off a priority, too, eventually. Any comments, Mr. Chairman? Supervisor Alcorn? Yeah, thank you very much.

[02:18:10] Excellent job. Totally want to associate myself with Supervisor Smith's comments. This is, I think there's several things that you went over. I think we've learned a lot in the last few years where we actually have some results. And I'm thinking particularly accessory living units.

[02:18:27] We now see what the numbers are. I think maybe it's not as big a thing as people said it was going to be both ways. And I think I'm glad we're looking at that again. I did want to mention on the SMR issue, I know it's Tier 2, but Chesterfield is looking at a different type of facility energy generator,

[02:18:58] basically a fusion reactor and that is a big deal. And I guess my question is could that if we have somebody that actually would be interested in doing something like that in Fairfax County would we need a zoning ordinance amendment to do that or could they fit under what is already in our zoning ordinance? Because I honestly I think this is this is in our future. And it's going to be a good thing overall. Well, I think, you know, like what we

[02:19:31] did with BESS, that we did have a request that came in and we, as a zoning administrator, I have to determine what the use is most similar to. So we would have to really take a hard look at all of that. Is it light? Is it heavy industrial? And if it's heavy industrial, well, that's only allowed in the I-6 with an SC.

[02:19:53] So maybe that's something that as we move forward, we might want to look at, you know, at that point. But yeah, I think we'd have to really take a hard look and see what that would be. If we didn't have an amendment or we pivot real quick and try to do one if we think we really need to.

[02:20:11] Thank you very much. Appreciate that. It seems like we may be close to wrapping up. Thank you, Madam Chair. Thank you to everyone for presenting. I'm just going to make a plug. You know, I've been pushing on this. Food trucks need to be operational for eight hours, not four.

[02:20:28] Folks are trying to make a living off working in a food truck. Four hours is not enough to make a full day's salary and living. So I will be looking at that more closely. Thank you. Okay. I want to thank everybody for all the work that went into this meeting, and I thought we'd go over, and you have five minutes.

[02:20:48] So the land use policy meeting is adjourned. Thank you, everyone.



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