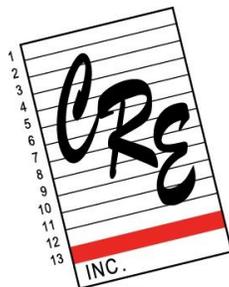


In The Matter Of:
STATE OF MARYLAND
SENATE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

OVERSIGHT HEARING ON REPEATED FLOODING EVENTS IN ELLICOTT CITY, MD
August 20, 2018

COURT REPORTERS, ETCetera, INC.
"We Guarantee Accuracy, Quality & Consistency!"
2833 Smith Avenue, #260
Baltimore, MD 21209
(410) 653-1115 1-800-947-DEPO (202) 628-DEPO (3376)



Court **R**eporters,
ETCetera, Inc.
.....

"We'll Cover Your Job ANYWHERE in the Country!"

Original File HRG0820.TXT

Min-U-Script® with Word Index

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

STATE OF MARYLAND
SENATE COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS

SUBCOMMITTEE ON
TRANSPORTATION AND INFRASTRUCTURE

* * * * *

OVERSIGHT HEARING ON
REPEATED FLOODING EVENTS IN
ELLICOTT CITY, MARYLAND

REVIEWING THE FEDERAL ROLE IN
PREVENTING FUTURE EVENTS

* * * * *

Monday, August 20, 2018

1:00 p.m.

* * * * *

Held at:
The George Howard Building
3430 Court House Drive
Banneker Room
Ellicott City, Maryland

* * * * *

COURT REPORTERS, ETCetera, INC.
"Expect Quality & Accuracy"
* * * * *
Maryland: (410) 653-1115
Washington, DC: (202) 628-DEPO
ANYWHERE in the USA: 1-800-947-DEPO
schedule@courtreporters-etc.com

COURT REPORTERS, ETCetera
Wash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 APPEARANCES:

2 Members of Congress:

3 BEN CARDIN
United States Senate4 CHRIS VAN HOLLEN
United States Senate5 ELIJAH E. CUMMINGS
United States House of Representatives6
7
8 Federal Representatives:9 CECIL RODRIGUES
Deputy Regional Administrator
10 U.S. Environmental Protection Agency11 COLONEL JOHN T. LITZ
Commander, Baltimore District
12 U.S. Army Corps of Engineers13
14 Local and Regional Representatives:15 MARK DeLUCA
Deputy Director and Chief of
Environmental Services
16 Howard County Department of Public Works17 JON WEINSTEIN
Council Member
18 Howard County Council19 GRACE KUBOFCIK
President, Board of Directors
20 Patapsco Heritage Greenway, Inc.

21

COURT REPORTERS, ETCetera
Wash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 APPEARANCES (cont'd.):

2 MATTHEW FLEMING
3 President, Board of Directors
4 Ellicott City Partnership

5 -oOo-

6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21

COURT REPORTERS, ETCetera
Wash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

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

A-G-E-N-D-A

AGENDA ITEM:	PAGE:
Opening Remarks	
Allan Kittleman Howard County Executive	6
Ben Cardin United States Senate	9
Chris Van Hollen United States Senate	17
Introduction of Congressman Cummings	22
Senator Cardin	
Statement of Elijah E. Cummings, United States House of Representatives	23
Introduction of Panel: Federal Partners	32
Senator Cardin	
Statement of Cecil Rodrigues U.S. Environmental Protection Agency	35
Statement of Colonel John T. Litz U.S. Army Corps of Engineers	43
Question-and-Answer Session	48

COURT REPORTERS, ETCetera
Wash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

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

A-G-E-N-D-A (cont'd.)

AGENDA ITEM:	PAGE:
Introduction of Panel: Local and Regional Partners Senator Cardin	75
Statement of Mark DeLuca Howard County Dept. of Public Works	77
Statement of Jon Weinstein Howard County Council	83
Statement of Grace Kubofcik Patapsco Heritage Greenway, Inc.	90
Statement of Matthew Fleming Ellicott City Partnership	97
Question-and-Answer Session	104
Closing Remarks Senator Cardin	128

-oOo-

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

2 (1:00 p.m.)

3 OPENING REMARKS

4 MR. KITTLEMAN: I briefly wanted
5 to say hello and welcome you to the Banneker
6 Room and, more than anything else, to thank
7 our federal representatives for being here.

8 Senator Cardin, thank you so
9 much. And I know Senator Van Hollen will be
10 here soon. And Congressman Cummings, thank
11 you so, so much, all.

12 (Applause.)

13 MR. KITTLEMAN: As a lawyer, I
14 feel like I have my back to the judge.
15 Excuse me, please, Senator.

16 But I just wanted to say to
17 everyone here: We could not have received
18 more support from our federal
19 representatives than we have from Senator
20 Cardin and Senator Van Hollen and
21 Congressman Cummings and also previously

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Senator Mikulski.

2 They have been here multiple
3 times. They know our community. As you all
4 know, Congressman Cummings has an office in
5 our community, and they have not forgotten
6 us. And I know that's happened at other
7 times and other places, but not here. And
8 one of the reasons we continue to be such a
9 strong community is because we have our
10 federal, state, and local support, and we
11 work very closely together.

12 I've gotten to know these
13 gentlemen very well, and Senator Mikulski as
14 well. I knew them before the floods, but I
15 know them a whole lot better since the
16 floods. And I can tell you, we couldn't be
17 better off than having them here for us.
18 And so I say that very sincerely, and I want
19 them to know that you being here, and the
20 Senate holding this hearing and the
21 Congressmen being here, mean an awful lot to

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 us.

2 And it's not symbolic. We know
3 you are here because you want to help and
4 you're going to do whatever you can to make
5 sure we have the help that we need to
6 continue to have a great community here in
7 Ellicott City.

8 And so for all of you who are
9 here, thank you for being here. Thank you
10 for being involved in our community. This
11 is why Ellicott City is what it is. This is
12 why we are going to continue to be a strong,
13 safe, and smart community for many, many,
14 many decades in the future, because of you.

15 And I am going to stop now and
16 I'm going to turn it back over to Senator
17 Cardin.

18 And I want to apologize; I have
19 another commitment. I know Counselor
20 Weinstein will be speaking and some other
21 folks from county government as well.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 So, thank you very much for being
2 here. And, Senator Cardin?

3 OPENING REMARKS

4 SENATOR CARDIN: Thank you.

5 First, before the County Exec leaves --

6 (Applause.)

7 SENATOR CARDIN: Before the
8 County Exec leaves, I really want to thank
9 Allan Kittleman for his extraordinary
10 leadership on this issue and so many others.

11 We talk about Team Maryland. We
12 talk about Team Maryland responding to the
13 priorities of our state. In regards to the
14 floods in Ellicott City, our captain was the
15 County Exec, and he worked very well with
16 Governor Hogan and the state team and with
17 our federal congressional delegation from
18 the beginning to see what we could get done.
19 Only concern was the safety of the people
20 here in Ellicott City and the future of
21 Ellicott City.

 COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
 ANYWHERE in the USA: 1-800-947-DEPO

1 And it was a pleasure to work
2 with you on this issue, and Team Maryland
3 couldn't be more proud of the manner in
4 which we used all the resources of our state
5 in order to deal with these horrific floods.
6 So, thank you.

7 MR. KITTLEMAN: Thank you so
8 much. Thank you very much.

9 SENATOR CARDIN: And with that,
10 let me call to order the Subcommittee on
11 Transportation and Infrastructure of the
12 Environment and Public Works Committee.

13 I want to first thank Senator
14 Inhofe, who is the Chair of the Subcommittee
15 on Transportation and Infrastructure. I am
16 the ranking Democrat on that committee.

17 I also want to thank Senator
18 Barrasso, the Chairman of the Environment
19 and Public Works Committee, from Wyoming,
20 and Senator Carper, the ranking Democrat on
21 the Environment and Public Works Committee,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 from Delaware, for allowing us to have this
2 field hearing.

3 I've talked to all three of
4 those -- of my senators I just mentioned,
5 and they all are interested in learning how
6 federal government can be a more effective
7 partner in dealing with the realities that
8 we see on these more frequent floods.

9 So the Environment and Public
10 Works Committee plays a very important role
11 in that regard. And you'll hear from two of
12 our agencies today at this hearing, the
13 Environmental Protection Agency and the Army
14 Corps of Engineers, because they play a
15 particularly important role in dealing with
16 these types of issues.

17 So, the purpose for today's
18 hearing is for the United States Congress to
19 have the benefit of the information that
20 will be presented by the panel of witnesses,
21 for us to be able to establish a record so

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 that we can be better prepared to increase
2 the effectiveness of the federal
3 government's role in dealing with these
4 types of events that were experienced in
5 Ellicott City.

6 I think everyone knows where they
7 were on July 30th of 2016. I remember being
8 at a friend's house having dinner when my
9 iPhone went off with certain warnings. That
10 wasn't the first time I've gotten warnings
11 through my iPhone. I didn't think too much
12 of it, to tell you the truth.

13 But a few -- I guess maybe a half
14 an hour later, as I was on the streets of
15 Baltimore County and saw the devastation in
16 Baltimore County, I knew that this was not
17 like a storm that we had seen before. When
18 I got home, I had the chance of seeing the
19 broadcast of what was happening in Ellicott
20 City and knew that we had experienced a
21 horrific event.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 There were -- over six inches of
2 rain fell that evening, I think all of you
3 know. There were two fatalities, numerous
4 cars were destroyed, buildings were
5 destroyed, 200 residents were displaced, and
6 we had what is known as a
7 once-in-a-thousand-year flood in Ellicott
8 City.

9 Well, 22 months later, we
10 experienced a second of what is known as a
11 once-in-a-thousand-year flood, on May 27th.
12 That occurred earlier in the day, on Sunday,
13 a busy day for the community in Ellicott
14 City. Six to 12 inches of rain fell, which
15 is unprecedented. Even more devastating
16 than the first. People literally had to be
17 rescued, and the first responders saved
18 numerous lives that day.

19 We did, unfortunately, lose the
20 life of a National Guard Staff Sergeant,
21 Eddison Hermond, who was seeking to help a

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 person and got carried away by the water and
2 lost his life. But, clearly, the first
3 responders were able to save lives.

4 In both of these episodes, Team
5 Maryland did everything we could to help
6 immediately the people that were there and
7 to use the resources, whether it was local
8 resources, state resources, federal
9 resources, private resources. It was all
10 coordinated.

11 As I said a little bit earlier, I
12 applaud the leadership of County Exec
13 Kittleman, who was our true captain in
14 regards to that effort.

15 I also thank Governor Hogan for
16 the work the State of Maryland did. And I
17 am particularly proud of our federal
18 delegation.

19 Our federal delegation; we looked
20 at FEMA coming in immediately to help. They
21 did that without the necessary declarations.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 The declarations came later. The Small
2 Business Administration was here
3 immediately. Again, they did not wait for
4 the declarations. They were here to help.
5 They helped assess the situation so that the
6 declaration process could be easier and the
7 application processes could be easier.

8 The Environmental Protection
9 Agency has a particularly important role to
10 play, as does the Army Corps of Engineers,
11 and we're going to talk about how we can
12 mitigate the future risk factors that occur
13 from such a storm. That's one of the main
14 reasons for today's hearing.

15 So, we have questions. Is this
16 really a once-in-a-thousand-year event?
17 Obviously, it was not for our generation.
18 What are the causes, and how can we mitigate
19 it? Is it development? Is development the
20 main culprit here, when we look at increased
21 population and more concrete rather than

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 allowing runoff to occur in a more natural
2 way? What impact is climate change having
3 on what we are doing? And adaptation for
4 the natural changes or what's happening with
5 our climate.

6 So, there are a lot of questions
7 that we want to ask as to how we can be
8 better prepared to mitigate the risk factors
9 in Ellicott City but also how we need to be
10 prepared, because there will be extreme
11 weather conditions in the future. How can
12 we make sure that we protect life, property,
13 and the unique nature of Historic Ellicott
14 City?

15 I'm proud to have as my partner
16 in all this Senator Van Hollen. He has been
17 a champion on all of these issues. He
18 serves on the Environment and Public Works
19 Committee, so he's a member of this
20 particular committee as well as on the
21 Senate Appropriations Committee. So I'm

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 going to call on, first, Senator Van Hollen.

2 And then I'm extremely proud that
3 Elijah Cummings is with us today. Senators
4 always love having members of the House at
5 our hearings, so we particularly appreciate
6 Elijah being here. He's a great leader in
7 our country and does a fabulous job of
8 representing the people of the 7th
9 Congressional District in the Congress of
10 the United States.

11 I also want to acknowledge John
12 Sarbanes, who has been very much engaged in
13 these issues concerning Ellicott City and
14 has played a very important role as well.

15 But, first, I'm going to allow
16 Senator Van Hollen to make an opening
17 statement, and then we will turn immediately
18 to Congressman Cummings.

19 OPENING REMARKS

20 SENATOR VAN HOLLEN: Thank you,
21 Senator Cardin. It's great to be here with

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 so many members of the Ellicott City
2 community.

3 And I want to thank Senator
4 Cardin for bringing us together here at this
5 hearing. It's a privilege to serve with him
6 in the Senate and also very pleased to serve
7 with him, as he indicated, on the Senate
8 Environment and Public Works Committee. And
9 it's under those auspices that Senator
10 Cardin pulled together this hearing.

11 So, thank you, Senator, for your
12 leadership on national issues but also very
13 focused on the immediate concerns of
14 community.

15 Also want to extend a warm
16 welcome to our friend Elijah Cummings, who's
17 been a leader in so many different ways.
18 And also to Senator -- to Congressman
19 Sarbanes and others in the delegation who
20 have supported these efforts.

21 And I'm going to be very brief

 COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
 ANYWHERE in the USA: 1-800-947-DEPO

1 because Senator Cardin covered a lot of
2 territory and we want to hear from all of
3 you.

4 I was here on the ground after
5 the first awful flooding a couple years ago
6 and had the opportunity to meet with many of
7 you and the business owners and homeowners.
8 And we all hoped at that time that it was
9 just going to be an extraordinary and
10 relatively unique event in that time scale
11 that Senator Cardin talked about, the
12 thousand-year flood. But we know now and
13 from our bad experiences that that is not
14 the case and certainly may not be the case
15 going forward.

16 So, it's incumbent on all of us
17 to look at why this is happening and do
18 everything in our power to try to prevent it
19 from happening and to mitigate the damage
20 when it happens again.

21 Senator Cardin referenced climate

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 change. Look, in my view, as a country and
2 as a world, we should have been working much
3 harder way back to try to put the brakes on
4 the damages of climate change. And we're
5 going to have to continue to try and do that
6 at the national and international level.

7 But in the meantime, we cannot
8 stand still and not do everything in our
9 power here as a state and locally and as a
10 federal and state and local government and
11 as citizens and community members to do what
12 we can to learn about what can do locally to
13 reduce and to prevent the damage in the
14 first place and then mitigate it when it
15 happens. And really, that's -- those are
16 the lessons that we want to learn.

17 And I want to thank all the
18 members of the Ellicott City community, as
19 Senator Cardin did, for your input in this
20 process but also for your resilience and
21 being such amazing examples of the ability

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 of our fellow citizens to withstand not just
2 one major disaster but a second one, and
3 continue to look for ways to stay together
4 and make sure that this is a thriving city
5 and community in years to come.

6 So, thank you, Senator Cardin,
7 and I look forward to the testimony from our
8 colleague, Congressman Cummings.

9 SENATOR CARDIN: And Senator Van
10 Hollen, I'm glad you mentioned the people of
11 Ellicott City. They're inspirations to --
12 they really inspire us. The courage, the
13 strength. We often say that Ellicott City
14 is Main Street America. It truly is.

15 These are individual storeowners
16 who have a lot of courage. On a good year
17 with good weather it's tough to run a
18 business. But when you have these types of
19 floods, it really brings out the strength,
20 and Ellicott City has that strength.

21 And of course I'm biased to

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Joanie because we went to school together,
2 so I'm glad to see you're smiling today,
3 Joanie. It's nice to have you here in the
4 audience.

5 INTRODUCTION OF CONGRESSMAN ELIJAH CUMMINGS

6 SENATOR CARDIN: Elijah Cummings
7 has been representing the 7th District for
8 25 years in the House of Representatives.
9 He was born and raised in Baltimore, and the
10 damage that was incurred in 2016 was also
11 incurred in Baltimore. So it was not just
12 in Ellicott City that we saw incredible
13 damage.

14 He's a senior member of the House
15 Committee on Transportation and
16 Infrastructure, serving on both the
17 Subcommittee on Coast Guard and Maritime
18 Transportation and the Subcommittee on
19 Railroads, Pipelines, and Hazardous
20 Materials.

21 It's a real pleasure to have our

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 colleague with us today, who will first
2 testify, and then I'm going to invite him,
3 if he wishes, as time remains, to certainly
4 join us here.

5 STATEMENT OF ELIJAH E. CUMMINGS

6 CONGRESSMAN CUMMINGS: Thank you
7 very much. Thank you, Senator Cardin and
8 Senator Van Hollen. It is indeed an honor
9 to testify before the Subcommittee on
10 Transportation and Infrastructure of the
11 Senate's Committee on Environment and Public
12 Works regarding the catastrophic flooding
13 that has occurred in Ellicott City.

14 But before I go on, let me echo
15 what you just said, Senator Cardin. When I
16 came -- I got here a little bit early, and
17 the parking lot was empty. Hello.

18 (Laughter.)

19 And by the time I got out of my
20 car, the parking lot was full.

21 And I say that to say that this is what

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 democracy looks like. This is what it's all
2 about: the idea that on a sunny August
3 afternoon when you could be doing all kinds
4 of other things, you are sitting here trying
5 to make sure that we shape our destinies and
6 that we do it together. And so I am truly
7 honored.

8 Let me begin by thanking you,
9 Senator Cardin, for your unwavering
10 commitment to our constituents as they
11 continue to rebuild after these floods.

12 Senator Cardin has fought
13 tirelessly to help local residents and
14 business owners get the assistance they
15 need. He is also working to craft new
16 policies to help ensure that our
17 infrastructure programs make the investments
18 our nation needs to help control floods.

19 I also thank my good friend and
20 colleague Senator Van Hollen for all that he
21 has done on both the Environment and Public

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Works Committee and the Appropriations
2 Committee to help secure assistance for
3 cleanup and restoration. And I thank him
4 for his ongoing efforts to help make the
5 Flood Insurance Program more affordable and
6 effective.

7 So I thank, finally, Howard
8 County Executive Allan Kittleman and
9 Governor Larry Hogan, as well as Council
10 Member Jon Weinstein, the entire Howard
11 County Council, and Congressman John
12 Sarbanes, for all their continued
13 partnership with local, state, and federal
14 agencies to provide relief and assistance to
15 Ellicott City.

16 I also thank all of the community
17 leaders who will testify today.

18 Ladies and gentlemen, I wake up
19 every morning, as I know Senator Cardin and
20 Senator Van Hollen do, thinking about how
21 can we best serve our constituents and help

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 them improve their lives. That's what this
2 is all about. This is the reason we sought
3 public office, and it is that passion that
4 fuels me every day in this job.

5 But Senator Cardin said something
6 that is so true: It makes a difference when
7 you have a constituency that comes out and
8 is supportive of your efforts. It makes a
9 big difference because it makes you want to
10 go out there and work even harder.

11 So, I'm so proud to represent
12 Ellicott City in Congress. It is a
13 beautiful, historic city and a thriving
14 community that is not only a treasure for
15 our state but a treasure for our entire
16 nation.

17 Unfortunately, it is also a
18 community that is located on steep terrain
19 at the confluence of several waterways in a
20 flood-prone area where topographical
21 challenges have been worsened by the many

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 effects of regional development.

2 And it is a community where
3 extreme weather events have repeatedly
4 unleashed devastating amounts of rainfall
5 that have overwhelmed the city's existing
6 infrastructure.

7 In 2016 and again in 2018, sudden
8 flash floods have resulted in the loss of
9 life and catastrophic destruction. Local
10 residents have struggled not only with the
11 economic devastation these storms have
12 caused but they have also dealt with the
13 enormous toll this destruction has taken on
14 their lives.

15 Much more must be done, much
16 more, to protect this community from flash
17 floods, and that's why today's hearing is so
18 very, very important. Significant
19 investments are needed to ensure that flood
20 waters can be effectively managed and
21 directed away from Ellicott City. These

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 improvements are all the more urgent given
2 that climate change -- yes, I did say
3 climate change -- will increase the
4 frequency and severity of extreme weather
5 events.

6 And sadly, while we're talking
7 about Ellicott City today, many communities
8 throughout the United States will be at risk
9 for the same kind of severe flooding from
10 extreme weather, particularly if we continue
11 to fail to act to slow or reverse climate
12 change.

13 And as you, Senator Cardin, and
14 you, Senator Van Hollen, were talking, I
15 just want our audience to know that when
16 there are catastrophes anywhere in this
17 country, our delegation is always there
18 because we realize that this is the United
19 States of America and that we have to come
20 to each other's aid. And you can look at
21 our votes and you will see over and over

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 again that we have done that.

2 Ellicott City frequently --
3 urgently needs what our nation needs: A
4 coordinated, deliberate, thoughtful flood
5 control effort that is informed by the best
6 available science and that has adequate
7 funding -- let me repeat that: And that has
8 adequate funding -- to build the
9 infrastructure needed to protect communities
10 from the risks they face.

11 And so, as I close, I will fight,
12 as I know Senator Cardin and Senator Van
13 Hollen will, to help Ellicott City secure
14 every single dollar of funding available
15 through current programs to help it recover,
16 formulate flood control plans, and build new
17 infrastructure.

18 And as a senior member of the
19 House Committee on Transportation and
20 Infrastructure, I have closely monitored and
21 voted in favor of the House's water bill,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 the Water Resources Development Act, which
2 passed the House earlier this year.

3 Let me also note that I strongly
4 support the important provisions in the
5 Senate's Water Resources Development Bill,
6 on which Senator Cardin and Senator Van
7 Hollen have worked, and that would improve
8 financing for water infrastructure.

9 However, I would like the size of
10 the water bill ultimately adopted by the
11 Congress to be significantly increased to
12 provide more money to meet our urgent need
13 for infrastructure to control floods,
14 improve our ports and dams, and restore
15 vital ecosystems.

16 We have a very steep backlog of
17 authorized projects just waiting to be
18 funded, and we can no longer afford to make
19 our infrastructure last on the nation's
20 priority list. Rather than handing out tax
21 cuts to billionaires, we should be helping

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 communities like Ellicott City rebuild and
2 become more resilient before the next storm
3 comes because, sadly, we know, ladies and
4 gentlemen, as sure as night becomes day and
5 day becomes night, it will come.

6 I am so honored to have Senator
7 Cardin and Senator Van Hollen as my partners
8 in this effort, along with Congressman
9 Sarbanes, and I thank them again as we
10 continue to fight for the future of Ellicott
11 City. Thank you very much.

12 (Applause.)

13 SENATOR CARDIN: Thank you,
14 Congressman Cummings.

15 Just really for the benefit, the
16 Water Resources Development Act that
17 Congressman Cummings was referring to passed
18 unanimously in the Environment and Public
19 Works Committee. It's now pending on the
20 floor of the Senate. We may bring it up as
21 early as this week. It is looked upon as a

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 noncontroversial bill, but it provides
2 tremendous increased resources for water
3 projects in our country. So we are
4 optimistic that we will get that bill done
5 before the end of this Congress.

6 INTRODUCTION OF PANEL: FEDERAL PARTNERS

7 SENATOR CARDIN: I'm now going to
8 call our first panel, which consists of our
9 federal partners. Cecil Rodrigues is the
10 Deputy Regional Administrator for Region 3
11 at the U.S. Environmental Protection Agency.
12 Mr. Rodrigues joined EPA in 1987 and held a
13 variety of positions during his time with
14 the Agency. He spent the early part of his
15 career in Region 3's Office of Regional
16 Counsel and served in several leadership
17 positions. He received his B.A. in
18 political science at Adelphi University in
19 1984 and his J.D. from New York Law School
20 in 1987.

21 Colonel John T. Litz is the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Commander and District Engineer of the U.S.
2 Army Corps of Engineers, Baltimore District.
3 I was at his Change of Command ceremony just
4 a few weeks ago. You'll all, of course,
5 know Colonel Chamberlayne and the work that
6 he did as our District Director, and we very
7 much look forward to the seamless leadership
8 in our state under Colonel Litz.

9 Colonel Litz became the 68th
10 Commander of the U.S. Army Corps of
11 Engineers, Baltimore District, on July 13th
12 of this year, where he commands a workforce
13 of more than 1,000 employees, overseeing a
14 multibillion-dollar program that provides
15 planning, design, engineering, construction,
16 environment contracting, and real estate
17 expertise throughout the Baltimore District.

18 And I must tell you; again,
19 speaking for what Congress has made
20 available to the Army Corps, the budgets
21 this year have been more predictable and

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 greater flexibility, so we are proud of
2 bipartisan support for the work of the Army
3 Corps.

4 I do want to acknowledge another
5 federal partner who I know is here, is not
6 on our panel, is not under the jurisdiction
7 of this Committee: Steve Umberger, who
8 represents the Small Business
9 Administration, the Baltimore District. I
10 particularly want to mention him because I
11 am the ranking Democrat on the Small
12 Business Committee.

13 But this hearing is going to
14 focus on the jurisdiction of the Environment
15 and Public Works Committee.

16 And Secretary Ben Grumbles is
17 here, who is -- oh, back there -- who is the
18 comparable state head of our environmental
19 agency and has been a tremendous resource
20 for our federal delegation as we've worked
21 to deal with the Chesapeake Bay and other

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 issues.

2 Ben, it's really nice to have you
3 here, also.

4 We will proceed first with Mr.
5 Rodrigues and then Colonel Litz.

6 By the way, for all witnesses,
7 your entire statement will be made part of
8 the record. We ask that you summarize in
9 approximately five minutes to give time for
10 questions and answers.

11 And Delegate Flanagan is also
12 here. I acknowledge that he's here. I
13 don't know if I have any of the other
14 electeds that may be here, but it's a
15 pleasure to have our Member of the House
16 here.

17 PANEL: FEDERAL PARTNERS

18 STATEMENT OF CECIL RODRIGUES

19 ENVIRONMENTAL PROTECTION AGENCY

20 MR. RODRIGUES: Senators Cardin
21 and Van Hollen and Congressman Cummings,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 thank you for the opportunity to appear
2 before you today to discuss EPA's role in
3 assisting communities to reduce their risks
4 of flooding events like those that have
5 occurred in Ellicott City, Maryland.

6 Excessive stormwater runoff has
7 serious and costly effects throughout our
8 country. The EPA considers it one of the
9 leading causes of water quality impairment
10 and diminished water shed health. It can
11 overwhelm our sewer systems, erode our
12 stream banks, pollute our waters, and, in
13 the case of Ellicott City, devastate our
14 towns.

15 The EPA works with other federal
16 agencies and the states to reduce stormwater
17 runoff and build resiliency in our
18 communities. We do that through the Clean
19 Water Act, funding, and regulatory programs,
20 and we do it through innovative approaches
21 like the Clean Water Partnership and the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Green Streets, Green Jobs, and Green Towns
2 programs that I'll mention a little later.

3 Maryland has been a leader in
4 addressing stormwater runoff. The Maryland
5 Department of the Environment has set
6 aggressive goals to control stormwater as
7 part of a commitment to reduce pollution
8 into local waters and the Chesapeake Bay,
9 requiring restoration of 20 percent of
10 untreated impervious surface areas as part
11 of the Phase I Jurisdictions Municipal
12 Separate Stormwater Sewer System permits.

13 Howard County, which includes
14 Ellicott City, developed a countywide
15 implementation strategy to address the MS4
16 requirements and, by the end of September of
17 2016, has restored more than 1,400 acres of
18 impervious surfaces.

19 Among its other permit-related
20 activities, the county created a manual that
21 outlines standards for design of stormwater

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 systems in new development and redevelopment
2 and has completed detailed assessments and
3 maps of all the watersheds within the
4 county.

5 EPA assists Maryland and states
6 throughout the nation in controlling
7 stormwater through the Clean Water State
8 Revolving Fund, or SRF, which provides
9 low-interest loans through the states to
10 support critical water infrastructure
11 projects. Since its inception of the SRF
12 Program, EPA Region 3 has provided states
13 within our region with \$145 million, which
14 have been used to fund almost 124 projects,
15 including 30 in Maryland for -- which cost
16 approximately \$37.4 million. The projects
17 range from green infrastructure to
18 stormwater sewer systems.

19 This administration's focus on
20 accelerating investment in our nation's
21 water infrastructure also includes the Water

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Infrastructure Finance and Innovation Act,
2 also known as WIFIA. This program provides
3 for long-term loans for a diverse range of
4 regionally and nationally significant water
5 infrastructure projects, which can include
6 stormwater control projects.

7 EPA's Water Infrastructure and
8 Resiliency Finance Center provides technical
9 and financial information to help local
10 officials make informed decisions on
11 stormwater, drinking water, and wastewater
12 infrastructure projects.

13 The Center created a searchable
14 clearinghouse for resources and funding
15 information for EPA and other federal
16 agencies and state agencies, a kind of
17 one-stop shop for communities to address
18 these issues.

19 In this region, we are looking
20 beyond traditional funding sources and
21 partner with nonprofit and private sector to

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 create innovative programs that offer
2 multiple benefits of green infrastructure to
3 capture stormwater.

4 For example, earlier this year,
5 the EPA and the Chesapeake Bay Trust, with
6 the support of the City of Baltimore and the
7 Maryland Department of Natural Resources,
8 provided our eighth set of grants under the
9 Green Streets, Green Jobs, Green Towns
10 Program with nearly \$700,000, with a local
11 match of nearly \$1 million for 21 projects.
12 Ten of them were in Maryland. Since 2011,
13 we have awarded \$8.4 million to 145 projects
14 throughout the region, leveraging more than
15 \$13.8 million in matching funds.

16 The G3 Program helps communities
17 implement plans that reduce stormwater
18 runoff and flooding, increase the number and
19 amount of green spaces in urban areas, and
20 improve the health of local waters and the
21 quality of life in cities and towns, all of

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 which can be replicated elsewhere in the
2 Chesapeake Bay Watershed, including Ellicott
3 City.

4 EPA also encourages local
5 governments to work with us in establishing
6 community-based public-private partnerships
7 to generate faster, cheaper, and greener
8 controls for stormwater and provide
9 considerable benefits for the local economy
10 and communities. Two examples model the
11 EPA's approach of the Clean Watershed
12 Partnership. One is Prince George's County,
13 and a similar one in Chester, Pennsylvania.
14 In addition to addressing stormwater, these
15 partnerships support local jobs, training
16 opportunities, and assistance with small and
17 minority-owned businesses, with significant
18 local economic impact.

19 We need to support innovations in
20 project delivery and financing to enable
21 large-scale investments in green

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 infrastructure for public health,
2 infrastructure resilience, and neighborhood
3 benefits. As the threat of major storms
4 increases, so too must our resolve to help
5 local communities protect themselves.

6 In conclusion, I'd like to thank
7 you, Senators Cardin and Van Hollen and
8 Congressman Cummings, for the opportunity to
9 testify here before you today. EPA looks
10 forward to building on its work with the
11 states and our communities in our region and
12 across the nation to enable them to tackle
13 the harmful effects of stormwater, which can
14 lead to the kind of devastation we've
15 witnesses in Ellicott City.

16 I would be happy to answer
17 questions at the end.

18 SENATOR CARDIN: Thank you very
19 much.

20 Colonel Litz?

21

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 STATEMENT OF COLONEL JOHN T. LITZ

2 U.S. ARMY CORPS OF ENGINEERS

3 COLONEL LITZ: Thank you.

4 Senator Cardin, Senator Van Hollen,
5 Representative Cummings, I'm honored to
6 testify before you today on the U.S. Army
7 Corps of Engineers's role and response to
8 the recent devastating flooding in Ellicott
9 City, Maryland. I'm Colonel John Litz,
10 Commander of the U.S. Army Corps of
11 Engineers, Baltimore District.

12 Following the unprecedented
13 Ellicott City flood in 2016, which equated
14 to a flood with a 0.1 percent chance of
15 happening during a given year, the Baltimore
16 District provided post-flood response at the
17 request of the Governor of Maryland to clear
18 debris blockages in the Tiber and Hudson
19 tributaries. This action reduced further
20 risk of immediate flooding to the city as
21 more rainfall was forecasted in the coming

 COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
 ANYWHERE in the USA: 1-800-947-DEPO

1 days.

2 This help was provided through
3 Public Law 84-99 (33 U.S.C. 701n), which
4 gives the Corps discretionary authority to
5 react to various water-related emergencies.
6 The Corps provides assistance when natural
7 disasters or other emergencies occur after
8 state and local governments have exceeded
9 their capabilities.

10 In addition to our emergency
11 response, the Corps also leveraged the
12 Floodplain Management Services Program, or
13 FPMS, authorized by 206 of the Flood Control
14 Act of 1960. The FPMS Program allows the
15 Corps to provide general technical services
16 and planning guidance to state, regional,
17 and local governments without charge and
18 within program funding limits.

19 Using the FPMS Program authority,
20 an agreement was signed in September of 2016
21 by the Baltimore District and Howard County

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 to conduct a 12-month effort to assess the
2 potential for nonstructural flood risk
3 mitigation activities, such as
4 flood-proofing some or all of Ellicott
5 City's historic structures located in the
6 0.2 percent floodplain, commonly known as
7 the 500-year Floodplain. Howard County
8 voluntarily provided the Corps \$150,000 for
9 this effort.

10 The Corps reviewed information on
11 previous floods in the area, to include the
12 depths, velocities, warning times, and
13 elevation surveys for 80 buildings in this
14 500-year Floodplain. These surveys included
15 identification of the first-floor elevation,
16 the lowest point of entry, the lowest
17 adjacent grade, nonstructural flood-proofing
18 assessments for 16 example structures,
19 preliminary construction costs for
20 recommended nonstructural measures, flood
21 action plans needed to implement any

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 recommendations, and a cost-benefit
2 analysis. The Corps also participated in
3 outreach activities within the community.

4 Nonstructural flood mitigation is
5 important because it can reduce flood
6 damages and is typically less expensive than
7 structural solutions such as levies and
8 floodwalls. Nonstructural flood mitigation
9 is also customizable to individual
10 properties and can be implemented in phases.

11 Examples of nonstructural
12 measures include flood warning systems,
13 moving valuables to higher levels, raising
14 utilities, waterproofing buildings by
15 applying sealant, installing flood doors,
16 floodgates, and closures on doors and
17 windows.

18 The Baltimore District provided
19 Howard County with a report on their
20 findings in January of 2018, and conducted a
21 public meeting in February of 2018 to

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 present the results.

2 It is important to note that
3 nonstructural measures, including
4 flood-proofing, would not have prevented all
5 the damages sustained during the 2016 flood
6 or the flood earlier this year. However,
7 certain measures may reduce flood risk
8 during less severe floods or enhance
9 community resilience by allowing communities
10 to bounce back after a storm.

11 The Corps recognizes that
12 implementing these options can be
13 challenging given the estimated cost ranges
14 and working through certain historic
15 preservation constraints. These are all
16 things to consider when determining the best
17 way to reduce flood risk on individual
18 properties.

19 The Baltimore District and the
20 U.S. Army Corps of Engineers as a whole are
21 incredibly proud to contribute to the safety

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 and recovery of this historic and important
2 city.

3 Thank you, Senator Cardin and
4 Senator Van Hollen and Representative
5 Cummings. This concludes my statement, and
6 I look forward to answering any questions
7 that you or other members may have.

8 QUESTION-AND-ANSWER SESSION

9 SENATOR CARDIN: Well, thank you
10 both for your testimony.

11 Let me first start by agreeing
12 with Congressman Cummings as to the need for
13 us to look at stronger ways of being able to
14 deal with the backlog, let alone the
15 challenges we have moving forward, in
16 regards to our infrastructure in this
17 country, including flood mitigation. We
18 need to be more aggressive on that, and I
19 really do believe there's bipartisan
20 support.

21 The Chairman of the Subcommittee,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Senator Inhofe, talks frequently about
2 bipartisan support for more robust
3 infrastructure projects. That's not a
4 conservative -- or, concern, so we should be
5 able to do a better job there, and we're
6 going to continue to work on it.

7 I want to focus on what we can do
8 in mitigation. You talk about nonstructural
9 measures, and I understand what you're
10 referring to in the individual properties
11 and the warning systems. But there's also
12 been some recommendations or thoughts about
13 structural changes, trying to increase the
14 water capacity of the tributaries either by
15 widening or redirecting or doing different
16 measures to have a more permanent type of a
17 change.

18 The realities of population
19 growth and the impervious surfaces have made
20 it more challenging and, of course, the
21 weather has been more severe. So, you put

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 that all together, without some structural
2 changes, it's going to be difficult to see
3 that we don't have a repeat of what happened
4 during these last two storms.

5 So, can you just share with us
6 how either the Army Corps or EPA can assist
7 in both structural and nonstructural
8 mitigation programs?

9 We know that there have been many
10 studies -- there's been several studies that
11 have been done. We know that we're still
12 trying to figure out where is the most
13 cost-effective place to put resources. And
14 we also recognize that it's unlikely it'll
15 be one funding source that'll be able to
16 deal with solving the problems. But there
17 are different tools available. If you could
18 just quickly review where the federal
19 government can help in regards to both
20 structural and nonstructural?

21 COLONEL LITZ: Senator, I'll take

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 that question.

2 So, what the Corps recommends are
3 two types of efforts: Near-term and
4 long-term. And in the near term, to conduct
5 risk communication so that those in this
6 area understand the risks involved posed by
7 the water and the rainfall events that have
8 happened and could continue to occur. And
9 also, that includes preparing for floods as
10 well, as a community and also as
11 individuals. And, implement the
12 flood-proofing measures that the Corps has
13 recommended.

14 In the long term, take a more
15 comprehensive and collaborative approach.
16 Two things that I will offer is to endeavor
17 in a watershed-wide study, not just a study
18 in the local area, in Ellicott City and
19 close surroundings, to get the big picture
20 and develop a holistic solution for the
21 runoff and for the flooding in the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 tributaries, as so many of them converge in
2 Ellicott City.

3 A second effort to --

4 SENATOR CARDIN: Do you have
5 enough information to make that assessment
6 today? Or do you need to do further studies
7 as regards the water problems and runoff?

8 COLONEL LITZ: Senator, we would
9 need to study that. From the Corps'
10 perspective, we would need to study that. I
11 know that there is a study --

12 SENATOR CARDIN: What do you need
13 from Congress in order to move that along?

14 COLONEL LITZ: We would need an
15 authorization and appropriation and,
16 depending on the magnitude of that study,
17 that would determine which service that the
18 Corps is authorized to provide that we would
19 trigger. If it's a small effort, say less
20 than \$15 million, then we could look at the
21 Corps' continuing authority's set of

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 authorizations.

2 And if it's a larger effort, over
3 \$15 million, typically what you would find a
4 structural solution falling into the
5 category of, we would have to have an
6 authorization for a feasibility study and an
7 appropriation to make good on that
8 authorization. And then once the
9 feasibility study is conducted, and should
10 the project have a benefit-to-cost ratio
11 that competes well nationally, we would have
12 to have an authorization for the design,
13 pre-engineering design work, and also
14 construction.

15 SENATOR CARDIN: So, for
16 structural, it appears like you would need
17 specific authority and funding from
18 Congress, is what you're saying?

19 COLONEL LITZ: Yes, Senator.

20 SENATOR CARDIN: For
21 nonstructural, you probably have enough

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 authority?

2 COLONEL LITZ: And we --

3 SENATOR CARDIN: You've already
4 done so.

5 COLONEL LITZ: Yes, Senator. We
6 did that with the Floodplain Management
7 Services, which is a standing authority that
8 we have from the Flood Control Act of 1960.

9 SENATOR CARDIN: And Mr.
10 Rodrigues, you mentioned several programs
11 locally could qualify for funding for
12 various aspects of flood mitigation; is
13 that --

14 MR. RODRIGUES: Sure. Yes,
15 Senator. So we have been -- for instance,
16 we've given Howard County, through the
17 Maryland Department of Natural Resources and
18 the Chesapeake Bay money, \$100,000, which
19 Maryland gave, and then \$50,000 that EPA
20 gave through a Chesapeake Bay implementation
21 grant to study two things. One was to look

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 at water infrastructure assessment, green
2 infrastructure assessments. Also, to study
3 the -- originally the flood from July of
4 2016 to determine water measures that can be
5 taken.

6 In addition, we've worked with
7 communities to develop some public-private
8 partnerships which fund and increase
9 quickly -- increase the use of green
10 infrastructure projects.

11 The Agency also has the WIFIA
12 grants, loans, which communities like
13 Ellicott City, in conjunction with the
14 state, can apply for which can give direct
15 funding to stormwater projects.

16 So there are numerous sources the
17 Agency has in the past and will continue to
18 work with communities like Ellicott City and
19 Howard County to apply for and determine
20 what's the best type of funding mechanism.

21 Our Water Infrastructure and

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Resiliency Center can help finance.
2 Resiliency Center can help communities look
3 at what's the best type of financing to get
4 and what are the better projects to spend
5 the money on. So we have several resources
6 that communities like Ellicott City and
7 Howard County can partner with the Agency to
8 do.

9 One other thing I'd like to
10 mention is we have also tried to partner
11 with our other federal agencies, so with
12 FEMA and the Army Corps. In Huntington,
13 West Virginia, we've partnered with FEMA and
14 the Army Corps to work with the community to
15 determine its needs and then try to work as
16 one federal government to direct resources.
17 That's an opportunity that we can work with
18 the county or -- and the city to help look
19 at alternative sources of funding that maybe
20 they have not looked at and thought of.

21 SENATOR CARDIN: I thank you for

 COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
 ANYWHERE in the USA: 1-800-947-DEPO

1 that because we're going to have to be
2 creative. I do point out: The WIFIA
3 program and TIFIA are the traditional --
4 were creations through the Environment and
5 Public Works Committee to leverage more
6 funds because we recognize there will never
7 be enough funds. So we have to leverage the
8 best we can. WIFIA does present some
9 opportunities for us here in Ellicott City.

10 Senator Van Hollen?

11 SENATOR VAN HOLLEN: Thank you,
12 Senator Cardin.

13 Thank both of you for your
14 testimony here. So, Colonel Litz, you
15 mentioned the study that had been done by
16 the Army Corps after the 2016 flood,
17 focusing on the nonstructural flood-proofing
18 study. And as I understand that study, it
19 primarily recommends to homeowners or
20 businesses things that they might do to
21 better protect themselves in the case they

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 have another flood; is that right?

2 COLONEL LITZ: Yes, Senator.

3 That's correct.

4 SENATOR VAN HOLLEN: And the
5 costs in those cases are borne by the
6 homeowner or the storeowner; is that right?

7 COLONEL LITZ: Yes, Senator.

8 SENATOR VAN HOLLEN: Do we know
9 whether any of -- I know this report didn't
10 come until January of this year, but I know
11 you were engaged in the study for a while.
12 Do we know whether or not any of the
13 homeowners or storeowners implemented any of
14 these changes and whether that helped reduce
15 the damage in the last flood?

16 COLONEL LITZ: Senator, the final
17 report came out in February of this year, so
18 I do not know if any of the storeowners or
19 homeowners had an opportunity to implement
20 any of these recommendations. I think I
21 would leave that to others to answer.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 But I know that the Corps has
2 engaged in similar studies over the past
3 couple of decades in other places: In West
4 Virginia, Virginia, at least. Maybe over a
5 thousand flood-proofing recommendations have
6 been implemented successfully. In
7 Huntington, West Virginia, there's an effort
8 ongoing now that my colleague from the EPA
9 mentioned earlier.

10 So we do know that these measures
11 are feasible and that they can work. But,
12 as I stated in my comments, the magnitude of
13 the events that happened in 2016 and 2018
14 that brought us here today, these measures
15 would not have prevented those damages.

16 SENATOR VAN HOLLEN: Right. And
17 so that leads me to your sort of longer-term
18 recommendations because I understand your
19 sort of immediate-term is risk
20 communications and implementing the
21 nonstructural proposals that you

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 recommended. But really, as you just said,
2 if we want to really try to limit the damage
3 of flooding like we saw earlier this year
4 and in 2016, we're going to have to take
5 other measures.

6 I know Howard County and the
7 community are engaged in a debate about the
8 extent to which local development has an
9 impact on floodwaters, and we await sort of
10 the outcome of that discussion and are
11 engaged in listening.

12 But in terms of your more
13 permanent solutions, there was this report
14 that was done in 2014 that was updated after
15 2016, and I know you're relatively new on
16 the beat. Congratulations again on that.
17 But there was an Ellicott City Hydrology and
18 Hydraulic Study and Concept Mitigation
19 Analysis where they made some specific
20 recommendations with respect to changes that
21 could be made that would affect the quantity

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 of water and the flow of water.

2 And I don't know if you and your
3 team have had a chance to really dig into
4 that. If you haven't, I urge you to do it
5 because, as Senator Cardin said, we need,
6 obviously, to have a plan. There has been
7 work done here, and so rather than reinvent
8 the wheel, maybe we can find a way for
9 everybody to take a look at that, update it
10 if need be, and look about whether there's
11 agreement those specific proposals would in
12 fact reduce the damage from the flooding.

13 And then we have to get it done.
14 Obviously, part of that, we have to figure
15 out how to pay for it, and there's local
16 funding, there's state funding, and Senator
17 Cardin said there's federal funding. But
18 we've got to make sure that we come to
19 agreement.

20 Have you had -- do you know; have
21 you and your team had a chance to look at

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 that earlier study? And what do you think,
2 if you did?

3 COLONEL LITZ: Senator Van
4 Hollen, I believe the study that you're
5 referring to is the McCormick and Taylor H&H
6 Study. And if that is the case, then yes,
7 my team has looked at that study. They read
8 it, they understand it, and they used it to
9 inform their study that they -- for the
10 nonstructural flood-proofing
11 recommendations, to some extent.

12 So I do know that we understand
13 this study of the district. Personally, I
14 have not had a chance to see that study yet.
15 But we do know the content of that study and
16 that it makes recommendations for structural
17 elements to protect Ellicott City and other
18 areas. So --

19 SENATOR VAN HOLLEN: Maybe I
20 could just ask, Senator, if you and your
21 team could provide us any comments you've

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 got on that study with its structural
2 recommendations? It makes two very specific
3 ones: Quantity management, to reduce the
4 quantity of flow into Frederick Road and
5 Main Street corridor, and a second,
6 conveyance improvements. And there were
7 some specific conveyance improvements.

8 So I think it would be helpful if
9 we can all sort of be on the same page as to
10 what needs to be done and then we can all
11 figure out how the funding will work to get
12 it done.

13 COLONEL LITZ: Yes, Senator. We
14 can provide a followup statement to that
15 effect.

16 SENATOR VAN HOLLEN: Thank you.

17 SENATOR CARDIN: Congressman
18 Cummings?

19 CONGRESSMAN CUMMINGS: I want to
20 just pick up where both senators left off.
21 Whenever I come to a hearing like this, I

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 try to put myself in the seat of the people
2 who are sitting out there and what they're
3 thinking and what questions that they would
4 ask.

5 And if I were a business owner,
6 or even a resident, I would ask the
7 question: Do we know why this happened?
8 Colonel? The flood, the situation? And the
9 destruction? I mean it looked like -- I
10 mean -- well, you saw it. It was horrible.
11 Go ahead.

12 COLONEL LITZ: Representative
13 Cummings, no doubt. I saw the footage
14 before I took command of the floodwater
15 rushing down the streets and I was shocked
16 that this was happening. I was brand-new to
17 the area. I hadn't even moved here yet.
18 And I did move to Maryland, a little bit
19 further down south. And I have had a chance
20 to get out and walk around in Ellicott City
21 this weekend to get a better appreciation

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 for the problem that this city and this
2 community is dealing with.

3 CONGRESSMAN CUMMINGS: I
4 appreciate you doing that. Go ahead. No,
5 go ahead.

6 COLONEL LITZ: Thank you,
7 Representative.

8 So, as to the cause, we know that
9 there was what the National Weather Service
10 states is a 1,000-year rainfall event, which
11 is an incredibly intense amount of rainfall
12 that -- I think six inches in less than a
13 couple hours, maybe more. And in this area,
14 as everyone in this room is probably well
15 aware of, it drains to one place very
16 quickly.

17 And as to the causes of that, I
18 cannot speak to why weather patterns are
19 occurring and what's behind that. But I can
20 tell you it's the intense rainfall. I can't
21 tell you --

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 CONGRESSMAN CUMMINGS: I'm
2 talking about the flooding recurrence. I'm
3 talking about the flooding itself.

4 In other words, first of all,
5 you've been in other places. I mean, have
6 you seen anything comparable to this?

7 COLONEL LITZ: I know of -- just
8 because my parents are from West Virginia
9 and there are some places back where they're
10 from that it's an absolute deluge at times
11 and have been wiping communities out for
12 years, from what I've told.

13 But I have not personally, my
14 adult life, seen this sort of flooding.

15 CONGRESSMAN CUMMINGS: I got you.
16 But let me say what I'm trying to get to.
17 I'm trying to figure out -- I try to be
18 practical about things. And like many of
19 the people in this room, they want to come
20 back. Their livelihood depends upon it.
21 And -- but on the other hand, I guess some

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 of them are saying, "How do I -- what can we
2 do to best assure that when we come back we
3 don't face this over and over again?" I've
4 talked to a number of folks here, and I mean
5 that's the key question.

6 So I guess I'm trying to figure
7 out has it -- have we seen something
8 comparable? And if we have, how was that
9 dealt with? And is that something that we
10 can bring to this area? You following me?
11 Maybe Mr. Rodrigues has an answer for that;
12 I don't know.

13 MR. RODRIGUES: The heavy rains
14 have impacted numerous cities and
15 communities all through the -- up and down
16 the East Coast. The Agency has seen
17 stormwaters through sewer systems that have
18 just been -- have had to be bypassed because
19 of the severe amount of rain and severe
20 amount of water that's been going through
21 the systems as far up as New York and

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Pennsylvania.

2 These are issues that we are
3 going to have to -- is not going to go away,
4 and we're going to have to start dealing
5 with it. And part of that is a combination
6 of looking at structural changes, grade
7 changes that have to be made, increasing our
8 sewer -- improving our sewer systems, but
9 also green infrastructure. But also,
10 rethinking and looking at, as I think the
11 Senator mentioned before, looking at
12 stormwater on a watershed basis to -- and
13 getting communities to work together to help
14 address these situations.

15 Because this is -- while we can
16 do things on a very local basis, the answer
17 is probably -- it is going to be on a
18 watershed basis and looking at how do we get
19 our communities together to work together to
20 address these because --

21 CONGRESSMAN CUMMINGS: I think we

 COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
 ANYWHERE in the USA: 1-800-947-DEPO

1 can get the communities together. I think
2 they're already together. That's not the
3 problem.

4 (Applause.)

5 CONGRESSMAN CUMMINGS: I guess --
6 maybe it's because I spent six months in the
7 hospital. I have a different view of life,
8 and that is that we only have one life to
9 live, this is no dress rehearsal, and we may
10 be gone tomorrow. But while we're here,
11 this is our watch.

12 And I guess I'm trying to figure
13 out how soon do you, either of you, see us
14 being able to work this out, best case?
15 Because that's what they want to know. I'm
16 telling you; they may not say it, but if I
17 were them, I would want to know.

18 COLONEL LITZ: Congressman
19 Cummings, so from the studying that I've
20 done preparing for this and since I've been
21 in command, I know that I think it was back

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 in 1994 there was a study. There are
2 several studies that have taken place for
3 flooding and to address this issue, even
4 going back to the '70s.

5 And I think in the 1994 study,
6 flood mitigation solutions were -- some
7 recommendations were made, things were
8 studied, and I think the determination was
9 that the locations -- I think there were
10 issues with the real estate, it's too far
11 north, the measures weren't -- it just
12 wasn't feasible or it wasn't economically
13 feasible, it didn't make the benefit-cost
14 ratio cutoff to be competitive.

15 So I know the problem has been
16 studied, but that doesn't mean that new
17 methods, new technology isn't there to help.
18 And I'm talking significant structural
19 things that we can do. And the question is:
20 What are they, where would they go, and what
21 would be the cost? And all of those things,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 in my -- from the Corps' perspective, would
2 require a deliberate study.

3 And there is a study authority
4 from that very 1994 study that I just
5 mentioned, but it hasn't been funded in a
6 while. We would need to get reauthorized
7 and appropriations put against it to take --
8 to commence to another general investigation
9 feasibility study.

10 CONGRESSMAN CUMMINGS: I see my
11 time is up, but let me say this, and I know
12 that Senator Cardin and Senator Van Hollen
13 feel the same way: You will not get a
14 delegation that will work closer and harder
15 with you all to get this resolved and soon,
16 as soon as we can. And we understand you
17 don't have all the answers. But we're here,
18 and you've got a state governor and
19 certainly all of our community, residents
20 and storeowners and shop owners. We're
21 here.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Yes, you see them. You can look
2 around and see them.

3 Thank you very much, Senator.

4 SENATOR CARDIN: Thank you,
5 Congressman.

6 Let me just connect a couple dots
7 here for my colleagues. In regards to what
8 individual property owners can do, what the
9 county can do within reasonable dollar
10 amounts, we're going to take you up, Mr.
11 Rodrigues, and take a look at all the
12 federal partnership programs we have under
13 EPA and see how we can leverage that most
14 effectively to harden as best as we can
15 against the realities of flooding.

16 And we think we can do more. We
17 can be more effective. There's good
18 information out by the studies that have
19 been done already. So we do have a
20 blueprint, I think, on dealing with that
21 area.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 I think what my colleagues and I
2 are saying, though, is that we recognize
3 that we do need structural improvement. And
4 yes, that's very expensive and, yes, we need
5 to know what works and the cost-benefits of
6 all of these issues.

7 So there's been conversation at
8 the county level about changing the flow,
9 widening the tributaries, dealing with some
10 of the current ownership of land in order to
11 make that more of a reality by changing use.
12 All that has been under consideration. And
13 as the County Exec has said, we'll consider
14 any options. We want to do what the
15 community wants us to do.

16 So we need from you, Colonel
17 Litz, the best information we can. I think
18 what you're telling me is that you may
19 need -- you will need additional guidance
20 from the Congress on this issue. So my
21 colleagues and I will go back to see how we

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 can get you that so we can move as quickly
2 as we possibly can in the broader watershed
3 because that looks like what we're talking
4 about is going to have to be done.

5 But we do know that there's
6 conversations here in the county about
7 taking those bold steps. And the community
8 is prepared to do it, as is the leadership
9 of this county prepared to do it. But
10 they're going to need our help as to what
11 makes sense, what is feasible, and they're
12 going to need our help on partnership from
13 the point of view of resources. So let's
14 figure out how we can move forward on those
15 issues.

16 Let me thank both of our
17 panelists again. This is not the last time
18 we'll be having a conversation about it. We
19 thank you all very much.

20

21

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 INTRODUCTION OF PANEL:

2 LOCAL AND REGIONAL PARTNERS

3 SENATOR CARDIN: We're going to
4 move on to our second panel, which includes
5 Mark DeLuca, who is the Chief of the Bureau
6 of Environmental Services in the Howard
7 County Department of Public Works. He has
8 been a busy person during these last couple
9 years, a person who we have seen quite
10 frequently and have worked with.

11 Jon Weinstein represents Howard
12 County's District 1, including Ellicott
13 City, Elkridge, Hanover, and Columbia. He's
14 also been a very busy person during these
15 last two years. We have walked the streets
16 together many times, talked to a lot of the
17 neighbors about these issues, and he's been
18 an incredible leader in trying to get us on
19 the right path.

20 Grace Kubofcik is the Board
21 President of Patapsco Heritage Greenway and

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 has been a resident of Ellicott City for
2 more than 49 years and has been very active
3 in those years. She's spent her career in
4 public service at the Social Security
5 Administration, Maryland Department of Human
6 Resources, and Executive Assistant to the
7 Howard County Exec.

8 You've been a busy person. Thank
9 you for your public service.

10 And Matt Fleming is the President
11 of the Ellicott City Partnership, which is a
12 501(c)(3) nonprofit that seeks to preserve
13 the heritage and vitality of Old Ellicott
14 City while enhancing and creating its
15 economic growth. Dr. Fleming has been a
16 resident of Ellicott City since 2006.

17 And I've been told that Jen
18 Terrasa is also here, a member of the County
19 Council of Howard County. Let me just
20 acknowledge her presence. There she is.
21 Thank you.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 We'll start with Mr. DeLuca.

2 PANEL: LOCAL AND REGIONAL PARTNERS

3 STATEMENT OF MARK DeLUCA

4 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

5 MR. DeLUCA: Thank you, Senators
6 Cardin and Van Hollen and Congressman
7 Cummings, for the opportunity to appear
8 before you today.

9 I'd like to start by describing
10 the Tiber-Hudson Watershed in a little bit
11 more detail than we've gotten into so far.
12 The watershed is very small. It's 3.7
13 square miles, which means that a drop of
14 water at the top of the watershed will find
15 its way to the Patapsco, its only drainage
16 point, in a relatively short period of time.
17 And those three tributaries running through
18 it, the Hudson, the Tiber, and the New Cut
19 Branches, all of which, as mentioned before,
20 flow to the Patapsco.

21 The topography is characterized

 COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
 ANYWHERE in the USA: 1-800-947-DEPO

1 by steep slopes and has shallow bedrock
2 which, as a result, makes the water move a
3 lot faster, it doesn't soak into the ground,
4 and finds its way to the Patapsco and Main
5 Street much more quickly.

6 There's a history of 21 flood
7 events in Ellicott City since 1768. Fifteen
8 of those events were caused by the Patapsco
9 rising. Six of the events were caused by
10 tributaries flooding. The last three events
11 were in 2011, 2016, and 2018. They were all
12 tributary flooding events.

13 On July 30th in 2016, while the
14 region experienced common normal
15 thunderstorms, say one inch per hour, give
16 or take a little bit, or less, Ellicott City
17 experienced six inches in two hours. And
18 that caused a six- to eight-foot wall of
19 water to travel down Main Street.

20 Similarly, on May 27th of this
21 year, 2018, the region again experienced

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 typical thunderstorms, but again, Ellicott
2 City experienced 7.5 inches in five hours,
3 with the majority of that happening over
4 about three hours and another six- to
5 eight-foot wall of water going down Main
6 Street.

7 The Weather Service described
8 these storms as back-building storms. It
9 was something that we had never heard of in
10 my circle -- excuse me. In my circles, we
11 had never heard of that before. And we were
12 told that it's not something that could be
13 predicted, when and where they might occur.
14 They also indicated to us the frequency and
15 intensity of severe storms is on the rise,
16 especially in the Northeast.

17 Within this context of
18 information, we began comprehensive modeling
19 of the watershed in 2016. Basic design
20 principle was to minimize the water spilling
21 out of the culverts and channels onto the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 street so that it posed less of a threat to
2 property and life. The 100-year storm was
3 modeled, in addition to the July 30th, 2016,
4 storm.

5 The study identified 18 potential
6 locations to retain stormwater as well as
7 recommending needed conveyance improvements.
8 The cost was estimated to be approximately
9 \$80 million.

10 In August of 2017, four projects
11 were selected to move forward based on the
12 positive impacts they would have on the
13 community. However, even with all 18
14 projects, the modeling only showed modest
15 reductions in water elevations on the upper
16 end of the Hudson Branch and less on the
17 lower Tiber, or the lower part of Main
18 Street near the Patapsco River.

19 So we realized that structural
20 solutions were not the end-all be-all, they
21 weren't the only piece of the overall

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 solution, and that we needed to search out
2 other things.

3 We engaged with the Corps of
4 Engineers, as you've heard, to evaluate
5 flood-proofing strategies for the town, and
6 after the study was done, we set aside a
7 modest pool of money for grants to
8 kick-start the flood-proofing program.

9 And we've taken a hard look at
10 correcting and removing pinch points in the
11 channel conveyance, such as 90-degree bends,
12 significant reductions in the channel size.
13 If you've been out there, you see it. The
14 channel goes from 50 feet to 15 feet. That
15 might have been excellent for a mill town
16 back in the 1800s, but it doesn't really
17 have a purpose today other than to be
18 detrimental to the community. And other
19 constrictions posed by buildings that
20 straddle the channel.

21 So, but our resources are

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 strained, with the greatest challenges being
2 funds to implement the plan. FEMA has been
3 a lifeline, certainly a lifeline immediately
4 after these events, to restore the
5 infrastructure. But we ask for help in
6 being able to maximize funds from
7 pre-disaster mitigation and flood assistance
8 grant programs. We need help navigating the
9 process.

10 And even with this assistance,
11 these programs may be limited in the
12 contribution they can make. So we are
13 asking what other programs there are that
14 may help us bridge the funding gap that we
15 find ourselves in.

16 We have much work to do to
17 restore this community to a more resilient
18 and sustainable form, and we can't ignore
19 the urgency to get the work done.

20 So, again, thank you for this
21 opportunity, and I look forward to answering

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 any questions you may have.

2 SENATOR CARDIN: Thank you.

3 Councilman Weinstein?

4 STATEMENT OF JON WEINSTEIN

5 HOWARD COUNTY COUNCIL

6 COUNCILMAN WEINSTEIN: Thank you,

7 Senator. Jon Weinstein, Council Member for

8 District 1, representing Historic Ellicott

9 City.

10 Thank you very much, Senator
11 Cardin, Senator Van Hollen, and Congressman
12 Cummings, for being here at this very
13 important hearing to hear representatives
14 from our community and to help us in moving
15 forward.

16 I'd like to start by thanking
17 you, the federal members who have been
18 actively engaged in response to the floods
19 in 2016 and 2018 and our recovery efforts.
20 I'd like to recognize your partnership -- as
21 you all pointed out, it's critical to our

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 success -- and the partnership among the
2 local, state, and federal elected and
3 government officials.

4 As it should be, natural
5 disasters should be a time when those in
6 public service focus on doing what's right.
7 And I know that you all have demonstrated
8 that and I look forward to continuing that
9 with you.

10 County Executive Kittleman and
11 Governor Hogan, Delegate Flanagan, who's
12 behind me as well, my colleagues on the
13 Council, and our representatives, you have
14 come from both major parties, yet
15 partisanship never enters the question. We
16 see partnership over partisanship, and that
17 is going to be how we solve this problem.

18 You've heard from my friend here,
19 Mark DeLuca. We've spent a lot of time
20 together talking through all sorts of
21 scenarios. You've heard from experts from

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 the EPA and from the Army Corps. They all
2 bring pieces of the puzzle -- I'm going off
3 script here. I know you may have my
4 comments from before. And I do have some of
5 the answers that you asked the previous
6 speakers.

7 We've made progress, but things
8 have changed. The frequency and severity of
9 these floods, as Mark said, are not
10 predictable. The National Weather Service
11 informed us just a few weeks ago that they
12 need help. So, on their behalf, they need
13 funding and time to review how they look at
14 storms, no longer looking at them in 24-hour
15 periods but based on severity in short
16 periods of time.

17 So the standards that we use in
18 counties and localities all around the
19 county to determine how we build, how we
20 design stormwater facilities, it needs to be
21 adjusted and it needs to be reflective of

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 our current scientifically-based context of
2 the changing climate.

3 We've talked about funding. That
4 is simply the bottom line. Howard County,
5 we're one of the wealthiest counties in the
6 country and we have lots of resources to
7 bring to bear. But even we cannot bear the
8 full cost of this recovery effort.

9 In Frederick County, there was a
10 partnership between the federal, state, and
11 locals that basically shared a third each of
12 a major project, a project, by the way,
13 which took well over 20 years to execute and
14 cost in the vicinity of \$60 million. We are
15 talking about the same thing here.

16 We have opportunities to do
17 things quicker and better because of the
18 studies that have been done. The H&H study
19 that's been referred to a couple times is
20 regarded a great blueprint, which we have
21 been updating and revisiting since the day

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 after the last flood just a few months ago.
2 And we're hopeful to roll out a plan in the
3 next week or so, if not sooner, that
4 identifies the data-driven recommendations
5 for dramatic improvements to the conveyance
6 of water through the town.

7 So we have looked at that, but
8 funding it comes down. We are in a weird
9 situation. The flood happened three days
10 after we passed our budget, and we can't
11 change our budget. By code and our charter,
12 we can't just change our budget and add a
13 whole bunch more spending to it. We have to
14 get additional sources of revenue, which
15 would be coming from the state and the
16 federal government.

17 We had a great meeting with
18 Secretary Grumbles and other Secretaries
19 just last Friday to talk about all the
20 various programs. But even they have a
21 similar constraint in terms of how the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 dollars identified at the federal level and
2 spent.

3 There are rules that prevent our
4 jurisdiction and jurisdictions around the
5 country from building better replacements
6 than what's been destroyed, which is
7 somewhat illogical but is an outcome that
8 we've seen as a result of other disasters
9 like Hurricane Sandy, where the better
10 solution is the more innovative, more
11 technologically sound, more scientifically
12 based solution that's grounded in today's
13 information, not just going back and putting
14 a pipe back in the ground that's the same
15 size and configuration as was there before.

16 The huge pipe that was swept down
17 and destroyed Ellicott Mills Drive, that
18 intersection, which will take us many, many
19 months to replace, we need to do something
20 more comprehensive there, which we're
21 working on. We have a great plan for

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 replacing that, and the funding -- we'll get
2 some federal funding for that. We're
3 grateful for that. Unfortunately, that --
4 we have to foot the bill up front. We have
5 to pay 100 percent of it and then we'll have
6 to go through a process to get 75 percent of
7 those funds back.

8 So, on the whole, funding
9 remains, between the sufficiency of funds,
10 the ease of access to those funds, and some
11 of the local program rules. I have some
12 solutions which are in my statement which
13 I'd be happy to share with you during the
14 question-and-answer period.

15 As well, just general support. I
16 think the one thing the federal government
17 can do to expedite this is to go more
18 directly. Where you can come in, and
19 there's a lot of scenarios where it goes to
20 the state first, then to the counties, or
21 some of the times the county's first. If

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 you can go direct to the people who need the
2 support, that would be best.

3 So, with that, I'll just conclude
4 with one simple point. The solutions to
5 these issues are possible. They're possible
6 with comprehensive funding and support. Our
7 county engineers and industry partners and
8 experts in our community, in fact across the
9 world, have come forward with recommenda-
10 tions that we are getting ready to put into
11 place. We need the support to do that, and
12 I'm looking forward to working closely with
13 you to make sure it gets done.

14 Thank you very much.

15 SENATOR CARDIN: Thank you very
16 much for your testimony.

17 Ms. Kubofcik?

18 STATEMENT OF GRACE KUBOFCIK
19 PATAPSCO HERITAGE GREENWAY, INC.

20 MS. KUBOFCIK: Senator Cardin,
21 Senator Van Hollen, and Representative

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Cummings, welcome. Welcome to the Patapsco
2 Valley Heritage Area. We, the Patapsco
3 Heritage Greenway, are the managing entity
4 of this 24.6-square mile heritage area, the
5 smallest of Maryland's 13 heritage areas.

6 Our Patapsco Valley is where
7 people lived and worked during the 18th and
8 19th century on the banks of and land close
9 to the Patapsco River. They supplied
10 finished goods, like iron, textiles, paper,
11 and flour, to a growing nation and the
12 world. From 1733, Elkridge Landing linked
13 our valley to the Chesapeake Bay and to the
14 world ports of Europe.

15 In 1772, the Ellicotts, two
16 Quaker brothers, established the
17 flour-milling industrial village of Ellicott
18 City, and since then, Ellicott City has
19 stood as a well-preserved 19th-century mill
20 town.

21 Within our heritage area are the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 mapped boundaries of the communities of
2 Catonsville, Oella, Elkridge, Relay, and
3 Ellicott City. There are 20 historic
4 districts, 500 historic properties, which
5 include 27 historic landmarks. One of those
6 landmarks, the 1830 Ellicott City Baltimore
7 and Ohio Railroad Station, the oldest
8 surviving railroad station in America and
9 the site of the first 13 miles of track ever
10 constructed in America, is a National
11 Historic Landmark.

12 The Patapsco Heritage Greenway
13 rents office space on Old Columbia Pike in
14 Ellicott City on Tonge Row, a group of
15 buildings built by Ann Tonge in 1840s for
16 the residence for mill workers. Many of our
17 partners in this audience, and there are
18 many partners in this audience, could have
19 been sitting at this table presenting
20 testimony to you.

21 The night of July 30th, 2016, we

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 began assisting in flood recovery. We used
2 social media as a hub for information
3 sharing, which continues to this day. We
4 assisted in flood recovery efforts to ensure
5 that all historic buildings were saved from
6 demolition. We contacted and worked with
7 our preservation partners, Preservation
8 Maryland, who initiated structural
9 engineering experts and staff reviews, and
10 we secured building materials for
11 stabilization efforts.

12 Preservation Maryland and the
13 Howard County Department of Planning and
14 Zoning helped property owners navigate tax
15 credits and grants.

16 Our volunteer Stream Watch team
17 members identified two major sewer leaks
18 flowing into the Patapsco River. Our 419
19 volunteers removed over 13,000 pounds of
20 flood debris from Ellicott City tributaries,
21 Oella, the Patapsco Valley State Park, and

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Hammonds Ferry Road in Elkridge.

2 On May 27th, 2018, another major
3 flooding catastrophe struck our valley.
4 Again, we engaged immediately through social
5 media. Stream Watchers were alerted.
6 Contact was made with Preservation Maryland
7 and the Maryland Historical Trust.

8 First cleanup efforts were in the
9 Patapsco Valley State Park. The damage was
10 breathtaking. By July, we had conducted six
11 cleanups with 175 volunteers and removed
12 over three tons of flood debris. Stream
13 leaders were active in Oella, Catonsville,
14 and Ellicott City tributaries. Another
15 sewer leak was discovered and reported.

16 This time using our own financial
17 resources, we gave a total of \$10,000 of
18 flood recovery funds to Friends of Patapsco
19 Valley State Park, the Catonsville Chamber
20 of Commerce, and the Ellicott City
21 Partnership. We have cleanups scheduled

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 through September and October.

2 We as an organization have a very
3 clear vision for Main Street Ellicott City.
4 Our Main Street is a Main Street that is one
5 of a safe, vibrant pedestrian and transit
6 corridor. It is not one of a corridor of a
7 reoccurring tributary created by rain and
8 storm runoff. Our vision is a Main Street
9 lined with historic buildings, filled with
10 retail, arts, and restaurants, and with
11 residents on upper floors. The Tiber and
12 the Hudson and New Cut tributaries flow
13 clear and safely through their natural
14 streambeds and built channels to the
15 Patapsco River. Upstream stormwater is
16 contained and slowly released.

17 We urgently need federal help to
18 realize this vision. Safety is critical.
19 Federal resources are needed to immediately
20 construct stormwater retention facilities
21 and water conveyance channels.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Investment in new technologies is
2 critical.

3 Resources are needed to preserve
4 and restore historic buildings.

5 Resources are needed to encourage
6 the production of flood mitigation products
7 such as waterproof doors and windows and
8 warning systems.

9 Resources are needed to make
10 flood insurance an asset, not a financial
11 burden and liability.

12 And resources are needed to
13 maintain the National Road, which is Main
14 Street, running through Ellicott City as a
15 transportation and pedestrian corridor.

16 And finally -- and Senator
17 Cardin, we know you are deeply involved with
18 this -- federal historic tax credits are not
19 well equipped for small Main Street-type
20 projects. They need to be updated to
21 reflect the needs. The tax credit should be

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 made a transferable credit and should reduce
2 the expansive adjusted gross requirements.
3 Federal credit improvements should be
4 proactive in disaster resiliency funding and
5 planning.

6 And we thank you for the
7 opportunity and for the ask to allow us to
8 testify.

9 SENATOR CARDIN: Thank you for
10 your testimony.

11 Dr. Fleming?

12 STATEMENT OF DR. MATTHEW H. FLEMING

13 ELLICOTT CITY PARTNERSHIP

14 DR. FLEMING: Thank you very
15 much. Senators Cardin and Van Hollen and
16 Congressman Cummings, thank you for the
17 privilege of coming before you to speak
18 about flooding events in Ellicott City,
19 Maryland. My name is Matt Fleming. I'm the
20 President of the Board of Directors of the
21 Ellicott City Partnership, or ECP.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 The ECP is a not-for-profit
2 organization that serves Ellicott City's
3 Historic District, or Old Ellicott City.
4 Balancing the functions of a chamber of
5 commerce and a historic preservation
6 organization, the ECP works to preserve the
7 heritage and vitality of Old Ellicott City
8 while creating and enhancing economic
9 growth. The ECP's constituents comprise
10 businesses, property owners, residents, and
11 visitors to Old Ellicott City.

12 Old Ellicott City is a place of
13 national historic significance. As we've
14 heard, founded in 1772, Ellicott's Mills,
15 later renamed Ellicott City, grew to become
16 one of the largest milling and manufacturing
17 towns on the East Coast. Roots of the
18 Industrial Revolution trace to Ellicott
19 City, which served as the first terminus of
20 commercial railroad in the United States.

21 Old Ellicott City is the seat of

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Howard County, home to some of the nation's
2 very best schools, most educated populous,
3 and highest median income. The gem of the
4 Mid-Atlantic with its celebrated Main
5 Street, Old Ellicott City offers a unique
6 mix of businesses, cultural and historic
7 sites, and green spaces.

8 Old Ellicott City is also a place
9 of economic significance. At full capacity,
10 its nearly 150 businesses provide a diverse
11 mix of retail, dining, and services.

12 Research conducted by the University of
13 Baltimore suggests that Old Ellicott City
14 businesses in 2016 contributed \$197 million
15 in business activity to the county,
16 supported nearly \$80 million in labor and
17 income, and generated some \$14 million in
18 government revenues.

19 Old Ellicott City has
20 historically been prone and largely
21 resilient to overbank riverine flooding.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Recently, however, Old Ellicott City has
2 experienced destructive flash flooding. Two
3 catastrophic flash floods have followed
4 separate 1,000-year weather events, the
5 first on 30 July 2016, and the second on 27
6 May of this year. Both flash floods have
7 resulted in loss of life as well as
8 considerable damage, with property and
9 business owners suffering millions of
10 dollars of losses.

11 Research suggests that the 2016
12 flood reduced business activity by \$67
13 million, labor income by \$27 million, and
14 government revenues by more than \$1 million.
15 And the 2018 flood was more destructive and
16 impactful. Culverts and roadways were
17 destroyed, along with historic buildings.
18 And current statistics suggest that many
19 fewer businesses are likely to return.

20 The ECP has sought to help its
21 constituents following each flood event. In

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 2016, for example, the ECP raised and
2 distributed \$1.8 million in flood relief;
3 worked with county partners to provide
4 returning businesses with various services;
5 developed, promoted, and delivered an array
6 of events to bring visitors to Main Street;
7 and convened constituent meetings to share
8 information and emotional support to
9 affected parties.

10 In 2018, the ECP has stepped up
11 to play a similar role, though fundraising
12 amounts trail those of 2016.

13 In the wake of the 2018 flood, to
14 guide our own post-flood work-plan and also
15 to support the recovery planning of our
16 public-sector partners, the ECP conducted a
17 needs assessment of its constituents.

18 Constituent needs of greatest relevance to
19 federal government partners include the
20 following:

21 Number 1, funding and immediate

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 completion of critical stormwater management
2 projects. This is the most important and
3 pressing need identified by ECP businesses
4 and property owners, particularly the
5 aggressive acceleration of projects to
6 ensure that Old Ellicott City is better
7 prepared for the next flood event;

8 Number 2, federal and state
9 funding to assist the county with purchasing
10 properties repeatedly damaged by flooding;

11 Number 3, assistance with
12 continued development and funding of an
13 effective warning system that communicates
14 with all parties in harm's way;

15 Number 4, assistance developing
16 robust emergency preparedness plans, to
17 include evacuation plans to the level of
18 individual properties;

19 Number 5, subsidies for or other
20 assistance with flood insurance;

21 Number 6, assistance with the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 ongoing development, funding, and delivering
2 of a comprehensive stormwater management
3 approach for the full watershed; and

4 Number 7, grants, not loans, to
5 allow businesses and property owners to
6 rebuild.

7 The ECP has worked closely with
8 its local and state partners in Old Ellicott
9 City's recovery. The ECP recognizes,
10 however, that major infrastructure and
11 related projects will be required to
12 increase the long-term safety and resilience
13 of Old Ellicott City and that these projects
14 will require more resources than local and
15 state partners can reasonably allocate.

16 The ECP appreciates the focus of
17 the Subcommittee and broader Committee on
18 issues of relevance to infrastructure and
19 flooding risks, and requests assistance
20 meeting the needs of its constituents.

21 In closing, and on behalf of my

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 ECP colleagues and constituents, I thank
2 you, Senators Cardin and Van Hollen and
3 Congressman Cummings, for the opportunity to
4 speak here today and for your support of our
5 beloved Old Ellicott City.

6 QUESTION-AND-ANSWER SESSION

7 SENATOR CARDIN: Well, let me
8 thank all four of you for really putting a
9 lot behind this issue, more than just the
10 individual properties. It's about the
11 history, it's about the future, it's about a
12 community. So I very much appreciate your
13 testimonies.

14 Ms. Kubofcik, one of the things
15 you said is absolutely accurate, and that is
16 the historic tax credit issue. If there's
17 an opportunity, probably in the next
18 Congress, we're going to be revisiting the
19 tax credits, and there's bipartisan support
20 for strengthening the historic tax credits.

21 So, what I'm going to do is have

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 my tax person work with the community to see
2 whether we can establish an easier path on
3 allocations on the historic tax credits for
4 those properties that are at risk because of
5 flooding. And it may give us an avenue to
6 be able to preserve some of these historic
7 structures in a safe manner moving forward.

8 So, I thank you for that
9 recommendation because I think that's one we
10 can move forward with, and there's great
11 interest on the historic tax credits. So,
12 thank you for your comments on that.

13 MS. KUBOFCIK: Senator Cardin,
14 one of our partners, which was Maryland
15 Preservation, would love to have the
16 opportunity to work with you on this, as
17 would we. We think it's a tool and we think
18 it's a tool that can be utilized in smaller
19 settings for small businesses, et cetera,
20 and private property owners.

21 So, I'm disappointed to say it's

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 going to be the next session. I did see
2 bipartisan support, and thank you for
3 reaching out to get that bipartisan support.
4 But I think it's a tool that could be
5 applicable throughout the United States but
6 very important for Ellicott City.

7 SENATOR CARDIN: We were able to
8 preserve it in this tax debate, and that
9 wasn't a certainty.

10 MS. KUBOFCIK: I know that, sir.

11 SENATOR CARDIN: And Preserve
12 Maryland seems to be always in my office, so
13 you have a very active partner.

14 Mr. DeLuca, you raised something
15 which -- I should have thought this out.
16 But we always remember the Patapsco rising
17 and causing flooding in Ellicott City. I'm
18 reminded that, when I was young, I'd come
19 out here to see the floods when the Patapsco
20 rose up. But now, recently, these are
21 tributary floods, as you pointed out, which

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 is runoff problems.

2 So, it's a different circumstance
3 when one thinks of the historic
4 vulnerability of Ellicott City to flooding.
5 It just points out one more time the need
6 for structural considerations here, that we
7 are dealing with a watershed problem, not so
8 much the general flood vulnerability that
9 Ellicott City experienced in the past. Is
10 that fairly accurate?

11 MR. DeLUCA: I would agree with
12 that. I think that my memory is relatively
13 short, but my memory is of Agnes, and even
14 after that, our concern was always the
15 Patapsco rising because there's no way for
16 Liberty Dam up the road to actually release
17 water. It has to crest.

18 So we're always constantly
19 monitoring the upstream flow to see if we
20 will get water or where that peak water is
21 going to be, when it will hit Ellicott City,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 and to kind of guess how high up Main Street
2 it'll go.

3 These are different. The
4 tributary flooding is different. It's
5 caused more from I'd say a changing weather
6 pattern that's dumping much more water right
7 over this watershed. Like I said, it's a
8 very small watershed. We wouldn't -- it's a
9 sub-watershed. It's a part of a much larger
10 watershed. But it's -- these three
11 tributaries all drain to the same place.
12 And so we've had some complicated storms
13 that have come through.

14 And I mentioned that there were
15 three storms that came through: 2011, '16,
16 and '18. But 2011 was Tropical Storm Lee,
17 and that had a very unique rain pattern.
18 It's like a train of storms that just -- the
19 storms follow one another over the same
20 area, but they're constantly moving.

21 These back-building storms, the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 way they've been explained, and I'm probably
2 oversimplifying, but they -- it's like they
3 hit a wall. Like a thunderstorm is
4 moving -- a line of thunderstorms are going
5 through the region, but in a back-building
6 storm, it's almost like it stalls and it
7 starts to build up behind itself again so
8 that it -- so all the energy is going behind
9 it and we get this intense rainstorm over a
10 very, very small area.

11 SENATOR CARDIN: Thank you.

12 COUNCILMAN WEINSTEIN: If I can
13 add something as well because this is
14 something that Colonel Litz brought up. We
15 have areas within the watershed that were
16 developed 50, 60 years ago and without any
17 modern or even any stormwater management.
18 The Army Corps has offered to do maybe
19 another study. They require your support to
20 do that.

21 We've done a lot of studies in

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 terms of major projects that we can
2 undertake. We've got a great inventory of
3 projects we're working through now. But we
4 can use some help in looking at a
5 comprehensive strategic look at existing
6 neighborhoods where there is little or no
7 stormwater management or how can we
8 effectively manage the storms. Because, in
9 addition, they're at the higher elevations
10 in the watershed as well. They're sort at
11 the headwaters. And Mr. DeLuca and I had a
12 meeting with constituents in that area just
13 a few weeks ago trying to talk through that
14 particular issue with them.

15 SENATOR CARDIN: And you had some
16 legislation, or I believe you do, that
17 basically says let's back up a little bit on
18 what we do to make sure we're not doing more
19 harm.

20 COUNCILMAN WEINSTEIN: Sure.
21 Right.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 SENATOR CARDIN: If you'd just
2 explain that briefly?

3 COUNCILMAN WEINSTEIN: Sure,
4 yeah. We passed just at the end of last
5 month a moratorium on any construction in
6 both the Tiber Watershed and the Plumtree
7 Watershed. So, again, it's part of the
8 bigger watershed, but two areas which have
9 expressly experienced devastating flooding
10 that has either caused loss of life or
11 threatened loss of life particularly in
12 those two areas.

13 So that's a 12-month moratorium,
14 and for the most part, there's no
15 construction unless you're rebuilding from
16 the damage of a flood or some other
17 disaster.

18 SENATOR CARDIN: Dr. Fleming, you
19 mentioned about the private conveyance
20 properties that no longer are going to be
21 utilized. And that's one of the reasons why

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 I think we need more information. Because
2 when you're looking at some of these more
3 expensive options on structural changes, it
4 appears to me that there's a willingness
5 from the local community and from the county
6 government to look at those options, but do
7 you really have enough information to make
8 this cost-effective and provide a more
9 permanent watershed solution?

10 DR. FLEMING: Yeah, so I
11 certainly would like to start out by saying
12 that I'm not a hydrologist. That is not my
13 field of expertise. So what I've been
14 trying to do is convey what we've heard from
15 our constituents. And I think that there is
16 a sense that we may need to recognize that
17 some significant changes may be required to
18 deal with, as we've heard earlier today.

19 We need to maintain the historic
20 nature of this town. That's what draws all
21 of us to it. It's what makes it such an

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 amazing place. But there may need to be
2 radical changes. I, nor the ECP, we are not
3 qualified to say "We should do X or not Y,"
4 but we're hearing from our constituents that
5 it's time to face facts that we may need to
6 take drastic measures.

7 SENATOR CARDIN: Senator Van
8 Hollen?

9 SENATOR VAN HOLLEN: Thank you,
10 Senator Cardin.

11 Thank all of you for your
12 testimony and your commitment to making sure
13 Ellicott City has as bright a future as it
14 has had a past and look forward to working
15 with you.

16 I'm trying to get my arms around
17 what we know based on the studies that have
18 been done and then, obviously, we've got to
19 all figure out how to pay for it, right?
20 And I do believe, as my colleagues do, that
21 the federal government needs to play a very

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 important role in that.

2 But as I understand the
3 testimony -- this is why I asked Colonel
4 Litz if he'd reviewed it -- the most recent
5 sort of assessment was the Hydrology and
6 Hydraulic Study that we've been talking
7 about, which referenced, I believe, 18
8 projects. Is that what you said? I'm sort
9 of asking those who are most closely
10 following this. Eighteen projects?

11 MR. DeLUCA: That's correct.

12 SENATOR VAN HOLLEN: Okay. And
13 the price tag for that is \$80 million; is
14 that right?

15 MR. DeLUCA: Yes, approximately
16 \$80 million.

17 SENATOR VAN HOLLEN: Okay. And
18 is that what we're estimating the overall
19 cost of the long-term infrastructure
20 improvements to be at this time? Is that
21 sort of a global figure? Or are there

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 additional costs that -- other sort of
2 initiatives that you're looking at?

3 MR. DeLUCA: There are other
4 initiatives that are very specific that
5 we've added onto the original H&H study.
6 We're constantly updating the study and
7 providing additional modeling. And we do
8 have other projects that we think will help
9 reduce or mitigate flooding in specific
10 areas more effectively, especially in the
11 lower part of Main Street or what I would
12 call the mid part of Main Street as well.

13 And we could share those. We
14 could -- right now, that's supplemental
15 information. It's not part of the 2016. It
16 is available and we can make sure that
17 they're included when -- if the Corps would
18 like to review those as well.

19 But, yes, I'd say that as far as
20 the dollar amount, \$80 million is the
21 all-around number that we've been using.

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 SENATOR VAN HOLLEN: Okay. And
2 as part of sort of piecing together the
3 financing of that, I know you've moved
4 forward at least on four projects, right, in
5 the design and engineering stage; is that
6 right?

7 MR. DeLUCA: That's correct.

8 SENATOR VAN HOLLEN: Okay. And
9 for those, are those budgeted already within
10 the Howard County Government budget?

11 MR. DeLUCA: The design --

12 SENATOR VAN HOLLEN: The design.

13 MR. DeLUCA: -- or evaluation is
14 budgeted. Two of the projects, construction
15 dollars are available and, two of the
16 projects, not yet.

17 SENATOR VAN HOLLEN: Okay. So I
18 just -- we obviously should all keep in
19 regular communication and put forward what
20 we think is a realistic financing plan,
21 figure out how much the county can

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 reasonably invest, what the state's role
2 is -- obviously, the state's been very
3 engaged -- and then the federal role.

4 So, I think there is -- as I see
5 it from the federal perspective, there are
6 two big pieces of this. One is, what is the
7 federal role in the planning and financing
8 of the major infrastructure changes?

9 And then, secondly, as Senator
10 Cardin and Congressman Cummings have been
11 talking about, making sure federal agencies
12 are responsive to trying to meet the
13 immediate needs of a lot of the business
14 owners and, to the extent relevant, also
15 homeowners in terms of the SBA, in terms of
16 the -- I know there are a number of SBA
17 grants that are pending since the most
18 recent flood. I don't know if any of you
19 can give us an update on the status because
20 we want to make sure that we're -- and I
21 have been trying to constantly push SBA to

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 make sure that they do everything they can
2 do as quickly as possible.

3 MR. DeLUCA: So, I think that a
4 better accounting -- we can provide a better
5 accounting to make sure that everything --
6 that we're covering everything -- every line
7 item.

8 Right now I think one of the
9 issues that we're having is we just had this
10 event. It was at the end of a budget and
11 we're in the position of having to
12 forward-fund even the FEMA reimbursable
13 projects. And so we're putting out 100
14 percent of the cost of the restoration
15 projects and then we have to wait for the
16 FEMA reimbursement, and that time lag puts a
17 financial strain on the county as well.

18 So there are a lot of things at
19 play, and there are creative ways that we
20 have to put money and cobble funds together
21 in order to get the contractors to do the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 restoration work.

2 And I just bring this -- I just
3 point this out as one example of many
4 budgetary line items that we're having to
5 deal with right now that are straining the
6 resources of the county.

7 SENATOR VAN HOLLEN: I appreciate
8 that. I mean the FEMA commitment to date
9 has been -- it's been over a million
10 dollars, but you're saying that funding has
11 been committed but not -- the monies have
12 not yet been provided; is that right?

13 MR. DeLUCA: Right. Correct.

14 COUNCILMAN WEINSTEIN: For the
15 most recent flood, and there are still
16 outstanding reimbursement funds from the
17 2016 flood. And so I've talked with
18 jurisdictions in Colorado that have gone
19 through that, and it's years and years
20 before they get the final -- I understand
21 there are pieces to that puzzle, but it's

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 important that it comes as quickly as
2 possible, if not -- half up front would be
3 nice.

4 SENATOR VAN HOLLEN: Yep, I hear
5 you. Okay. Thank you, thank you.

6 SENATOR CARDIN: Congressman
7 Cummings?

8 CONGRESSMAN CUMMINGS: Just
9 trying to figure something out here. Mr.
10 Weinstein, you said that there are
11 solutions -- we would be better off with the
12 more modernized solutions as opposed to
13 doing things the same old way.

14 COUNCILMAN WEINSTEIN: Right.

15 CONGRESSMAN CUMMINGS: How does
16 that play into all of this? I'm just
17 curious. I assume that those solutions are
18 more expensive most of the time.

19 COUNCILMAN WEINSTEIN: Yeah. On
20 the whole, I would imagine they are, but
21 speaking more globally, there are probably

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 places where a new solution is a cheaper
2 solution, right, as well.

3 We were talking about one where
4 the original -- the design for the project
5 was a pipe, but as we look at other projects
6 that we would add to the inventory of
7 projects we'd execute, a less-expensive
8 bridge might be better. But again, we have
9 to make the decision if, in going that
10 route, do we then lose the federal funding
11 that would pay for some or all of that
12 project?

13 So if that comes out of the
14 equation and all we're dealing with is what
15 funding can be given to us to do the best
16 thing for this specific geography and
17 geology -- I mean Mark has explained; we've
18 got weird storms going on in Ellicott City,
19 and we can talk about all sorts of thunder,
20 lightning, snowstorms that we've had as
21 well. It's dumped a bunch of snow on us,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 nowhere else in the county.

2 But that's a key thing. And I
3 even think about it in terms of the
4 Superfund Program, right? We have an area
5 that is extremely sensitive to flooding that
6 we can address if there was a commitment of
7 a specific amount of dollars that we knew
8 was coming and we can work with, then to
9 leverage that money to borrow some money, to
10 work with the private industry to create the
11 P3 projects which the federal government is
12 encouraging in some ways.

13 So there are ways to do it, but I
14 think we need to start thinking about
15 different ways. We have different weather
16 patterns. We have different ways to address
17 those things. We now have to find different
18 ways to fund them as well.

19 CONGRESSMAN CUMMINGS: Mr.
20 DeLuca, Barbara Mikulski said something to
21 me when I first came to Congress, and I'll

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 never forget it. She said, "When
2 constituents come to you, make sure you do
3 not promise results but promise best
4 efforts, that you'll give it your best."

5 And I don't want people going out
6 of here with -- I want them to have a real
7 sense of -- and I think both Congressmen --
8 I mean Senator Cardin and Senator Van Hollen
9 have said this.

10 I guess I'm trying to figure out
11 what do you -- what do we say to the people
12 who are in this audience who are really
13 trying to make some tough decisions? I mean
14 tough decisions. These are destiny-type
15 decisions. And we know what we have here.
16 We have a delegation, right, fighting hard.
17 Everybody's fighting hard. And what are you
18 all saying to them, Mr. DeLuca? I'm just
19 curious.

20 MR. DeLUCA: Well --

21 CONGRESSMAN CUMMINGS: I'm sure

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 you get that question often.

2 MR. DeLUCA: Yes.

3 CONGRESSMAN CUMMINGS: In other
4 words, what I --

5 MR. DeLUCA: Maybe not often
6 enough.

7 CONGRESSMAN CUMMINGS: Okay. I'm
8 just curious. And I'm not trying to put you
9 on the spot. I'm trying to get -- be
10 practical here because these folks are
11 making decisions that, like I said, are
12 destiny-altering. But go ahead.

13 MR. DeLUCA: Well, like I said in
14 the testimony here, that even with these 18
15 projects, when we looked at what difference
16 the water elevations were, it was modest.
17 And so, in a model, if you're getting in
18 some areas it looks like it's dry, but in
19 other areas we didn't get the same kind of
20 results.

21 So when you're looking in the

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 residential community and it looks like it's
2 a six-inch drop in water elevation, anyone
3 that's worked in modeling might say, "Well,
4 that really didn't move the needle enough."
5 So, six inches, if that's put out, well, you
6 get a reduction of six inches. That's below
7 my basement window; my place doesn't flood
8 anymore.

9 But that's not necessarily true
10 because the model is only as good as the
11 information that's put in, and it's just a
12 tool, right? So we're looking for major
13 drops in water.

14 And so there are some areas --
15 and I also said that there was less of an
16 impact on the lower part of Main Street and
17 the lower part of Tiber, and that's always
18 been the case. To bring that eight feet of
19 water down, really, you have to do very
20 dramatic retention, and there just aren't
21 those opportunities in the watershed to make

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 these gigantic levies or dams. I mean
2 you're only going to be able to hold back so
3 much.

4 So, in the upper watershed, you
5 have some areas; if we were to do these
6 projects, some areas would dry up a little.
7 Maybe we could get four feet of water down
8 to two feet of water. But a car could still
9 move in two feet of water, but it would be
10 much less damaging.

11 And then, on lower Main Street,
12 if we implemented some of the plans that we
13 kind of put forth, maybe we could go from
14 eight feet down to four feet, and four
15 feet's a lot more manageable with
16 flood-proofing and some of the other
17 techniques that have to go hand-in-hand with
18 these structural solutions to -- and also
19 the warning system. It goes a much longer
20 way.

21 So we're not saying we can --

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 there's no silver bullet and we're not
2 promising that. I know that everyone would
3 love to see that. I would love to see it
4 too. But the models haven't indicated that
5 we're going -- that a 100-year storm or a
6 1,000-year storm or -- I tend not to talk
7 about the 1,000-year storm or the 100-year
8 storm. I like to talk about how many inches
9 per hour that we're getting.

10 But if we get three inches per
11 hour or six inches in over two hours, that
12 we'd be able to reduce the water levels
13 where we didn't have eight feet of water
14 going down Main Street. Maybe we only have
15 half that amount. And that's much easier
16 to, like I said, flood-proof, much easier to
17 control that.

18 I think that some of the other
19 areas we need to look into, as was mentioned
20 here, is the advanced warning system. We
21 are working with Department of Homeland

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 Security on a grant where they've done their
2 proof of concept with some contractors. We
3 have some systems that we're deploying now,
4 33 sensors throughout the watershed, so that
5 we can better map out exactly what happens
6 in the watershed and what kind of alert
7 system we could actually put together.

8 We've also talked about plans --
9 I know our emergency operations people have
10 talked about plans of how to evacuate.

11 So it's all these things all
12 together. It's not going to just be these
13 structural solutions. Eighty million
14 dollars could drop out of the sky and we
15 would still have a threat of flooding in
16 Ellicott City.

17 CONGRESSMAN CUMMINGS: Thank you
18 very much. I see my time is up.

19 CLOSING REMARKS

20 SENATOR CARDIN: Well, I think my
21 colleagues have raised very interesting

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 questions, and your answers have been very,
2 very helpful.

3 The bottom line, of course: Each
4 person must make their own decision. And
5 some know that they can't risk their
6 families to live in the area and they had to
7 move. It's happened. Certain businesses
8 don't have the resources and the risk
9 factors are just too great, and they can't
10 rebuild.

11 Some people saw their life flash
12 in front of them during this most recent
13 storm when they were rescued, didn't know if
14 they were going to be rescued or not, didn't
15 know whether they would survive the storm.
16 So that's an experience that is
17 life-changing. And so you each --
18 understand each person's going to have to
19 make their own judgment as to their future.

20 What we're committed to, and I
21 think Congressman Cummings said it best,

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 we're going to do everything humanly
2 possible to preserve Ellicott City. It is a
3 treasure. It's a treasure for our country,
4 this Main Street historic community. And
5 the character of it is determined by the
6 people that live and work there. These
7 aren't chain stores. These are people from
8 our community. And we're going to do
9 everything we possibly can to preserve that.

10 And yes, the easier decisions to
11 implement are the ones that deal with the
12 waterproofing of your homes. And your 18
13 proposals, which are major changes, as you
14 point out, won't protect against something
15 that happened in May because it's not just
16 the water level, it's the flow, which is
17 something that we're not used to. As I
18 said, historically, we saw the water flow --
19 the rise of water and that was the risk
20 factor, but now it's the flow of the water
21 and the strength of that flow, what it does

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 to buildings, what it does to cars, what it
2 does to people.

3 So that's what we need to
4 understand, and that's why I come back, as I
5 see it, in looking at the watershed. I,
6 quite frankly, think we don't have enough
7 information yet. I think we do need to get
8 a further understanding of the watershed
9 because it's beyond just -- I appreciate
10 it's a small watershed, but it still
11 requires us to have a better understanding
12 how to divert and how to widen and how to
13 impact flow so that the risk factors are
14 better understood and can be mitigated.

15 And I can tell you, as both
16 Senator Van Hollen and Congressman Cummings
17 have said, we're going to do everything we
18 can to get that information to implement as
19 many of these policies as we can and to do
20 as much transparency as possible.

21 One of the things I really

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 appreciate about the leadership in this
2 county is that it's been a very transparent
3 process. We share the information with you.
4 We try to be as open as possible and as
5 realistic as possible so that you can make
6 your own decisions, but more importantly, we
7 can get the community to come together on a
8 plan. And we're committed to making sure
9 that continues.

10 The federal partnership is part
11 of it. It's a lot more than that, as you
12 know: The local efforts, the state efforts,
13 the private-sector efforts. But we do
14 believe the federal government has a very
15 important role to play.

16 So we will take back the
17 information that we've gotten from this
18 hearing to see whether we can strengthen the
19 federal government's partnership to preserve
20 the future of this historic community.

21 The record will remain open for

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 two weeks, till September the 3rd, for
2 additional comments that may be submitted or
3 additional information that we may request.

4 But I thank everyone, our
5 panelists, and I thank the people that are
6 in this room. And as we said earlier, we
7 admire greatly your courage and we thank you
8 for what you've been able to do to preserve
9 Historic Ellicott City.

10 Thank you all very much. The
11 meeting stands adjourned.

12 (Applause.)

13 (Proceedings concluded 3:02 p.m.)

14

15

16

17

18

19

20

21

COURT REPORTERS, ETCetera
ash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

1 CERTIFICATE OF TRANSCRIPTIONIST

2 I, BRENDA STALEY, do hereby
3 certify that the proceedings were recorded
4 electronically at the time and place
5 mentioned on the cover sheet thereof, and,
6 thereafter, transcribed by me; that said
7 hearing is a true record of the statements
8 made; that I am neither counsel for, related
9 to, nor employed by any of the parties to
10 this proceeding;

11 And further, that I am not
12 financially or otherwise interested in the
13 outcome of this matter.

14 As Witness by my hand and
15 signature as indicated below.

16
17 

18
19 -----
20 BRENDA STALEY

21
COURT REPORTERS, ETCetera
Wash., D.C.: (202) 628-DEPO * Maryland: (410) 653-1115
ANYWHERE in the USA: 1-800-947-DEPO

	104:15;107:10	advanced (1) 127:20	allows (1) 44:14	52:15;53:7
§	acknowledge (4) 17:11;34:4;35:12; 76:20	affect (1) 60:21	almost (2) 38:14;109:6	Appropriations (3) 16:21;25:1;71:7
\$1 (2) 40:11;100:14	acres (1) 37:17	affected (1) 101:9	alone (1) 48:14	approximately (4) 35:9;38:16;80:8; 114:15
\$1.8 (1) 101:2	across (2) 42:12;90:8	afford (1) 30:18	along (3) 31:8;52:13;100:17	area (16) 26:20;45:11;51:6, 18:64;17:65;13; 67:10;72:21;91:2,4, 21;108:20;109:10; 110:12;122:4;129:6
\$10,000 (1) 94:17	act (7) 28:11;30:1;31:16; 36:19;39:1;44:14; 54:8	affordable (1) 25:5	alternative (1) 56:19	areas (14) 37:10;40:19;62:18; 91:5;109:15;111:8, 12;115:10;124:18,19; 125:14;126:5,6; 127:19
\$100,000 (1) 54:18	action (2) 43:19;45:21	afternoon (1) 24:3	always (7) 17:4;28:17;106:12, 16;107:14,18;125:17	arms (1) 113:16
\$13.8 (1) 40:15	active (3) 76:2;94:13;106:13	Again (16) 15:3;19:20;27:7; 29:1;31:9;33:18; 60:16;67:3;74:17; 78:21;79:1;82:20; 94:4;109:7;111:7; 121:8	amazing (2) 20:21;113:1	Army (16) 11:13;15:10;33:2, 10,20;34:2;43:2,6,10; 47:20;50:6;56:12,14; 57:16;85:1;109:18
\$14 (1) 99:17	actively (1) 83:18	against (3) 71:7;72:15;130:14	America (4) 21:14;28:19;92:8, 10	around (5) 64:20;72:2;85:18; 88:4;113:16
\$145 (1) 38:13	activities (3) 37:20;45:3;46:3	agencies (7) 11:12;25:14;36:16; 39:16,16;56:11; 117:11	Among (2) 37:19;84:1	array (1) 101:5
\$15 (2) 52:20;53:3	activity (2) 99:15;100:12	Agency (10) 11:13;15:9;32:11, 14;34:19;35:19; 55:11,17;56:7;67:16	amount (7) 40:19;65:11;67:19, 20;115:20;122:7; 127:15	arts (1) 95:10
\$150,000 (1) 45:8	actually (2) 107:16;128:7	aggressive (3) 37:6;48:18;102:5	amounts (3) 27:4;72:10;101:12	aside (1) 81:6
\$197 (1) 99:14	adaptation (1) 16:3	Agnes (1) 107:13	analysis (2) 46:2;60:19	aspects (1) 54:12
\$27 (1) 100:13	add (3) 87:12;109:13;121:6	ago (6) 19:5;33:4;85:11; 87:1;109:16;110:13	Ann (1) 92:15	assess (2) 15:5;45:1
\$37.4 (1) 38:16	added (1) 115:5	agree (1) 107:11	anymore (1) 125:8	assessment (4) 52:5;55:1;101:17; 114:5
\$50,000 (1) 54:19	addition (5) 41:14;44:10;55:6; 80:3;110:9	agreeing (1) 48:11	apologize (1) 8:18	assessments (3) 38:2;45:18;55:2
\$60 (1) 86:14	additional (6) 73:19;87:14;115:1, 7;133:2,3	agreement (3) 44:20;61:11,19	appear (2) 36:1;77:7	asset (1) 96:10
\$67 (1) 100:12	address (7) 37:15;39:17;68:14, 20;70:3;122:6,16	ahead (4) 64:11;65:4,5; 124:12	appears (2) 53:16;112:4	assist (2) 50:6;102:9
\$700,000 (1) 40:10	addressing (2) 37:4;41:14	aid (1) 28:20	applaud (1) 14:12	assistance (12) 24:14;25:2,14; 41:16;44:6;82:7,10; 102:11,15,20,21; 103:19
\$8.4 (1) 40:13	Adelphi (1) 32:18	alert (1) 128:6	Applause (5) 6:12;9:6;31:12; 69:4;133:12	Assistant (1) 76:6
\$80 (5) 80:9;99:16;114:13, 16;115:20	adequate (2) 29:6,8	alerted (1) 94:5	applicable (1) 106:5	assisted (1) 93:4
A	adjacent (1) 45:17	Allan (2) 9:9;25:8	application (1) 15:7	assisting (2) 36:3;93:1
ability (1) 20:21	adjoined (1) 133:11	all-around (1) 115:21	apply (2) 55:14,19	assists (1) 38:5
able (12) 11:21;14:3;48:13; 49:5;50:15;69:14; 82:6;105:6;106:7; 126:2;127:12;133:8	adjusted (2) 85:21;97:2	allocate (1) 103:15	applying (1) 46:15	assume (1) 120:17
absolute (1) 66:10	Administration (3) 15:2;34:9;76:5	allocations (1) 105:3	approach (6) 17:5;65:4;104:12; 119:7;131:9;132:1	assure (1)
absolutely (1) 104:15	administration's (1) 38:19	allow (3) 17:15;97:7;103:5	approaches (1) 36:20	
accelerating (1) 38:20	Administrator (1) 32:10	allowing (3) 11:1;16:1;47:9	appropriation (2)	
acceleration (1) 102:5	admire (1) 133:7			
access (1) 89:10	adopted (1) 30:10			
accounting (2) 118:4,5	adult (1) 66:14			
accurate (2)				

67:2 audience (5) 22:4;28:15;92:17, 18;123:12 August (2) 24:2;80:10 auspices (1) 18:9 authority (6) 44:4,19;53:17;54:1, 7;71:3 authority's (1) 52:21 authorization (4) 52:15;53:6,8,12 authorizations (1) 53:1 authorized (3) 30:17;44:13;52:18 available (6) 29:6,14;33:20; 50:17;115:16;116:15 avenue (1) 105:5 await (1) 60:9 awarded (1) 40:13 aware (1) 65:15 away (3) 14:1;27:21;68:3 awful (2) 7:21;19:5	6:5 Barbara (1) 122:20 Barrasso (1) 10:18 based (4) 80:11;85:15;88:12; 113:17 basement (1) 125:7 Basic (1) 79:19 basically (2) 86:11;110:17 basis (3) 68:12,16,18 Bay (7) 34:21;37:8;40:5; 41:2;54:18,20;91:13 be-all (1) 80:20 bear (2) 86:7,7 beat (1) 60:16 beautiful (1) 26:13 became (1) 33:9 become (2) 31:2;98:15 becomes (2) 31:4,5 bedrock (1) 78:1 began (2) 79:18;93:1 begin (1) 24:8 beginning (1) 9:18 behalf (2) 85:12;103:21 behind (5) 65:19;84:12;104:9; 109:7,8 beloved (1) 104:5 below (1) 125:6 Ben (2) 34:16;35:2 bends (1) 81:11 benefit (2) 11:19;31:15 benefit-cost (1) 70:13 benefits (3) 40:2;41:9;42:3 benefit-to-cost (1) 53:10 best (16)	25:21;29:5;47:16; 55:20;56:3;57:8;67:2; 69:14;72:14;73:17; 90:2;99:2;121:15; 123:3,4;129:21 better (19) 7:15,17;12:1;16:8; 49:5;56:4;57:21; 64:21;86:17;88:5,9; 102:6;118:4,4; 120:11;121:8;128:5; 131:11,14 beyond (2) 39:20;131:9 biased (1) 21:21 big (3) 26:9;51:19;117:6 bigger (1) 111:8 bill (6) 29:21;30:5,10;32:1, 4;89:4 billionaires (1) 30:21 bipartisan (6) 34:2;48:19;49:2; 104:19;106:2,3 bit (6) 14:11;23:16;64:18; 77:10;78:16;110:17 blockages (1) 43:18 blueprint (2) 72:20;86:20 Board (2) 75:20;97:20 bold (1) 74:7 born (1) 22:9 borne (1) 58:5 borrow (1) 122:9 both (14) 14:4;22:16;24:21; 48:10;50:7,19;57:13; 63:20;74:16;84:14; 100:6;111:6;123:7; 131:15 bottom (2) 86:4;129:3 bounce (1) 47:10 boundaries (1) 92:1 brakes (1) 20:3 Branch (1) 80:16 Branches (1) 77:19	brand-new (1) 64:16 breathtaking (1) 94:10 bridge (2) 82:14;121:8 brief (1) 18:21 briefly (2) 6:4;111:2 bright (1) 113:13 bring (7) 31:20;67:10;85:2; 86:7;101:6;119:2; 125:18 bringing (1) 18:4 brings (1) 21:19 broadcast (1) 12:19 broader (2) 74:2;103:17 brothers (1) 91:16 brought (2) 59:14;109:14 budget (5) 87:10,11,12; 116:10;118:10 budgetary (1) 119:4 budgeted (2) 116:9,14 budgets (1) 33:20 build (5) 29:8,16;36:17; 85:19;109:7 building (3) 42:10;88:5;93:10 buildings (10) 13:4;45:13;46:14; 81:19;92:15;93:5; 95:9;96:4;100:17; 131:1 built (2) 92:15;95:14 bullet (1) 127:1 bunch (2) 87:13;121:21 burden (1) 96:11 Bureau (1) 75:5 Business (11) 15:2;19:7;21:18; 24:14;34:8,12;64:5; 99:15;100:9,12; 117:13 businesses (12)	41:17;57:20;98:10; 99:6,10,14;100:19; 101:4;102:3;103:5; 105:19;129:7 busy (4) 13:13;75:8,14;76:8 bypassed (1) 67:18
C				
call (4) 10:10;17:1;32:8; 115:12 came (5) 15:1;23:16;58:17; 108:15;122:21 can (88) 7:16;8:4;11:6;12:1; 15:11,18;16:7,11; 20:12,12;25:21; 27:20;28:20;30:18; 36:10;39:5;41:1; 42:13;46:5,10;47:12; 49:7;50:5,6,19;55:4, 14,14;56:1,2,7,17; 57:8;59:11;61:8;63:9, 10,14;65:19;67:1,10; 68:15;69:1;70:19; 71:16;72:1,8,9,13,14, 16,17;73:17;74:1,1,2, 14;82:12;89:17,18; 90:1;103:15;105:2, 10,18;109:12;110:1,4, 7;115:16;116:21; 117:19;118:1,4; 121:15,19;122:6,8; 126:21;128:5;130:9; 131:14,15,18,19; 132:5,7,18 capabilities (1) 44:9 capacity (2) 49:14;99:9 captain (2) 9:14;14:13 capture (1) 40:3 car (2) 23:20;126:8 Cardin (72) 6:8,20;8:17;9:2,4,7; 10:9;17:21;18:4,10; 19:1,11,21;20:19; 21:6,9;22:6;23:7,15; 24:9,12;25:19;26:5; 28:13;29:12;30:6; 31:7,13;32:7;35:20; 42:7,18;43:4;48:3,9; 52:4,12;53:15,20; 54:3,9;56:21;57:12; 61:5,17;63:17;71:12; 72:4;75:3;77:6;83:2,				

<p>11:90:15,20;96:17; 97:9,15;104:2,7; 105:13;106:7,11; 109:11;110:15;111:1, 18;113:7,10;117:10; 120:6;123:8;128:20 career (2) 32:15;76:3 Carper (1) 10:20 carried (1) 14:1 cars (2) 13:4;131:1 case (7) 19:14,14;36:13; 57:21;62:6;69:14; 125:18 cases (1) 58:5 catastrophe (1) 94:3 catastrophes (1) 28:16 catastrophic (3) 23:12;27:9;100:3 category (1) 53:5 Catonsville (3) 92:2;94:13,19 cause (1) 65:8 caused (6) 27:12;78:8,9,18; 108:5;111:10 causes (3) 15:18;36:9;65:17 causing (1) 106:17 Cecil (2) 32:9;35:18 celebrated (1) 99:4 Center (4) 39:8,13;56:1,2 century (1) 91:8 ceremony (1) 33:3 certain (4) 12:9;47:7,14;129:7 certainly (5) 19:14;23:3;71:19; 82:3;112:11 certainty (1) 106:9 cetera (1) 105:19 chain (1) 130:7 Chair (1) 10:14 Chairman (2)</p>	<p>10:18;48:21 challenges (3) 26:21;48:15;82:1 challenging (2) 47:13;49:20 Chamber (2) 94:19;98:4 Chamberlayne (1) 33:5 champion (1) 16:17 chance (6) 12:18;43:14;61:3, 21;62:14;64:19 change (10) 16:2;20:1,4;28:2,3, 12;33:3;49:17;87:11, 12 changed (1) 85:8 changes (12) 16:4;49:13;50:2; 58:14;60:20;68:6,7; 112:3,17;113:2; 117:8;130:13 changing (4) 73:8,11;86:2;108:5 channel (4) 81:11,12,14,20 channels (3) 79:21;95:14,21 character (1) 130:5 characterized (1) 77:21 charge (1) 44:17 charter (1) 87:11 cheaper (2) 41:7;121:1 Chesapeake (7) 34:21;37:8;40:5; 41:2;54:18,20;91:13 Chester (1) 41:13 Chief (1) 75:5 circle (1) 79:10 circles (1) 79:10 circumstance (1) 107:2 cities (2) 40:21;67:14 citizens (2) 20:11;21:1 City (97) 8:7,11;9:14,20,21; 12:5,20;13:8,14;16:9, 14;17:13;18:1;20:18; 21:4,11,13,20;22:12;</p>	<p>23:13;25:15;26:12, 13;27:21;28:7;29:2, 13;31:1,11;36:5,13; 37:14;40:6;41:3; 42:15;43:9,13,20; 48:2;51:18;52:2; 55:13,18;56:6,18; 57:9;60:17;62:17; 64:20;65:1;75:13; 76:1,11,14,16;78:7, 16;79:2;83:9;91:18, 18;92:3,6,14;93:20; 94:14,20;95:3;96:14; 97:13,18,21;98:3,7, 11,12,15,19,21;99:5, 8,13,19;100:1;102:6; 103:13;104:5;106:6, 17;107:4,9,21; 113:13;121:18; 128:16;130:2;133:9 city's (4) 27:5;45:5;98:2; 103:9 Clean (4) 36:18,21;38:7; 41:11 cleanup (2) 25:3;94:8 cleanups (2) 94:11,21 clear (3) 43:17;95:3,13 clearinghouse (1) 39:14 clearly (1) 14:2 climate (8) 16:2,5;19:21;20:4; 28:2,3,11;86:2 close (3) 29:11;51:19;91:8 closely (5) 7:11;29:20;90:12; 103:7;114:9 closer (1) 71:14 closing (2) 103:21;128:19 closures (1) 46:16 Coast (3) 22:17;67:16;98:17 cobble (1) 118:20 code (1) 87:11 collaborative (1) 51:15 colleague (4) 21:8;23:1;24:20; 59:8 colleagues (7) 72:7;73:1,21;84:12;</p>	<p>104:1;113:20;128:21 Colonel (29) 32:21;33:5,8,9; 35:5;42:20;43:1,3,9; 50:21;52:8,14;53:19; 54:2,5;57:14;58:2,7, 16;62:3;63:13;64:8, 12;65:6;66:7;69:18; 73:16;109:14;114:3 Colorado (1) 119:18 Columbia (2) 75:13;92:13 combination (1) 68:5 coming (5) 14:20;43:21;87:15; 97:17;122:8 Command (3) 33:3;64:14;69:21 Commander (3) 33:1,10;43:10 commands (1) 33:12 commence (1) 71:8 comments (5) 59:12;62:21;85:4; 105:12;133:2 Commerce (2) 94:20;98:5 commercial (1) 98:20 commitment (6) 8:19;24:10;37:7; 113:12;119:8;122:6 committed (3) 119:11;129:20; 132:8 Committee (20) 10:12,16,19,21; 11:10;16:19,20,21; 18:8;22:15;23:11; 25:1,2;29:19;31:19; 34:7,12,15;57:5; 103:17 common (1) 78:14 commonly (1) 45:6 communicates (1) 102:13 communication (2) 51:5;116:19 communications (1) 59:20 communities (22) 28:7;29:9;31:1; 36:3,18;39:17;40:16; 41:10;42:5,11;47:9; 55:7,12,18;56:2,6; 66:11;67:15;68:13, 19;69:1,9;2:1</p>	<p>community (39) 7:3,5,9;8:6,10,13; 13:13;18:2,14;20:11, 18;21:5;25:16;26:14, 18;27:2,16;46:3;47:9; 51:10;56:14;60:7; 65:2;71:19;73:15; 74:7;80:13;81:18; 82:17;83:14;90:8; 104:12;105:1;112:5; 125:1;130:4,8;132:7, 20 community-based (1) 41:6 comparable (3) 34:18;66:6;67:8 competes (1) 53:11 competitive (1) 70:14 completed (1) 38:2 completion (1) 102:1 complicated (1) 108:12 comprehensive (6) 51:15;79:18;88:20; 90:6;103:2;110:5 comprise (1) 98:9 Concept (2) 60:18;128:2 concern (3) 9:19;49:4;107:14 concerning (1) 17:13 concerns (1) 18:13 conclude (1) 90:3 concluded (1) 133:13 concludes (1) 48:5 conclusion (1) 42:6 concrete (1) 15:21 conditions (1) 16:11 conduct (2) 45:1;51:4 conducted (5) 46:20;53:9;94:10; 99:12;101:16 configuration (1) 88:15 confluence (1) 26:19 Congratulations (1) 60:16 Congress (11)</p>
--	--	---	---	---

<p>11:18;17:9;26:12; 30:11;32:5;33:19; 52:13;53:18;73:20; 104:18;122:21 congressional (2) 9:17;17:9 Congressman (40) 6:10,21;7:4;17:18; 18:18;21:8;22:5;23:6; 25:11;31:8,14,17; 35:21;42:8;48:12; 63:17,19;65:3;66:1, 15;68:21;69:5,18; 71:10;72:5;77:6; 83:11;97:16;104:3; 117:10;120:6,8,15; 122:19;123:21;124:3, 7;128:17;129:21; 131:16 Congressmen (2) 7:21;123:7 conjunction (1) 55:13 connect (1) 72:6 conservative (1) 49:4 consider (2) 47:16;73:13 considerable (2) 41:9;100:8 consideration (1) 73:12 considerations (1) 107:6 considers (1) 36:8 consists (1) 32:8 constantly (4) 107:18;108:20; 115:6;117:21 constituency (1) 26:7 constituent (2) 101:7,18 constituents (11) 24:10;25:21;98:9; 100:21;101:17; 103:20;104:1;110:12; 112:15;113:4;123:2 constraint (1) 87:21 constraints (1) 47:15 constrictions (1) 81:19 construct (1) 95:20 constructed (1) 92:10 construction (6) 33:15;45:19;53:14;</p>	<p>111:5,15;116:14 Contact (1) 94:6 contacted (1) 93:6 contained (1) 95:16 content (1) 62:15 context (2) 79:17;86:1 continue (11) 7:8;8:6,12;20:5; 21:3;24:11;28:10; 31:10;49:6;51:8; 55:17 continued (2) 25:12;102:12 continues (2) 93:3;132:9 continuing (2) 52:21;84:8 contracting (1) 33:16 contractors (2) 118:21;128:2 contribute (1) 47:21 contributed (1) 99:14 contribution (1) 82:12 control (9) 24:18;29:5,16; 30:13;37:6;39:6; 44:13;54:8;127:17 controlling (1) 38:6 controls (1) 41:8 convened (1) 101:7 converge (1) 52:1 conversation (2) 73:7;74:18 conversations (1) 74:6 convey (1) 112:14 conveyance (7) 63:6,7;80:7;81:11; 87:5;95:21;111:19 coordinated (2) 14:10;29:4 Corps (30) 11:14;15:10;33:2, 10,20;34:3;43:2,7,10; 44:4,6,11,15;45:8,10; 46:2;47:11,20;50:6; 51:2,12;52:18;56:12, 14;57:16;59:1;81:3; 85:1;109:18;115:17</p>	<p>Corps' (3) 52:9,21;71:1 correcting (1) 81:10 corridor (4) 63:5;95:6,6;96:15 cost (8) 38:15;47:13;70:21; 80:8;86:8,14;114:19; 118:14 cost-benefit (1) 46:1 cost-benefits (1) 73:5 cost-effective (2) 50:13;112:8 costly (1) 36:7 costs (3) 45:19;58:5;115:1 Council (6) 25:9,11;76:19;83:5, 7;84:13 Councilman (8) 83:3,6;109:12; 110:20;111:3;119:14; 120:14,19 Counsel (1) 32:16 Counselor (1) 8:19 counties (3) 85:18;86:5;89:20 country (9) 17:7;20:1;28:17; 32:3;36:8;48:17;86:6; 88:5;130:3 county (49) 8:21;9:5,8,15; 12:15,16;14:12;25:8, 11;37:13,20;38:4; 41:12;44:21;45:7; 46:19;54:16;55:19; 56:7,18;60:6;72:9; 73:8,13;74:6,9;75:7; 76:7,18,19;77:4;83:5; 84:10;85:19;86:4,9; 90:7;93:13;99:1,15; 101:3;102:9;112:5; 116:10,21;118:17; 119:6;122:1;132:2 County's (2) 75:12;89:21 countywide (1) 37:14 couple (6) 19:5;59:3;65:13; 72:6;75:8;86:19 courage (3) 21:12,16;133:7 course (4) 21:21;33:4;49:20; 129:3</p>	<p>covered (1) 19:1 covering (1) 118:6 craft (1) 24:15 create (2) 40:1;122:10 created (3) 37:20;39:13;95:7 creating (2) 76:14;98:8 creations (1) 57:4 creative (2) 57:2;118:19 credit (4) 96:21;97:1,3; 104:16 credits (6) 93:15;96:18; 104:19,20;105:3,11 crest (1) 107:17 critical (5) 38:10;83:21;95:18; 96:2;102:1 culprit (1) 15:20 cultural (1) 99:6 culverts (2) 79:21;100:16 Cummings (44) 6:10,21;7:4;17:3, 18;18:16;21:8;22:5,6; 23:5,6;31:14,17; 35:21;42:8;43:5;48:5, 12;63:18,19;64:13; 65:3;66:1,15;68:21; 69:5,19;71:10;77:7; 83:12;91:1;97:16; 104:3;117:10;120:7, 8,15;122:19;123:21; 124:3,7;128:17; 129:21;131:16 curious (3) 120:17;123:19; 124:8 current (4) 29:15;73:10;86:1; 100:18 customizable (1) 46:9 Cut (2) 77:18;95:12 cutoff (1) 70:14 cuts (1) 30:21</p>	<p>Dam (1) 107:16 damage (10) 19:19;20:13;22:10, 13;58:15;60:2;61:12; 94:9;100:8;111:16 damaged (1) 102:10 damages (4) 20:4;46:6;47:5; 59:15 damaging (1) 126:10 dams (2) 30:14;126:1 data-driven (1) 87:4 date (1) 119:8 day (8) 13:12,13,18;26:4; 31:4,5;86:21;93:3 days (2) 44:1;87:9 deal (7) 10:5;34:21;48:14; 50:16;112:18;119:5; 130:11 dealing (9) 11:7,15;12:3;65:2; 68:4;72:20;73:9; 107:7;121:14 dealt (2) 27:12;67:9 debate (2) 60:7;106:8 debris (3) 43:18;93:20;94:12 decades (2) 8:14;59:3 decision (2) 121:9;129:4 decisions (7) 39:10;123:13,14, 15;124:11;130:10; 132:6 declaration (1) 15:6 declarations (3) 14:21;15:1,4 deeply (1) 96:17 Delaware (1) 11:1 Delegate (2) 35:11;84:11 delegation (8) 9:17;14:18,19; 18:19;28:17;34:20; 71:14;123:16 deliberate (2) 29:4;71:2 delivered (1)</p>
--	--	--	---	---

D

101:5 delivering (1) 103:1 delivery (1) 41:20 DeLuca (22) 75:5;77:1,3,5; 84:19;106:14;107:11; 110:11;114:11,15; 115:3;116:7,11,13; 118:3;119:13;122:20; 123:18,20;124:2,5,13 deluge (1) 66:10 democracy (1) 24:1 Democrat (3) 10:16,20;34:11 demolition (1) 93:6 demonstrated (1) 84:7 Department (8) 37:5;40:7;54:17; 75:7;76:5;77:4;93:13; 127:21 depending (1) 52:16 depends (1) 66:20 deploying (1) 128:3 depths (1) 45:12 Deputy (1) 32:10 described (1) 79:7 describing (1) 77:9 design (10) 33:15;37:21;53:12, 13;79:19;85:20; 116:5,11,12;121:4 destinies (1) 24:5 destiny-altering (1) 124:12 destiny-type (1) 123:14 destroyed (5) 13:4,5;88:6,17; 100:17 destruction (3) 27:9,13;64:9 destructive (2) 100:2,15 detail (1) 77:11 detailed (1) 38:2 determination (1) 70:8	determine (5) 52:17;55:4,19; 56:15;85:19 determined (1) 130:5 determining (1) 47:16 detrimental (1) 81:18 devastate (1) 36:13 devastating (4) 13:15;27:4;43:8; 111:9 devastation (3) 12:15;27:11;42:14 develop (2) 51:20;55:7 developed (3) 37:14;101:5;109:16 developing (1) 102:15 development (10) 15:19,19;27:1;30:1, 5;31:16;38:1;60:8; 102:12;103:1 difference (3) 26:6,9;124:15 different (11) 18:17;49:15;50:17; 69:7;107:2;108:3,4; 122:15,15,16,17 difficult (1) 50:2 dig (1) 61:3 diminished (1) 36:10 dining (1) 99:11 dinner (1) 12:8 direct (3) 55:14;56:16;90:1 directed (1) 27:21 directly (1) 89:18 Director (1) 33:6 Directors (1) 97:20 disappointed (1) 105:21 disaster (3) 21:2;97:4;111:17 disasters (3) 44:7;84:5;88:8 discovered (1) 94:15 discretionary (1) 44:4 discuss (1)	36:2 discussion (1) 60:10 displaced (1) 13:5 distributed (1) 101:2 District (17) 17:9;22:7;33:1,2,6, 11,17;34:9;43:11,16; 44:21;46:18;47:19; 62:13;75:12;83:8; 98:3 districts (1) 92:4 diverse (2) 39:3;99:10 divert (1) 131:12 dollar (3) 29:14;72:9;115:20 dollars (6) 88:1;100:10; 116:15;119:10;122:7; 128:14 done (23) 9:18;24:21;27:15; 29:1;32:4;50:11;54:4; 57:15;60:14;61:7,13; 63:10,12;69:20; 72:19;74:4;81:6; 82:19;86:18;90:13; 109:21;113:18;128:1 doors (3) 46:15,16;96:7 dots (1) 72:6 doubt (1) 64:13 down (11) 64:15,19;67:15; 78:19;79:5;87:8; 88:16;125:19;126:7, 14;127:14 Dr (6) 76:15;97:11,12,14; 111:18;112:10 drain (1) 108:11 drainage (1) 77:15 drains (1) 65:15 dramatic (2) 87:5;125:20 drastic (1) 113:6 draws (1) 112:20 dress (1) 69:9 drinking (1) 39:11	Drive (1) 88:17 drop (3) 77:13;125:2;128:14 drops (1) 125:13 dry (2) 124:18;126:6 dumped (1) 121:21 dumping (1) 108:6 during (10) 32:13;43:15;47:5,8; 50:4;75:8,14;89:13; 91:7;129:12	12:2 effects (3) 27:1;36:7;42:13 effort (10) 14:14;29:5;31:8; 45:1,9;52:3,19;53:2; 59:7;86:8 efforts (12) 18:20;25:4;26:8; 51:3;83:19;93:4,11; 94:8;123:4;132:12, 12,13 eight (3) 125:18;126:14; 127:13 Eighteen (1) 114:10 eight-foot (2) 78:18;79:5 eighth (1) 40:8 Eighty (1) 128:13 either (4) 49:14;50:6;69:13; 111:10 elected (1) 84:2 electeds (1) 35:14 elements (1) 62:17 elevation (3) 45:13,15;125:2 elevations (3) 80:15;110:9;124:16 Elijah (6) 17:3,6;18:16;22:5, 6;23:5 Elkridge (4) 75:13;91:12;92:2; 94:1 Ellicott (94) 8:7,11;9:14,20,21; 12:5,19;13:7,13;16:9, 13;17:13;18:1;20:18; 21:11,13,20;22:12; 23:13,25;15:26;12; 27:21;28:7;29:2,13; 31:1,10;36:5,13; 37:14;41:2;42:15; 43:8,13;45:4;51:18; 52:2;55:13,18;56:6; 57:9;60:17;62:17; 64:20;75:12;76:1,11, 13,16;78:7,16;79:1; 83:8;88:17;91:17,18; 92:3,6,14;93:20; 94:14,20;95:3;96:14; 97:13,18,21;98:2,3,7, 11,12,15,18,21;99:5, 8,13,19;100:1;102:6; 103:8,13;104:5;
E				
earlier (10) 13:12;14:11;30:2; 40:4;47:6;59:9;60:3; 62:1;112:18;133:6 early (3) 23:16;31:21;32:14 ease (1) 89:10 easier (6) 15:6,7;105:2; 127:15,16;130:10 East (2) 67:16;98:17 echo (1) 23:14 economic (5) 27:11;41:18;76:15; 98:8;99:9 economically (1) 70:12 economy (1) 41:9 ecosystems (1) 30:15 ECP (13) 97:21;98:1,6; 100:20;101:1,10,16; 102:3;103:7,9,16; 104:1;113:2 ECP's (1) 98:9 Eddison (1) 13:21 educated (1) 99:2 effect (1) 63:15 effective (4) 11:6;25:6;72:17; 102:13 effectively (4) 27:20;72:14;110:8; 115:10 effectiveness (1)				

106:6,17;107:4,9,21; 113:13;121:18; 128:16;130:2;133:9 Ellicotts (1) 91:15 Ellicott's (1) 98:14 else (2) 6:6;122:1 elsewhere (1) 41:1 emergencies (2) 44:5,7 emergency (3) 44:10;102:16;128:9 emotional (1) 101:8 employees (1) 33:13 empty (1) 23:17 enable (2) 41:20;42:12 encourage (1) 96:5 encourages (1) 41:4 encouraging (1) 122:12 end (6) 32:5;37:16;42:17; 80:16;111:4;118:10 end-all (1) 80:20 endeavor (1) 51:16 energy (1) 109:8 engaged (9) 17:12;58:11;59:2; 60:7,11;81:3;83:18; 94:4;117:3 Engineer (1) 33:1 engineering (3) 33:15;93:9;116:5 Engineers (9) 11:14;15:10;33:2, 11;43:2,11;47:20; 81:4;90:7 Engineers's (1) 43:7 enhance (1) 47:8 enhancing (2) 76:14;98:8 enormous (1) 27:13 enough (7) 52:5;53:21;57:7; 112:7;124:6;125:4; 131:6 ensure (4)	24:16;27:19;93:4; 102:6 enters (1) 84:15 entire (3) 25:10;26:15;35:7 entity (1) 91:3 entry (1) 45:16 Environment (13) 10:12,18,21;11:9; 16:18;18:8;23:11; 24:21;31:18;33:16; 34:14;37:5;57:4 Environmental (6) 11:13;15:8;32:11; 34:18;35:19;75:6 EPA (14) 32:12;36:8,15;38:5, 12;39:15;40:5;41:4; 42:9;50:6;54:19;59:8; 72:13;85:1 EPA's (3) 36:2;39:7;41:11 episodes (1) 14:4 equated (1) 43:13 equation (1) 121:14 equipped (1) 96:19 erode (1) 36:11 especially (2) 79:16;115:10 establish (2) 11:21;105:2 established (1) 91:16 establishing (1) 41:5 estate (2) 33:16;70:10 estimated (2) 47:13;80:8 estimating (1) 114:18 et (1) 105:19 Europe (1) 91:14 evacuate (1) 128:10 evacuation (1) 102:17 evaluate (1) 81:4 evaluation (1) 116:13 Even (14) 13:15;26:10;64:6,	17;70:3;80:13;82:10; 86:7;87:20;107:13; 109:17;118:12;122:3; 124:14 evening (1) 13:2 event (7) 12:21;15:16;19:10; 65:10;100:21;102:7; 118:10 events (15) 12:4;27:3;28:5; 36:4;51:7;59:13;78:7, 8,9,10,12;82:4;97:18; 100:4;101:6 everybody (1) 61:9 Everybody's (1) 123:17 everyone (5) 6:17;12:6;65:14; 127:2;133:4 exactly (1) 128:5 example (4) 40:4;45:18;101:1; 119:3 examples (3) 20:21;41:10;46:11 exceeded (1) 44:8 excellent (1) 81:15 Excessive (1) 36:6 Excuse (2) 6:15;79:10 Exec (6) 9:5,8,15;14:12; 73:13;76:7 execute (2) 86:13;121:7 Executive (3) 25:8;76:6;84:10 existing (2) 27:5;110:5 expansive (1) 97:2 expedite (1) 89:17 expensive (4) 46:6;73:4;112:3; 120:18 experience (1) 129:16 experienced (10) 12:4,20;13:10; 78:14,17,21;79:2; 100:2;107:9;111:9 experiences (1) 19:13 expertise (2) 33:17;112:13	experts (3) 84:21;90:8;93:9 explain (1) 111:2 explained (2) 109:1;121:17 expressly (1) 111:9 extend (1) 18:15 extent (3) 60:8;62:11;117:14 extraordinary (2) 9:9;19:9 extreme (4) 16:10;27:3;28:4,10 extremely (2) 17:2;122:5 F fabulous (1) 17:7 face (3) 29:10;67:3;113:5 facilities (2) 85:20;95:20 fact (2) 61:12;90:8 factor (1) 130:20 factors (4) 15:12;16:8;129:9; 131:13 facts (1) 113:5 fail (1) 28:11 fairly (1) 107:10 falling (1) 53:4 families (1) 129:6 far (4) 67:21;70:10;77:11; 115:19 faster (2) 41:7;78:3 fatalities (1) 13:3 favor (1) 29:21 feasibility (3) 53:6,9;71:9 feasible (4) 59:11;70:12,13; 74:11 February (2) 46:21;58:17 federal (46) 6:7,18;7:10;9:17; 11:6;12:2;14:8,17,19;	20:10;25:13;32:6,9; 34:5,20;35:17;36:15; 39:15;50:18;56:11, 16;61:17;72:12; 83:17;84:2;86:10; 87:16;88:1;89:2,16; 95:17,19;96:18;97:3; 101:19;102:8;113:21; 117:3,5,7,11;121:10; 122:11;132:10,14,19 feel (2) 6:14;71:13 feet (9) 81:14,14;125:18; 126:7,8,9,14,14; 127:13 feet's (1) 126:15 fell (2) 13:2,14 fellow (1) 21:1 FEMA (7) 14:20;56:12,13; 82:2;118:12,16;119:8 Ferry (1) 94:1 few (5) 12:13;33:4;85:11; 87:1;110:13 fewer (1) 100:19 field (2) 11:2;112:13 Fifteen (1) 78:7 fight (2) 29:11;31:10 fighting (2) 123:16,17 figure (12) 50:12;61:14;63:11; 66:17;67:6;69:12; 74:14;113:19;114:21; 116:21;120:9;123:10 filled (1) 95:9 final (2) 58:16;119:20 finally (2) 25:7;96:16 Finance (3) 39:1,8;56:1 financial (4) 39:9;94:16;96:10; 118:17 financing (6) 30:8;41:20;56:3; 116:3,20;117:7 find (5) 53:3;61:8;77:14; 82:15;122:17 findings (1)
--	--	---	---	--

<p>46:20 finds (1) 78:4 finished (1) 91:10 First (22) 9:5;10:13;12:10; 13:16,17;14:2;17:1, 15;19:5;20:14;23:1; 32:8;35:4;48:11;66:4; 89:20,21;92:9;94:8; 98:19;100:5;122:21 first-floor (1) 45:15 five (2) 35:9;79:2 Flanagan (2) 35:11;84:11 flash (6) 27:8,16;100:2,3,6; 129:11 Fleming (8) 76:10,15;97:11,12, 14,19;111:18;112:10 flexibility (1) 34:1 flood (54) 13:7,11;19:12;25:5; 27:19;29:4,16;43:13, 14;44:13;45:2,20; 46:4,5,8,12,15;47:5,6, 7,17;48:17;54:8,12; 55:3;57:16;58:1,15; 64:8;70:6;78:6;82:7; 87:1,9;93:1,4,20; 94:12,18;96:6,10; 100:12,15,21;101:2, 13;102:7,20;107:8; 111:16;117:18; 119:15,17;125:7 floodgates (1) 46:16 flooding (31) 19:5;23:12;28:9; 36:4;40:18;43:8,20; 51:21;60:3;61:12; 66:2,3,14;70:3;72:15; 78:10,12;94:3;97:18; 99:21;100:2;102:10; 103:19;105:5;106:17; 107:4;108:4;111:9; 115:9;122:5;128:15 Floodplain (5) 44:12;45:6,7,14; 54:6 flood-prone (1) 26:20 flood-proof (1) 127:16 flood-proofing (10) 45:4,17;47:4;51:12; 57:17;59:5;62:10; 81:5,8;126:16</p>	<p>floods (20) 7:14,16;9:14;10:5; 11:8;21:19;24:11,18; 27:8,17;30:13;45:11; 47:8;51:9;83:18;85:9; 100:3,6;106:19,21 floodwalls (1) 46:8 floodwater (1) 64:14 floodwaters (1) 60:9 floor (1) 31:20 floors (1) 95:11 flour (1) 91:11 flour-milling (1) 91:17 flow (11) 61:1;63:4;73:8; 77:20;95:12;107:19; 130:16,18,20,21; 131:13 flowing (1) 93:18 focus (5) 34:14;38:19;49:7; 84:6;103:16 focused (1) 18:13 focusing (1) 57:17 folks (3) 8:21;67:4;124:10 follow (1) 108:19 followed (1) 100:3 Following (5) 43:12;67:10; 100:21;101:20; 114:10 followup (1) 63:14 foot (1) 89:4 footage (1) 64:13 forecasted (1) 43:21 forget (1) 123:1 forgotten (1) 7:5 form (1) 82:18 formulate (1) 29:16 forth (1) 126:13 forward (18)</p>	<p>19:15;21:7;33:7; 42:10;48:6,15;74:14; 80:11;82:21;83:15; 84:8;90:9,12;105:7, 10;113:14;116:4,19 forward-fund (1) 118:12 fought (1) 24:12 founded (1) 98:14 four (6) 80:10;104:8;116:4; 126:7,14,14 FPMS (3) 44:13,14,19 frankly (1) 131:6 Frederick (2) 63:4;86:9 frequency (3) 28:4;79:14;85:8 frequent (1) 11:8 frequently (3) 29:2;49:1;75:10 Friday (1) 87:19 friend (3) 18:16;24:19;84:18 Friends (1) 94:18 friend's (1) 12:8 front (3) 89:4;120:2;129:12 fuels (1) 26:4 full (4) 23:20;86:8;99:9; 103:3 functions (1) 98:4 Fund (4) 38:8,14;55:8; 122:18 funded (2) 30:18;71:5 funding (33) 29:7,8,14;36:19; 39:14,20;44:18; 50:15;53:17;54:11; 55:15,20;56:19; 61:16,16,17;63:11; 82:14;85:13;86:3; 87:8;89:1,2,8;90:6; 97:4;101:21;102:9, 12;103:1;119:10; 121:10,15 fundraising (1) 101:11 funds (11) 40:15;57:6,7;82:2,</p>	<p>6;89:7,9,10;94:18; 118:20;119:16 further (4) 43:19;52:6;64:19; 131:8 future (9) 8:14;9:20;15:12; 16:11;31:10;104:11; 113:13;129:19; 132:20</p>	<p>8:21;11:6;20:10; 50:19;56:16;84:3; 87:16;89:16;99:18; 100:14;101:19;112:6; 113:21;116:10; 122:11;132:14 governments (3) 41:5;44:8,17 government's (2) 12:3;132:19 Governor (6) 9:16;14:15;25:9; 43:17;71:18;84:11 Grace (2) 75:20;90:18 grade (2) 45:17;68:6 grant (3) 54:21;82:8;128:1 grants (6) 40:8;55:12;81:7; 93:15;103:4;117:17 grateful (1) 89:3 great (9) 8:6;17:6,21;86:20; 87:17;88:21;105:10; 110:2;129:9 greater (1) 34:1 greatest (2) 82:1;101:18 greatly (1) 133:7 Green (14) 37:1,1,1;38:17; 40:2,9,9,9,19;41:21; 55:1,9;68:9;99:7 greener (1) 41:7 Greenway (4) 75:21;90:19;91:3; 92:12 grew (1) 98:15 gross (1) 97:2 ground (3) 19:4;78:3;88:14 grounded (1) 88:12 group (1) 92:14 growing (1) 91:11 growth (3) 49:19;76:15;98:9 Grumbles (2) 34:16;87:18 Guard (2) 13:20;22:17 guess (7) 12:13;66:21;67:6;</p>
---	---	---	--	---

G

69:5,12;108:1;123:10 guidance (2) 44:16;73:19 guide (1) 101:14	113:4;132:18 hearings (1) 17:5 heavy (1) 67:13 held (1) 32:12 hello (2) 6:5;23:17 help (34) 8:3,5;13:21;14:5, 20;15:4;24:13,16,18; 25:2,4,21;29:13,15; 39:9;42:4;44:2;50:19; 56:1,2,18;68:13; 70:17;74:10,12;82:5, 8,14;83:14;85:12; 95:17;100:20;110:4; 115:8 helped (3) 15:5;58:14;93:14 helpful (2) 63:8;129:2 helping (1) 30:21 helps (1) 40:16 Heritage (10) 75:21;76:13;90:19; 91:2,3,4,5,21;92:12; 98:7 Hermond (1) 13:21 high (1) 108:1 higher (2) 46:13;110:9 highest (1) 99:3 Historic (29) 16:13;26:13;45:5; 47:14;48:1;83:8;92:3, 4,5,11;93:5;95:9; 96:4,18;98:3,5,13; 99:6;100:17;104:16, 20;105:3,6,11;107:3; 112:19;130:4;132:20; 133:9 Historical (1) 94:7 historically (2) 99:20;130:18 history (2) 78:6;104:11 hit (2) 107:21;109:3 Hogan (4) 9:16;14:15;25:9; 84:11 hold (1) 126:2 holding (1) 7:20	holistic (1) 51:20 Hollen (44) 6:9,20;16:16;17:1, 16,20;21:10;23:8; 24:20;25:20;28:14; 29:13;30:7;31:7; 35:21;42:7;43:4;48:4; 57:10,11;58:4,8; 59:16;62:4,19;63:16; 71:12;77:6;83:11; 90:21;97:15;104:2; 113:8,9;114:12,17; 116:1,8,12,17;119:7; 120:4;123:8;131:16 home (2) 12:18;99:1 Homeland (1) 127:21 homeowner (1) 58:6 homeowners (5) 19:7;57:19;58:13, 19;117:15 homes (1) 130:12 honor (1) 23:8 honored (3) 24:7;31:6;43:5 hoped (1) 19:8 hopeful (1) 87:2 horrible (1) 64:10 horrific (2) 10:5;12:21 hospital (1) 69:7 hour (4) 12:14;78:15;127:9, 11 hours (5) 65:13;78:17;79:2,4; 127:11 house (7) 12:8;17:4;22:8,14; 29:19;30:2;35:15 House's (1) 29:21 Howard (20) 25:7,10;37:13; 44:21;45:7;46:19; 54:16;55:19;56:7; 60:6;75:6,11;76:7,19; 77:4;83:5;86:4;93:13; 99:1;116:10 hub (1) 93:2 Hudson (4) 43:18;77:18;80:16; 95:12	huge (1) 88:16 Human (1) 76:5 humanly (1) 130:1 Huntington (2) 56:12;59:7 Hurricane (1) 88:9 Hydraulic (2) 60:18;114:6 hydrologist (1) 112:12 Hydrology (2) 60:17;114:5	126:12 implementing (2) 47:12;59:20 important (15) 11:10,15;15:9; 17:14;27:18;30:4; 46:5;47:2;48:1;83:13; 102:2;106:6;114:1; 120:1;132:15 importantly (1) 132:6 improve (4) 26:1;30:7,14;40:20 improvement (1) 73:3 improvements (7) 28:1;63:6,7;80:7; 87:5;97:3;114:20 improving (1) 68:8 INC (1) 90:19 inception (1) 38:11 inch (1) 78:15 inches (10) 13:1,14;65:12; 78:17;79:2;125:5,6; 127:8,10,11 include (6) 39:5;45:11;46:12; 92:5;101:19;102:17 included (2) 45:14;115:17 includes (4) 37:13;38:21;51:9; 75:4 including (5) 38:15;41:2;47:3; 48:17;75:12 income (3) 99:3,17;100:13 increase (7) 12:1;28:3;40:18; 49:13;55:8,9;103:12 increased (3) 15:20;30:11;32:2 increases (1) 42:4 increasing (1) 68:7 incredible (2) 22:12;75:18 incredibly (2) 47:21;65:11 incumbent (1) 19:16 incurred (2) 22:10,11 indeed (1) 23:8 indicated (3)
H		I		
H&H (3) 62:5;86:18;115:5 half (3) 12:13;120:2;127:15 Hammonds (1) 94:1 hand (1) 66:21 handing (1) 30:20 hand-in-hand (1) 126:17 Hanover (1) 75:13 happened (8) 7:6;50:3;51:8; 59:13;64:7;87:9; 129:7;130:15 happening (7) 12:19;16:4;19:17, 19;43:15;64:16;79:3 happens (3) 19:20;20:15;128:5 happy (2) 42:16;89:13 hard (3) 81:9;123:16,17 harden (1) 72:14 harder (3) 20:3;26:10;71:14 harm (1) 110:19 harmful (1) 42:13 harm's (1) 102:14 Hazardous (1) 22:19 head (1) 34:18 headwaters (1) 110:11 health (3) 36:10;40:20;42:1 hear (4) 11:11;19:2;83:13; 120:4 heard (8) 79:9,11;81:4;84:18, 21;98:14;112:14,18 hearing (13) 7:20;11:2,12,18; 15:14;18:5,10;27:17; 34:13;63:21;83:13;				

18:7;79:14;127:4 individual (7) 21:15;46:9;47:17; 49:10;72:8;102:18; 104:10 individuals (1) 51:11 industrial (2) 91:17;98:18 industry (2) 90:7;122:10 inform (1) 62:9 information (20) 11:19;39:9,15; 45:10;52:5;72:18; 73:17;79:18;88:13; 93:2;101:8;112:1,7; 115:15;125:11;131:7, 18;132:3,17;133:3 informed (3) 29:5;39:10;85:11 Infrastructure (34) 10:11,15;22:16; 23:10;24:17;27:6; 29:9,17,20;30:8,13, 19;38:10,17,21;39:1, 5,7,12;40:2;42:1,2; 48:16;49:3;55:1,2,10, 21;68:9;82:5;103:10, 18;114:19;117:8 Inhofe (2) 10:14;49:1 initiated (1) 93:8 initiatives (2) 115:2,4 Innovation (1) 39:1 innovations (1) 41:19 innovative (3) 36:20;40:1;88:10 input (1) 20:19 inspirations (1) 21:11 inspire (1) 21:12 installing (1) 46:15 instance (1) 54:15 Insurance (3) 25:5;96:10;102:20 intense (3) 65:11,20;109:9 intensity (1) 79:15 interest (1) 105:11 interested (1) 11:5	interesting (1) 128:21 international (1) 20:6 intersection (1) 88:18 into (10) 37:8;53:4;61:3; 63:4;77:11;78:3; 90:10;93:18;120:16; 127:19 INTRODUCTION (3) 22:5;32:6;75:1 inventory (2) 110:2;121:6 invest (1) 117:1 investigation (1) 71:8 investment (2) 38:20;96:1 investments (3) 24:17;27:19;41:21 invite (1) 23:2 involved (3) 8:10;51:6;96:17 iPhone (2) 12:9,11 iron (1) 91:10 issue (7) 9:10;10:2;70:3; 73:20;104:9,16; 110:14 issues (14) 11:16;16:17;17:13; 18:12;35:1;39:18; 68:2;70:10;73:6; 74:15;75:17;90:5; 103:18;118:9 item (1) 118:7 items (1) 119:4	join (1) 23:4 joined (1) 32:12 Jon (4) 25:10;75:11;83:4,7 judge (1) 6:14 judgment (1) 129:19 July (8) 12:7;33:11;55:3; 78:13;80:3;92:21; 94:10;100:5 jurisdiction (3) 34:6,14;88:4 Jurisdictions (3) 37:11;88:4;119:18	92:5,6 largely (1) 99:20 larger (2) 53:2;108:9 large-scale (1) 41:21 largest (1) 98:16 Larry (1) 25:9 last (10) 30:19;50:4;58:15; 74:17;75:8,15;78:10; 87:1,19;111:4 later (5) 12:14;13:9;15:1; 37:2;98:15 Laughter (1) 23:18 Law (2) 32:19;44:3 lawyer (1) 6:13 lead (1) 42:14 leader (4) 17:6;18:17;37:3; 75:18 leaders (2) 25:17;94:13 leadership (7) 9:10;14:12;18:12; 32:16;33:7;74:8; 132:1 leading (1) 36:9 leads (1) 59:17 leak (1) 94:15 leaks (1) 93:17 learn (2) 20:12,16 learning (1) 11:5 least (2) 59:4;116:4 leave (1) 58:21 leaves (2) 9:5,8 Lee (1) 108:16 left (1) 63:20 legislation (1) 110:16 less (9) 46:6;47:8;52:19; 65:12;78:16;80:1,16; 125:15;126:10	less-expensive (1) 121:7 lessons (1) 20:16 level (5) 20:6;73:8;88:1; 102:17;130:16 levels (2) 46:13;127:12 leverage (4) 57:5,7;72:13;122:9 leveraged (1) 44:11 leveraging (1) 40:14 levies (2) 46:7;126:1 liability (1) 96:11 Liberty (1) 107:16 life (13) 13:20;14:2;16:12; 27:9;40:21;66:14; 69:7,8;80:2;100:7; 111:10,11;129:11 life-changing (1) 129:17 lifeline (2) 82:3,3 lightning (1) 121:20 likely (1) 100:19 limit (1) 60:2 limited (1) 82:11 limits (1) 44:18 line (5) 86:4;109:4;118:6; 119:4;129:3 lined (1) 95:9 linked (1) 91:12 list (1) 30:20 listening (1) 60:11 literally (1) 13:16 little (9) 14:11;23:16;37:2; 64:18;77:10;78:16; 110:6,17;126:6 Litz (27) 32:21;33:8,9;35:5; 42:20;43:1,3,9;50:21; 52:8,14;53:19;54:2,5; 57:14;58:2,7,16;62:3; 63:13;64:12;65:6;	
	J	K			
	January (2) 46:20;58:10 JD (1) 32:19 Jen (1) 76:17 Joanie (2) 22:1,3 job (3) 17:7;26:4;49:5 Jobs (3) 37:1;40:9;41:15 John (5) 17:11;25:11;32:21; 43:1,9	keep (1) 116:18 key (2) 67:5;122:2 kick-start (1) 81:8 kind (7) 28:9;39:16;42:14; 108:1;124:19;126:13; 128:6 kinds (1) 24:3 KITTLEMAN (7) 6:4,13;9:9;10:7; 14:13;25:8;84:10 knew (4) 7:14;12:16,20; 122:7 known (4) 13:6,10;39:2;45:6 knows (1) 12:6 Kubofcik (7) 75:20;90:17,18,20; 104:14;105:13; 106:10	L	labor (2) 99:16;100:13 Ladies (2) 25:18;31:3 lag (1) 118:16 land (2) 73:10;91:8 Landing (1) 91:12 Landmark (1) 92:11 landmarks (2)	

<p>66:7;69:18;73:17; 109:14;114:4 live (3) 69:9;129:6;130:6 lived (1) 91:7 livelihood (1) 66:20 lives (4) 13:18;14:3;26:1; 27:14 loans (4) 38:9;39:3;55:12; 103:4 local (29) 7:10;14:7;20:10; 24:13;25:13;27:9; 37:8;39:9;40:10,20; 41:4,9,15,18;42:5; 44:8,17;51:18;60:8; 61:15;68:16;75:2; 77:2;84:2;89:11; 103:8,14;112:5; 132:12 localities (1) 85:18 locally (3) 20:9,12;54:11 locals (1) 86:11 located (2) 26:18;45:5 locations (2) 70:9;80:6 long (1) 51:14 longer (4) 30:18;85:14; 111:20;126:19 longer-term (1) 59:17 long-term (4) 39:3;51:4;103:12; 114:19 look (27) 15:20;19:17;20:1; 21:3,7;28:20;33:7; 48:6,13;52:20;54:21; 56:2,18;61:9,10,21; 72:1,11;81:9;82:21; 84:8;85:13;110:5; 112:6;113:14;121:5; 127:19 looked (7) 14:19;31:21;56:20; 62:7;64:9;87:7; 124:15 looking (13) 39:19;68:6,10,11, 18;85:14;90:12; 110:4;112:2;115:2; 124:21;125:12;131:5 looks (5)</p>	<p>24:1;42:9;74:3; 124:18;125:1 lose (2) 13:19;121:10 loss (4) 27:8;100:7;111:10, 11 losses (1) 100:10 lost (1) 14:2 lot (17) 7:15,21;16:6;19:1; 21:16;23:17,20; 75:16;78:3;84:19; 89:19;104:9;109:21; 117:13;118:18; 126:15;132:11 lots (1) 86:6 love (4) 17:4;105:15;127:3, 3 lower (6) 80:17,17;115:11; 125:16,17;126:11 lowest (2) 45:16,16 low-interest (1) 38:9</p>	<p>managed (1) 27:20 Management (7) 44:12;54:6;63:3; 102:1;103:2;109:17; 110:7 managing (1) 91:3 manner (2) 10:3;105:7 manual (1) 37:20 manufacturing (1) 98:16 many (21) 8:13,13,14;9:10; 18:1,17;19:6;26:21; 28:7;50:9;52:1;66:18; 75:16;88:18,18; 92:16,18;100:18; 119:3;127:8;131:19 map (1) 128:5 mapped (1) 92:1 maps (1) 38:3 Maritime (1) 22:17 Mark (5) 75:5;77:3;84:19; 85:9;121:17 Maryland (25) 9:11,12;10:2;14:5, 16;36:5;37:3,4;38:5, 15;40:7,12;43:9,17; 54:17,19;64:18;76:5; 93:8,12;94:6,7;97:19; 105:14;106:12 Maryland's (1) 91:5 match (1) 40:11 matching (1) 40:15 Materials (2) 22:20;93:10 Matt (2) 76:10;97:19 MATTHEW (1) 97:12 maximize (1) 82:6 May (24) 13:11;19:14;31:20; 35:14;47:7;48:7;69:9, 16;73:18;78:20; 82:11,14;83:1;85:3; 94:2;100:6;105:5; 112:16,17;113:1,5; 130:15;133:2,3 maybe (13) 12:13;56:19;59:4;</p>	<p>61:8;62:19;65:13; 67:11;69:6;109:18; 124:5;126:7,13; 127:14 McCormick (1) 62:5 mean (11) 7:21;64:9,10;66:5; 67:4;70:16;119:8; 121:17;123:8,13; 126:1 means (1) 77:13 meantime (1) 20:7 measures (13) 45:20;46:12;47:3,7; 49:9,16;51:12;55:4; 59:10,14;60:5;70:11; 113:6 mechanism (1) 55:20 media (2) 93:2;94:5 median (1) 99:3 meet (3) 19:6;30:12;117:12 meeting (5) 46:21;87:17; 103:20;110:12; 133:11 meetings (1) 101:7 member (7) 16:19;22:14;25:10; 29:18;35:15;76:18; 83:7 members (7) 17:4;18:1;20:11,18; 48:7;83:17;93:17 memory (2) 107:12,13 mention (3) 34:10;37:2;56:10 mentioned (11) 11:4;21:10;54:10; 57:15;59:9;68:11; 71:5;77:19;108:14; 111:19;127:19 methods (1) 70:17 mid (1) 115:12 Mid-Atlantic (1) 99:4 might (5) 57:20;79:13;81:15; 121:8;125:3 Mikulski (3) 7:1,13;122:20 mile (1) 91:4</p>	<p>miles (2) 77:13;92:9 mill (3) 81:15;91:19;92:16 milling (1) 98:16 million (21) 38:13,16;40:11,13, 15;52:20;53:3;80:9; 86:14;99:14,16,17; 100:13,13,14;101:2; 114:13,16;115:20; 119:9;128:13 millions (1) 100:9 Mills (2) 88:17;98:14 minimize (1) 79:20 minority-owned (1) 41:17 minutes (1) 35:9 mitigate (6) 15:12,18;16:8; 19:19;20:14;115:9 mitigated (1) 131:14 mitigation (11) 45:3;46:4,8;48:17; 49:8;50:8;54:12; 60:18;70:6;82:7;96:6 mix (2) 99:6,11 model (3) 41:10;124:17; 125:10 modeled (1) 80:3 modeling (4) 79:18;80:14;115:7; 125:3 models (1) 127:4 modern (1) 109:17 modernized (1) 120:12 modest (3) 80:14;81:7;124:16 money (7) 30:12;54:18;56:5; 81:7;118:20;122:9,9 monies (1) 119:11 monitored (1) 29:20 monitoring (1) 107:19 month (1) 111:5 months (4) 13:9;69:6;87:1;</p>
M				

<p>88:19 moratorium (2) 111:5,13 more (59) 6:6,18;10:3;11:6,8; 13:15;15:21;16:1; 25:5;27:15,16;28:1; 30:12;31:2;33:13,21; 37:17;40:14;43:21; 48:18;49:2,16,20,21; 51:14;57:5;60:12; 65:13;72:16,17; 73:11;76:2;77:11; 78:5;82:17;87:13; 88:10,10,11,20;89:17; 100:14,15;103:14; 104:9;107:5;108:5,6; 110:18;112:1,2,8; 115:10;120:12,18,21; 126:15;132:6,11 morning (1) 25:19 most (11) 50:12;72:13;99:2; 102:2;111:14;114:4, 9;117:17;119:15; 120:18;129:12 move (11) 52:13;64:18;74:1, 14;75:4;78:2;80:11; 105:10;125:4;126:9; 129:7 moved (2) 64:17;116:3 moving (6) 46:13;48:15;83:14; 105:7;108:20;109:4 MS4 (1) 37:15 much (35) 6:9,11;9:1;10:8,8; 12:11;17:12;20:2; 23:7;27:15,15;31:11; 33:7;42:19;72:3; 74:19;78:5;82:16; 83:10;90:14,16; 97:15;104:12;107:8; 108:6,9;116:21; 126:3,10,19;127:15, 16;128:18;131:20; 133:10 multibillion-dollar (1) 33:14 multiple (2) 7:2;40:2 Municipal (1) 37:11 must (4) 27:15;33:18;42:4; 129:4 myself (1) 64:1</p>	<p style="text-align: center;">N</p> <p>name (1) 97:19 nation (6) 24:18;26:16;29:3; 38:6;42:12;91:11 National (8) 13:20;18:12;20:6; 65:9;85:10;92:10; 96:13;98:13 nationally (2) 39:4;53:11 nation's (3) 30:19;38:20;99:1 natural (7) 16:1,4;40:7;44:6; 54:17;84:4;95:13 nature (2) 16:13;112:20 navigate (1) 93:14 navigating (1) 82:8 near (2) 51:4;80:18 nearly (4) 40:10,11;99:10,16 Near-term (1) 51:3 necessarily (1) 125:9 necessary (1) 14:21 need (42) 8:5;16:9;24:15; 30:12;41:19;48:12, 18;52:6,9,10,12,14; 53:16;61:5,10;71:6; 73:3,4,16,19,19; 74:10,12;82:8;85:12, 12;88:19;90:1,11; 95:17;96:20;102:3; 107:5;112:1,16,19; 113:1,5;122:14; 127:19;131:3,7 needed (10) 27:19;29:9;45:21; 80:7;81:1;95:19;96:3, 5,9,12 needle (1) 125:4 needs (13) 24:18;29:3,3;56:15; 63:10;85:20,21; 96:21;101:17,18; 103:20;113:21; 117:13 neighborhood (1) 42:2 neighborhoods (1) 110:6</p>	<p>neighbors (1) 75:17 new (12) 24:15;29:16;32:19; 38:1;60:15;67:21; 70:16,17;77:18; 95:12;96:1;121:1 next (5) 31:2;87:3;102:7; 104:17;106:1 nice (3) 22:3;35:2;120:3 night (3) 31:4,5;92:21 noncontroversial (1) 32:1 nonprofit (2) 39:21;76:12 nonstructural (14) 45:2,17,20;46:4,8, 11;47:3;49:8;50:7,20; 53:21;57:17;59:21; 62:10 nor (1) 113:2 normal (1) 78:14 north (1) 70:11 Northeast (1) 79:16 note (2) 30:3;47:2 not-for-profit (1) 98:1 nowhere (1) 122:1 number (11) 40:18;67:4;101:21; 102:8,11,15,19,21; 103:4;115:21;117:16 numerous (4) 13:3,18;55:16; 67:14</p> <p style="text-align: center;">O</p> <p>Obviously (6) 15:17;61:6,14; 113:18;116:18;117:2 occur (5) 15:12;16:1;44:7; 51:8;79:13 occurred (3) 13:12;23:13;36:5 occurring (1) 65:19 October (1) 95:1 Oella (3) 92:2;93:21;94:13 off (5) 7:17;12:9;63:20;</p>	<p>85:2;120:11 offer (2) 40:1;51:16 offered (1) 109:18 offers (1) 99:5 office (5) 7:4;26:3;32:15; 92:13;106:12 officials (2) 39:10;84:3 often (3) 21:13;124:1,5 Ohio (1) 92:7 Old (17) 76:13;92:13;98:3,7, 11,12,21;99:5,8,13, 19;100:1;102:6; 103:8,13;104:5; 120:13 oldest (1) 92:7 once (1) 53:8 once-in-a-thousand-year (3) 13:7,11;15:16 one (33) 7:8;15:13;21:2,2; 36:8;41:12,13;50:15; 54:21;56:9,16;65:15; 69:8;78:15;86:5; 89:16;90:4;92:5;95:4, 6;98:16;104:14; 105:9,14;107:3,5; 108:19;111:21;117:6; 118:8;119:3;121:3; 131:21 ones (2) 63:3;130:11 one-stop (1) 39:17 ongoing (3) 25:4;59:8;103:1 Only (10) 9:19;26:14;27:10; 69:8;77:15;80:14,21; 125:10;126:2;127:14 onto (2) 79:21;115:5 open (2) 132:4,21 OPENING (4) 6:3;9:3;17:16,19 operations (1) 128:9 opportunities (4) 41:16;57:9;86:16; 125:21 opportunity (11) 19:6;36:1;42:8; 56:17;58:19;77:7;</p>	<p>82:21;97:7;104:3,17; 105:16 opposed (1) 120:12 optimistic (1) 32:4 options (4) 47:12;73:14;112:3, 6 order (5) 10:5,10;52:13; 73:10;118:21 organization (3) 95:2;98:2,6 original (2) 115:5;121:4 originally (1) 55:3 others (3) 9:10;18:19;58:21 other's (1) 28:20 ourselves (1) 82:15 out (42) 21:19;23:19;26:7, 10;30:20;50:12;57:2; 58:17;61:15;63:11; 64:2,20;66:11,17; 67:7;69:13,14;72:18; 74:14;79:21;81:1,13; 83:21;87:2;106:3,15, 19,21;107:5;112:11; 113:19;116:21; 118:13;119:3;120:9; 121:13;123:5,10; 125:5;128:5,14; 130:14 outcome (2) 60:10;88:7 outlines (1) 37:21 outreach (1) 46:3 outstanding (1) 119:16 over (19) 8:16;13:1;28:21,21; 53:2;59:2,4;67:3,3; 79:3;84:16;86:13; 93:19;94:12;108:7, 19;109:9;119:9; 127:11 overall (2) 80:21;114:18 overbank (1) 99:21 overseeing (1) 33:13 oversimplifying (1) 109:2 overwhelm (1) 36:11</p>
---	---	--	--	--

<p>overwhelmed (1) 27:5</p> <p>own (5) 94:16;101:14; 129:4,19;132:6</p> <p>owner (1) 64:5</p> <p>owners (11) 19:7;24:14;71:20; 72:8;93:14;98:10; 100:9;102:4;103:5; 105:20;117:14</p> <p>ownership (1) 73:10</p> <hr/> <p style="text-align: center;">P</p> <hr/> <p>P3 (1) 122:11</p> <p>page (1) 63:9</p> <p>panel (8) 11:20;32:6,8;34:6; 35:17;75:1,4;77:2</p> <p>panelists (2) 74:17;133:5</p> <p>paper (1) 91:10</p> <p>parents (1) 66:8</p> <p>Park (3) 93:21;94:9,19</p> <p>parking (2) 23:17,20</p> <p>part (17) 32:14;35:7;37:7,10; 61:14;68:5;80:17; 108:9;111:7,14; 115:11,12,15;116:2; 125:16,17;132:10</p> <p>participated (1) 46:2</p> <p>particular (2) 16:20;110:14</p> <p>particularly (8) 11:15;14:17;15:9; 17:5;28:10;34:10; 102:4;111:11</p> <p>parties (3) 84:14;101:9;102:14</p> <p>partisanship (2) 84:15,16</p> <p>partner (7) 11:7;16:15;34:5; 39:21;56:7,10;106:13</p> <p>partnered (1) 56:13</p> <p>partners (16) 31:7;32:6,9;35:17; 75:2;77:2;90:7;92:17; 18;93:7;101:3,16,19; 103:8,15;105:14</p> <p>partnership (15)</p>	<p>25:13;36:21;41:12; 72:12;74:12;76:11; 83:20;84:1,16;86:10; 94:21;97:13,21; 132:10,19</p> <p>partnerships (3) 41:6,15;55:8</p> <p>passed (4) 30:2;31:17;87:10; 111:4</p> <p>passion (1) 26:3</p> <p>past (4) 55:17;59:2;107:9; 113:14</p> <p>Patapsco (20) 75:21;77:15,20; 78:4,8;80:18;90:19; 91:1,2,6,9;92:12; 93:18,21;94:9,18; 95:15;106:16,19; 107:15</p> <p>path (2) 75:19;105:2</p> <p>pattern (2) 108:6,17</p> <p>patterns (2) 65:18;122:16</p> <p>pay (4) 61:15;89:5;113:19; 121:11</p> <p>peak (1) 107:20</p> <p>pedestrian (2) 95:5;96:15</p> <p>pending (2) 31:19;117:17</p> <p>Pennsylvania (2) 41:13;68:1</p> <p>people (17) 9:19;13:16;14:6; 17:8;21:10;64:1; 66:19;90:1;91:7; 123:5,11;128:9; 129:11;130:6,7; 131:2;133:5</p> <p>per (3) 78:15;127:9,10</p> <p>percent (6) 37:9;43:14;45:6; 89:5,6;118:14</p> <p>period (2) 77:16;89:14</p> <p>periods (2) 85:15,16</p> <p>permanent (3) 49:16;60:13;112:9</p> <p>permit-related (1) 37:19</p> <p>permits (1) 37:12</p> <p>person (7) 14:1;75:8,9,14;</p>	<p>76:8;105:1;129:4</p> <p>Personally (2) 62:13;66:13</p> <p>person's (1) 129:18</p> <p>perspective (3) 52:10;71:1;117:5</p> <p>Phase (1) 37:11</p> <p>phases (1) 46:10</p> <p>pick (1) 63:20</p> <p>picture (1) 51:19</p> <p>piece (1) 80:21</p> <p>pieces (3) 85:2;117:6;119:21</p> <p>piecing (1) 116:2</p> <p>Pike (1) 92:13</p> <p>pinch (1) 81:10</p> <p>pipe (3) 88:14,16;121:5</p> <p>Pipelines (1) 22:19</p> <p>place (10) 20:14;50:13;65:15; 70:2;90:11;98:12; 99:8;108:11;113:1; 125:7</p> <p>places (5) 7:7;59:3;66:5,9; 121:1</p> <p>plan (6) 61:6;82:2;87:2; 88:21;116:20;132:8</p> <p>planning (6) 33:15;44:16;93:13; 97:5;101:15;117:7</p> <p>plans (8) 29:16;40:17;45:21; 102:16,17;126:12; 128:8,10</p> <p>play (7) 11:14;15:10; 101:11;113:21; 118:19;120:16; 132:15</p> <p>played (1) 17:14</p> <p>plays (1) 11:10</p> <p>please (1) 6:15</p> <p>pleased (1) 18:6</p> <p>pleasure (3) 10:1;22:21;35:15</p> <p>Plumtree (1)</p>	<p>111:6</p> <p>pm (2) 6:2;133:13</p> <p>point (7) 45:16;57:2;74:13; 77:16;90:4;119:3; 130:14</p> <p>pointed (2) 83:21;106:21</p> <p>points (2) 81:10;107:5</p> <p>policies (2) 24:16;131:19</p> <p>political (1) 32:18</p> <p>pollute (1) 36:12</p> <p>pollution (1) 37:7</p> <p>pool (1) 81:7</p> <p>population (2) 15:21;49:18</p> <p>populous (1) 99:2</p> <p>ports (2) 30:14;91:14</p> <p>posed (3) 51:6;80:1;81:19</p> <p>position (1) 118:11</p> <p>positions (2) 32:13,17</p> <p>positive (1) 80:12</p> <p>possible (8) 90:5,5;118:2;120:2; 130:2;131:20;132:4,5</p> <p>possibly (2) 74:2;130:9</p> <p>post-flood (2) 43:16;101:14</p> <p>potential (2) 45:2;80:5</p> <p>pounds (1) 93:19</p> <p>power (2) 19:18;20:9</p> <p>practical (2) 66:18;124:10</p> <p>predictable (2) 33:21;85:10</p> <p>predicted (1) 79:13</p> <p>pre-disaster (1) 82:7</p> <p>pre-engineering (1) 53:13</p> <p>preliminary (1) 45:19</p> <p>prepared (6) 12:1;16:8,10;74:8, 9;102:7</p>	<p>preparedness (1) 102:16</p> <p>preparing (2) 51:9;69:20</p> <p>presence (1) 76:20</p> <p>present (2) 47:1;57:8</p> <p>presented (1) 11:20</p> <p>presenting (1) 92:19</p> <p>preservation (7) 47:15;93:7,7,12; 94:6;98:5;105:15</p> <p>preserve (10) 76:12;96:3;98:6; 105:6;106:8,11; 130:2,9;132:19;133:8</p> <p>President (3) 75:21;76:10;97:20</p> <p>pressing (1) 102:3</p> <p>prevent (3) 19:18;20:13;88:3</p> <p>prevented (2) 47:4;59:15</p> <p>previous (2) 45:11;85:5</p> <p>previously (1) 6:21</p> <p>price (1) 114:13</p> <p>primarily (1) 57:19</p> <p>Prince (1) 41:12</p> <p>principle (1) 79:20</p> <p>priorities (1) 9:13</p> <p>priority (1) 30:20</p> <p>private (5) 14:9;39:21;105:20; 111:19;122:10</p> <p>private-sector (1) 132:13</p> <p>privilege (2) 18:5;97:17</p> <p>proactive (1) 97:4</p> <p>probably (6) 53:21;65:14;68:17; 104:17;109:1;120:21</p> <p>problem (5) 65:1;69:3;70:15; 84:17;107:7</p> <p>problems (3) 50:16;52:7;107:1</p> <p>proceed (1) 35:4</p> <p>Proceedings (1)</p>
--	---	--	--	--

<p>133:13 P-R-O-C-E-E-D-I-N-G-S (1) 6:1 process (5) 15:6;20:20;82:9; 89:6;132:3 processes (1) 15:7 production (1) 96:6 products (1) 96:6 Program (14) 25:5;33:14;38:12; 39:2;40:10,16;44:12, 14,18,19;57:3;81:8; 89:11;122:4 programs (12) 24:17;29:15;36:19; 37:2;40:1;50:8;54:10; 72:12;82:8,11,13; 87:20 progress (1) 85:7 project (6) 41:20;53:10;86:12, 12,121:4,12 projects (36) 30:17;32:3;38:11, 14,16;39:5,6,12; 40:11,13;49:3;55:10, 15;56:4;80:10,14; 96:20;102:2,5; 103:11,13;110:1,3; 114:8,10;115:8; 116:4,14,16;118:13, 15;121:5,7;122:11; 124:15;126:6 promise (2) 123:3,3 promising (1) 127:2 promoted (1) 101:5 prone (1) 99:20 proof (1) 128:2 properties (9) 46:10;47:18;49:10; 92:4;102:10,18; 104:10;105:4;111:20 property (9) 16:12;72:8;80:2; 93:14;98:10;100:8; 102:4;103:5;105:20 proposals (3) 59:21;61:11;130:13 protect (7) 16:12;27:16;29:9; 42:5;57:21;62:17; 130:14 Protection (4)</p>	<p>11:13;15:8;32:11; 35:19 proud (7) 10:3;14:17;16:15; 17:2;26:11;34:1; 47:21 provide (11) 25:14;30:12;41:8; 44:15;52:18;62:21; 63:14;99:10;101:3; 112:8;118:4 provided (7) 38:12;40:8;43:16; 44:2;45:8;46:18; 119:12 provides (6) 32:1;33:14;38:8; 39:2,8;44:6 providing (1) 115:7 provisions (1) 30:4 Public (20) 10:12,19,21;11:9; 16:18;18:8;23:11; 24:21;26:3;31:18; 34:15;42:1;44:3; 46:21;57:5;75:7;76:4, 9;77:4;84:6 public-private (2) 41:6;55:7 public-sector (1) 101:16 pulled (1) 18:10 purchasing (1) 102:9 purpose (2) 11:17;81:17 push (1) 117:21 put (13) 20:3;49:21;50:13; 64:1;71:7;90:10; 116:19;118:20;124:8; 125:5,11;126:13; 128:7 puts (1) 118:16 putting (3) 88:13;104:8;118:13 puzzle (2) 85:2;119:21</p>	<p>36:9;40:21 quantity (3) 60:21;63:3,4 QUESTION-AND-ANSWER (3) 48:8;89:14;104:6 quicker (1) 86:17 quickly (7) 50:18;55:9;65:16; 74:1;78:5;118:2; 120:1 quite (2) 75:9;131:6</p> <p style="text-align: center;">R</p> <p>radical (1) 113:2 Railroad (3) 92:7,8;98:20 Railroads (1) 22:19 rain (5) 13:2,14;67:19;95:7; 108:17 rainfall (6) 27:4;43:21;51:7; 65:10,11,20 rains (1) 67:13 rainstorm (1) 109:9 raised (4) 22:9;101:1;106:14; 128:21 raising (1) 46:13 range (2) 38:17;39:3 ranges (1) 47:13 rank (3) 10:16,20;34:11 rather (3) 15:21;30:20;61:7 ratio (2) 53:10;70:14 reaching (1) 106:3 react (1) 44:5 read (1) 62:7 ready (1) 90:10 real (4) 22:21;33:16;70:10; 123:6 realistic (2) 116:20;132:5 realities (3) 11:7;49:18;72:15 reality (1)</p>	<p>73:11 realize (2) 28:18;95:18 realized (1) 80:19 really (18) 9:8;15:16;20:15; 21:12,19;31:15;35:2; 48:19;60:1,2;61:3; 81:16;104:8;112:7; 123:12;125:4,19; 131:21 reason (1) 26:2 reasonable (1) 72:9 reasonably (2) 103:15;117:1 reasons (3) 7:8;15:14;111:21 reauthorized (1) 71:6 rebuild (4) 24:11;31:1;103:6; 129:10 rebuilding (1) 111:15 received (2) 6:17;32:17 recent (5) 43:8;114:4;117:18; 119:15;129:12 Recently (2) 100:1;106:20 recognize (5) 50:14;57:6;73:2; 83:20;112:16 recognizes (2) 47:11;103:9 recommenda- (1) 90:9 recommendation (1) 105:9 recommendations (11) 46:1;49:12;58:20; 59:5,18;60:20;62:11, 16;63:2;70:7;87:4 recommended (3) 45:20;51:13;60:1 recommending (1) 80:7 recommends (2) 51:2;57:19 record (3) 11:21;35:8;132:21 recover (1) 29:15 recovery (8) 48:1;83:19;86:8; 93:1,4;94:18;101:15; 103:9 recurrence (1) 66:2</p>	<p>redevelopment (1) 38:1 redirecting (1) 49:15 reduce (14) 20:13;36:3,16;37:7; 40:17;46:5;47:7,17; 58:14;61:12;63:3; 97:1;115:9;127:12 reduced (2) 43:19;100:12 reduction (1) 125:6 reductions (2) 80:15;81:12 referenced (2) 19:21;114:7 referred (1) 86:19 referring (3) 31:17;49:10;62:5 reflect (1) 96:21 reflective (1) 85:21 regard (1) 11:11 regarded (1) 86:20 regarding (1) 23:12 regards (6) 9:13;14:14;48:16; 50:19;52:7;72:7 Region (10) 32:10,15;38:12,13; 39:19;40:14;42:11; 78:14,21;109:5 regional (6) 27:1;32:10,15; 44:16;75:2;77:2 regionally (1) 39:4 regular (1) 116:19 regulatory (1) 36:19 rehearsal (1) 69:9 reimbursable (1) 118:12 reimbursement (2) 118:16;119:16 reinvent (1) 61:7 related (1) 103:11 relatively (4) 19:10;60:15;77:16; 107:12 Relay (1) 92:2 release (1)</p>
	Q			
	<p>Quaker (1) 91:16 qualified (1) 113:3 qualify (1) 54:11 quality (2)</p>			

107:16 released (1) 95:16 relevance (2) 101:18;103:18 relevant (1) 117:14 relief (2) 25:14;101:2 remain (1) 132:21 remains (2) 23:3;89:9 REMARKS (4) 6:3;9:3;17:19; 128:19 remember (2) 12:7;106:16 reminded (1) 106:18 removed (2) 93:19;94:11 removing (1) 81:10 renamed (1) 98:15 rents (1) 92:13 reoccurring (1) 95:7 repeat (2) 29:7;50:3 repeatedly (2) 27:3;102:10 replace (1) 88:19 replacements (1) 88:5 replacing (1) 89:1 replicated (1) 41:1 report (4) 46:19;58:9,17; 60:13 reported (1) 94:15 represent (1) 26:11 Representative (5) 43:5;48:4;64:12; 65:7;90:21 representatives (5) 6:7,19;22:8;83:13; 84:13 representing (3) 17:8;22:7;83:8 represents (2) 34:8;75:11 request (2) 43:17;133:3 requests (1) 103:19	require (3) 71:2;103:14;109:19 required (2) 103:11;112:17 requirements (2) 37:16;97:2 requires (1) 131:11 requiring (1) 37:9 rescued (3) 13:17;129:13,14 Research (2) 99:12;100:11 residence (1) 92:16 resident (3) 64:6;76:1,16 residential (1) 125:1 residents (6) 13:5;24:13;27:10; 71:19;95:11;98:10 resilience (4) 20:20;42:2;47:9; 103:12 resiliency (5) 36:17;39:8;56:1,2; 97:4 resilient (3) 31:2;82:17;99:21 resolve (1) 42:4 resolved (1) 71:15 resource (1) 34:19 resources (29) 10:4;14:7,8,8,9,9; 30:1,5;31:16;32:2; 39:14;40:7;50:13; 54:17;56:5,16;74:13; 76:6;81:21;86:6; 94:17;95:19;96:3,5,9, 12;103:14;119:6; 129:8 respect (1) 60:20 responders (2) 13:17;14:3 responding (1) 9:12 response (4) 43:7,16;44:11; 83:18 responsive (1) 117:12 restaurants (1) 95:10 restoration (4) 25:3;37:9;118:14; 119:1 restore (4)	30:14;82:4,17;96:4 restored (1) 37:17 result (2) 78:2;88:8 resulted (2) 27:8;100:7 results (3) 47:1;123:3;124:20 retail (2) 95:10;99:11 retain (1) 80:6 retention (2) 95:20;125:20 rethinking (1) 68:10 return (1) 100:19 returning (1) 101:4 revenue (1) 87:14 revenues (2) 99:18;100:14 reverse (1) 28:11 review (3) 50:18;85:13;115:18 reviewed (2) 45:10;114:4 reviews (1) 93:9 revisiting (2) 86:21;104:18 Revolution (1) 98:18 Revolving (1) 38:8 right (21) 58:1,6;59:16;75:19; 84:6;108:6;110:21; 113:19;114:14; 115:14;116:4,6; 118:8;119:5,12,13; 120:14;121:2;122:4; 123:16;125:12 rise (2) 79:15;130:19 rising (3) 78:9;106:16;107:15 risk (14) 15:12;16:8;28:8; 43:20;45:2;47:7,17; 51:5;59:19;105:4; 129:5,8;130:19; 131:13 risks (4) 29:10;36:3;51:6; 103:19 River (4) 80:18;91:9;93:18; 95:15	riverine (1) 99:21 Road (4) 63:4;94:1;96:13; 107:16 roadways (1) 100:16 robust (2) 49:2;102:16 Rodrigues (10) 32:9,12;35:5,18,20; 54:10,14;67:11,13; 72:11 role (13) 11:10,15;12:3;15:9; 17:14;36:2;43:7; 101:11;114:1;117:1, 3,7;132:15 roll (1) 87:2 Room (4) 6:6;65:14;66:19; 133:6 Roots (1) 98:17 rose (1) 106:20 route (1) 121:10 Row (1) 92:14 rules (2) 88:3;89:11 run (1) 21:17 running (2) 77:17;96:14 runoff (9) 16:1;36:6,17;37:4; 40:18;51:21;52:7; 95:8;107:1 rushing (1) 64:15	31:9 save (1) 14:3 saved (2) 13:17;93:5 saw (7) 12:15;22:12;60:3; 64:10,13;129:11; 130:18 saying (7) 53:18;67:1;73:2; 112:11;119:10; 123:18;126:21 SBA (3) 117:15,16,21 scale (1) 19:10 scenarios (2) 84:21;89:19 scheduled (1) 94:21 school (2) 22:1;32:19 schools (1) 99:2 science (2) 29:6;32:18 scientifically (1) 88:11 scientifically-based (1) 86:1 script (1) 85:3 sealant (1) 46:15 seamless (1) 33:7 search (1) 81:1 searchable (1) 39:13 seat (2) 64:1;98:21 second (6) 13:10;21:2;52:3; 63:5;75:4;100:5 secondly (1) 117:9 Secretaries (1) 87:18 Secretary (2) 34:16;87:18 sector (1) 39:21 secure (2) 25:2;29:13 secured (1) 93:10 Security (2) 76:4;128:1 seeing (1) 12:18 seeking (1)
S				
			sadly (2) 28:6;31:3 safe (3) 8:13;95:5;105:7 safely (1) 95:13 safety (4) 9:19;47:21;95:18; 103:12 same (9) 28:9;63:9;71:13; 86:15;88:14;108:11, 19;120:13;124:19 Sandy (1) 88:9 Sarbanes (4) 17:12;18:19;25:12;	

13:21 seeks (1) 76:12 seems (1) 106:12 selected (1) 80:11 Senate (5) 7:20;16:21;18:6,7; 31:20 Senate's (2) 23:11;30:5 Senator (128) 6:8,9,15,19,20;7:1, 13:8;16:9;2,4,7;10:9, 13,17,20;16:16;17:1, 16,20,21;18:3,9,11, 18;19:1,11,21;20:19; 21:6,9,9;22:6;23:7,8, 15;24:9,12,20;25:19, 20;26:5;28:13,14; 29:12,12;30:6,6;31:6, 7,13;32:7;42:18;43:4, 4;48:3,4,9;49:1; 50:21;52:4,8,12; 53:15,19,20;54:3,5,9, 15;56:21;57:10,11, 12;58:2,4,7,8,16; 59:16;61:5,16;62:3, 19,20;63:13,16,17; 68:11;71:12,12;72:3, 4;75:3;83:2,7,10,11; 90:15,20,21;96:16; 97:9;104:7;105:13; 106:7,11;109:11; 110:15;111:1,18; 113:7,7,9,10;114:12, 17;116:1,8,12,17; 117:9;119:7;120:4,6; 123:8,8;128:20; 131:16 senators (8) 11:4;17:3;35:20; 42:7;63:20;77:5; 97:15;104:2 senior (2) 22:14;29:18 sense (3) 74:11;112:16;123:7 sensitive (1) 122:5 sensors (1) 128:4 Separate (2) 37:12;100:4 September (4) 37:16;44:20;95:1; 133:1 Sergeant (1) 13:20 serious (1) 36:7 serve (3)	18:5,6;25:21 served (2) 32:16;98:19 serves (2) 16:18;98:2 service (7) 52:17;65:9;76:4,9; 79:7;84:6;85:10 Services (6) 44:12,15;54:7;75:6; 99:11;101:4 serving (1) 22:16 SESSION (3) 48:8;104:6;106:1 set (4) 37:5;40:8;52:21; 81:6 settings (1) 105:19 several (6) 26:19;32:16;50:10; 54:10;56:5;70:2 severe (6) 28:9;47:8;49:21; 67:19,19;79:15 severity (3) 28:4;85:8,15 sewer (8) 36:11;37:12;38:18; 67:17;68:8,8;93:17; 94:15 shallow (1) 78:1 shape (1) 24:5 share (5) 50:5;89:13;101:7; 115:13;132:3 shared (1) 86:11 sharing (1) 93:3 shed (1) 36:10 shocked (1) 64:15 shop (2) 39:17;71:20 short (3) 77:16;85:15;107:13 showed (1) 80:14 signed (1) 44:20 significance (2) 98:13;99:9 Significant (6) 27:18;39:4;41:17; 70:18;81:12;112:17 significantly (1) 30:11 silver (1)	127:1 similar (4) 41:13;59:2;87:21; 101:11 Similarly (1) 78:20 simple (1) 90:4 simply (1) 86:4 sincerely (1) 7:18 single (1) 29:14 site (1) 92:9 sites (1) 99:7 sitting (3) 24:4;64:2;92:19 situation (3) 15:5;64:8;87:9 situations (1) 68:14 six (10) 13:1,14;65:12;69:6; 78:9,17;94:10;125:5, 6;127:11 six- (2) 78:18;79:4 six-inch (1) 125:2 size (3) 30:9;81:12;88:15 sky (1) 128:14 slopes (1) 78:1 slow (1) 28:11 slowly (1) 95:16 Small (11) 15:1;34:8,11;41:16; 52:19;77:12;96:19; 105:19;108:8;109:10; 131:10 smaller (1) 105:18 smallest (1) 91:5 smart (1) 8:13 smiling (1) 22:2 snow (1) 121:21 snowstorms (1) 121:20 soak (1) 78:3 Social (3) 76:4;93:2;94:4	solution (8) 51:20;53:4;81:1; 88:10,12;112:9; 121:1,2 solutions (11) 46:7;60:13;70:6; 80:20;89:12;90:4; 120:11,12,17;126:18; 128:13 solve (1) 84:17 solving (1) 50:16 somewhat (1) 88:7 soon (4) 6:10;69:13;71:15, 16 sooner (1) 87:3 sort (11) 59:17,19;60:9;63:9; 66:14;110:10;114:5, 8,21;115:1;116:2 sorts (2) 84:20;121:19 sought (2) 26:2;100:20 sound (1) 88:11 source (1) 50:15 sources (4) 39:20;55:16;56:19; 87:14 south (1) 64:19 space (1) 92:13 spaces (2) 40:19;99:7 speak (3) 65:18;97:17;104:4 speakers (1) 85:6 speaking (3) 8:20;33:19;120:21 specific (9) 53:17;60:19;61:11; 63:2,7;115:4,9; 121:16;122:7 spend (1) 56:4 spending (1) 87:13 spent (5) 32:14;69:6;76:3; 84:19;88:2 spilling (1) 79:20 spot (1) 124:9 square (1)	77:13 SRF (2) 38:8,11 stabilization (1) 93:11 Staff (2) 13:20;93:9 stage (1) 116:5 stalls (1) 109:6 stand (1) 20:8 standards (2) 37:21;85:17 standing (1) 54:7 stands (1) 133:11 start (7) 48:11;68:4;77:1,9; 83:16;112:11;122:14 starts (1) 109:7 state (30) 7:10;9:13,16;10:4; 14:8,16;20:9,10; 25:13;26:15;33:8; 34:18;38:7;39:16; 44:8,16;55:14;61:16; 71:18;84:2;86:10; 87:15;89:20;93:21; 94:9,19;102:8;103:8, 15;132:12 stated (1) 59:12 statement (12) 17:17;23:5;35:7,18; 43:1;48:5;63:14;77:3; 83:4;89:12;90:18; 97:12 States (12) 11:18;17:10;28:8, 19;36:16;38:5,9,12; 42:11;65:10;98:20; 106:5 state's (2) 117:1,2 Station (2) 92:7,8 statistics (1) 100:18 status (1) 117:19 stay (1) 21:3 steep (3) 26:18;30:16;78:1 stepped (1) 101:10 steps (1) 74:7 Steve (1)
---	--	---	---	---

34:7 still (6) 20:8;50:11;119:15; 126:8;128:15;131:10 stood (1) 91:19 stop (1) 8:15 storeowner (1) 58:6 storeowners (4) 21:15;58:13,18; 71:20 stores (1) 130:7 storm (15) 12:17;15:13;31:2; 47:10;80:2,4;95:8; 108:16;109:6;127:5, 6,7,8;129:13,15 storms (14) 27:11;42:3;50:4; 79:8,8,15;85:14; 108:12,15,18,19,21; 110:8;121:18 stormwater (25) 36:6,16;37:4,6,12, 21;38:7,18;39:6,11; 40:3,17;41:8,14; 42:13;55:15;68:12; 80:6;85:20;95:15,20; 102:1;103:2;109:17; 110:7 stormwaters (1) 67:17 straddle (1) 81:20 strain (1) 118:17 strained (1) 82:1 straining (1) 119:5 strategic (1) 110:5 strategies (1) 81:5 strategy (1) 37:15 stream (4) 36:12;93:16;94:5, 12 streambeds (1) 95:14 Street (21) 21:14;63:5;78:5,19; 79:6;80:1,18;95:3,4,4, 8;96:14;99:5;101:6; 108:1;115:11,12; 125:16;126:11; 127:14;130:4 streets (5) 12:14;37:1;40:9;	64:15;75:15 Street-type (1) 96:19 strength (4) 21:13,19,20;130:21 strengthen (1) 132:18 strengthening (1) 104:20 strong (2) 7:9;8:12 stronger (1) 48:13 strongly (1) 30:3 struck (1) 94:3 structural (18) 46:7;49:13;50:1,7, 20;53:4,16;62:16; 63:1;68:6;70:18;73:3; 80:19;93:8;107:6; 112:3;126:18;128:13 structures (3) 45:5,18;105:7 struggled (1) 27:10 studied (2) 70:8,16 studies (9) 50:10,10;52:6;59:2; 70:2;72:18;86:18; 109:21;113:17 study (37) 51:17,17;52:9,10, 11,16;53:6,9;54:21; 55:2;57:15,18,18; 58:11;60:18;62:1,4,6, 7,9,13,14,15;63:1; 70:1,5;71:2,3,4,9; 80:5;81:6;86:18; 109:19;114:6;115:5,6 studying (1) 69:19 Subcommittee (7) 10:10,14;22:17,18; 23:9;48:21;103:17 submitted (1) 133:2 subsidies (1) 102:19 sub-watershed (1) 108:9 success (1) 84:1 successfully (1) 59:6 sudden (1) 27:7 suffering (1) 100:9 sufficiency (1) 89:9	suggest (1) 100:18 suggests (2) 99:13;100:11 summarize (1) 35:8 Sunday (1) 13:12 sunny (1) 24:2 Superfund (1) 122:4 supplemental (1) 115:14 supplied (1) 91:9 support (21) 6:18;7:10;30:4; 34:2;38:10;40:6; 41:15,19;48:20;49:2; 89:15;90:2,6,11; 101:8,15;104:4,19; 106:2,3;109:19 supported (2) 18:20;99:16 supportive (1) 26:8 sure (20) 8:5;16:12;21:4; 24:5;31:4;54:14; 61:18;90:13;110:18, 20;111:3;113:12; 115:16;117:11,20; 118:1,5;123:2,21; 132:8 surface (1) 37:10 surfaces (2) 37:18;49:19 surroundings (1) 51:19 surveys (2) 45:13,14 survive (1) 129:15 surviving (1) 92:8 sustainable (1) 82:18 sustained (1) 47:5 swept (1) 88:16 symbolic (1) 8:2 System (5) 37:12;102:13; 126:19;127:20;128:7 systems (10) 36:11;38:1,18; 46:12;49:11;67:17, 21;68:8;96:8;128:3	T table (1) 92:19 tackle (1) 42:12 tag (1) 114:13 talk (9) 9:11,12;15:11;49:8; 87:19;110:13;121:19; 127:6,8 talked (8) 11:3;19:11;67:4; 75:16;86:3;119:17; 128:8,10 talking (11) 28:6,14;66:2,3; 70:18;74:3;84:20; 86:15;114:6;117:11; 121:3 talks (1) 49:1 tax (11) 30:20;93:14;96:18, 21;104:16,19,20; 105:1,3,11;106:8 Taylor (1) 62:5 Team (10) 9:11,12,16;10:2; 14:4;61:3,21;62:7,21; 93:16 technical (2) 39:8;44:15 techniques (1) 126:17 technologically (1) 88:11 technologies (1) 96:1 technology (1) 70:17 telling (2) 69:16;73:18 Ten (1) 40:12 tend (1) 127:6 term (2) 51:4,14 terminus (1) 98:19 terms (6) 60:12;87:21;110:1; 117:15,15;122:3 terrain (1) 26:18 Terrasa (1) 76:18 territory (1) 19:2	testify (6) 23:2,9;25:17;42:9; 43:6;97:8 testimonies (1) 104:13 testimony (9) 21:7;48:10;57:14; 90:16;92:20;97:10; 113:12;114:3;124:14 textiles (1) 91:10 thanking (2) 24:8;83:16 that'll (1) 50:15 thinking (3) 25:20;64:3;122:14 third (1) 86:11 though (2) 73:2;101:11 thought (2) 56:20;106:15 thoughtful (1) 29:4 thoughts (1) 49:12 thousand (1) 59:5 thousand-year (1) 19:12 threat (3) 42:3;80:1;128:15 threatened (1) 111:11 three (9) 11:3;77:17;78:10; 79:4;87:9;94:12; 108:10,15;127:10 thriving (2) 21:4;26:13 throughout (7) 28:8;33:17;36:7; 38:6;40:14;106:5; 128:4 thunder (1) 121:19 thunderstorm (1) 109:3 thunderstorms (3) 78:15;79:1;109:4 Tiber (6) 43:18;77:18;80:17; 95:11;111:6;125:17 Tiber-Hudson (1) 77:10 TIFIA (1) 57:3 till (1) 133:1 times (7) 7:3,7;45:12;66:10; 75:16;86:19;89:21
--	--	--	--	---

tions (1) 90:10	41:15	types (4) 11:16;12:4;21:18; 51:3	95:15;107:19	vision (3) 95:3,8,18
tirelessly (1) 24:13	transferable (1) 97:1	typical (1) 79:1	urban (1) 40:19	visitors (2) 98:11;101:6
today (15) 11:12;17:3;22:2; 23:1;25:17;28:7;36:2; 42:9;43:6;52:6;59:14; 77:8;81:17;104:4; 112:18	transit (1) 95:5	typically (2) 46:6;53:3	urge (1) 61:4	vital (1) 30:15
today's (4) 11:17;15:14;27:17; 88:12	transparency (1) 131:20		urgency (1) 82:19	vitality (2) 76:13;98:7
together (19) 7:11;18:4,10;21:3; 22:1;24:6;50:1;68:13; 19,19;69:1,2;75:16; 84:20;116:2;118:20; 128:7,12;132:7	transparent (1) 132:2	U	urgent (2) 28:1;30:12	voluntarily (1) 45:8
told (3) 66:12;76:17;79:12	Transportation (7) 10:11,15;22:15,18; 23:10;29:19;96:15	ultimately (1) 30:10	urgently (2) 29:3;95:17	volunteer (1) 93:16
toll (1) 27:13	travel (1) 78:19	Umberger (1) 34:7	USC (1) 44:3	volunteers (2) 93:19;94:11
tomorrow (1) 69:10	treasure (4) 26:14,15;130:3,3	unanimously (1) 31:18	use (5) 14:7;55:9;73:11; 85:17;110:4	voted (1) 29:21
Tonge (2) 92:14,15	tremendous (2) 32:2;34:19	under (6) 18:9;33:8;34:6; 40:8;72:12;73:12	used (5) 10:4;38:14;62:8; 93:1;130:17	votes (1) 28:21
tons (1) 94:12	tributaries (10) 43:19;49:14;52:1; 73:9;77:17;78:10; 93:20;94:14;95:12; 108:11	understood (1) 131:14	Using (3) 44:19;94:16;115:21	vulnerability (2) 107:4,8
took (2) 64:14;86:13	tributary (4) 78:12;95:7;106:21; 108:4	undertake (1) 110:2	utilities (1) 46:14	W
tool (4) 105:17,18;106:4; 125:12	tried (1) 56:10	unfortunately (3) 13:19;26:17;89:3	utilized (2) 105:18;111:21	wait (2) 15:3;118:15
tools (1) 50:17	trigger (1) 52:19	unique (4) 16:13;19:10;99:5; 108:17	V	waiting (1) 30:17
top (1) 77:14	Tropical (1) 108:16	United (6) 11:18;17:10;28:8, 18;98:20;106:5	Valley (7) 91:2,6,13;93:21; 94:3,9,19	wake (2) 25:18;101:13
topographical (1) 26:20	true (3) 14:13;26:6;125:9	University (2) 32:18;99:12	valuables (1) 46:13	walk (1) 64:20
topography (1) 77:21	truly (2) 21:14;24:6	unleashed (1) 27:4	Van (44) 6:9,20;16:16;17:1, 16,20;21:9;23:8; 24:20;25:20;28:14; 29:12;30:6;31:7; 35:21;42:7;43:4;48:4; 57:10,11;58:4,8; 59:16;62:3,19;63:16; 71:12;77:6;83:11; 90:21;97:15;104:2; 113:7,9;114:12,17; 116:1,8,12,17;119:7; 120:4;123:8;131:16	walked (1) 75:15
total (1) 94:17	Trust (2) 40:5;94:7	unless (1) 111:15	variety (1) 32:13	wall (3) 78:18;79:5;109:3
tough (3) 21:17;123:13,14	truth (1) 12:12	unlikely (1) 50:14	various (4) 44:5;54:12;87:20; 101:4	wants (1) 73:15
town (5) 81:5,15;87:6;91:20; 112:20	try (8) 19:18;20:3,5;56:15; 60:2;64:1;66:17; 132:4	unprecedented (2) 13:15;43:12	Virginia (5) 56:13;59:4,4,7;66:8	warm (1) 18:15
towns (5) 36:14;37:1;40:9,21; 98:17	trying (18) 24:4;49:13;50:12; 66:16,17;67:6;69:12; 75:18;110:13;112:14; 113:16;117:12,21; 120:9;123:10,13; 124:8,9	untreated (1) 37:10	velocities (1) 45:12	warning (7) 45:12;46:12;49:11; 96:8;102:13;126:19; 127:20
trace (1) 98:18	turn (2) 8:16;17:17	unwavering (1) 24:9	variety (1) 32:13	warnings (2) 12:9,10
track (1) 92:9	two (22) 11:11;13:3;41:10; 50:4;51:3,16;54:21; 63:2;75:15;78:17; 91:15;93:17;100:2; 111:8,12;116:14,15; 117:6;126:8,9; 127:11;133:1	up (18) 25:18;31:20;63:20; 67:15,21;71:11; 72:10;89:4;101:10; 106:20;107:16;108:1; 109:7,14;110:17; 120:2;126:6;128:18	various (4) 44:5;54:12;87:20; 101:4	wastewater (1) 39:11
traditional (2) 39:20;57:3	truth (1) 12:12	update (2) 61:9;117:19	view (3) 20:1;69:7;74:13	watch (2) 69:11;93:16
trail (1) 101:12	try (8) 19:18;20:3,5;56:15; 60:2;64:1;66:17; 132:4	updated (2) 60:14;96:20	village (1) 91:17	Watchers (1) 94:5
train (1) 108:18	turn (2) 8:16;17:17	updating (2) 86:21;115:6	vicinity (1) 86:14	water (53) 14:1;29:21;30:1,5, 8,10;31:16;32:2;36:9, 10,19,21;38:7,10,21, 21;39:4,7,11;49:14; 51:7;52:7;55:1,4,21; 61:1,1;67:20;77:14; 78:2,19;79:5,20; 80:15;87:6;95:21; 107:17,20,20;108:6; 124:16;125:2,13,19; 126:7,8,9;127:12,13;
training (1)	type (3) 49:16;55:20;56:3	upon (2) 31:21;66:20	view (3) 20:1;69:7;74:13	
		upper (3) 80:15;95:11;126:4	village (1) 91:17	
		Upstream (2)	Virginia (5) 56:13;59:4,4,7;66:8	

130:16,18,19,20 waterproof (1) 96:7 waterproofing (2) 46:14;130:12 water-related (1) 44:5 waters (4) 27:20;36:12;37:8; 40:20 Watershed (27) 41:2,11;68:12,18; 74:2;77:10,12,14; 79:19;103:3;107:7; 108:7,8,10;109:15; 110:10;111:6,7,8; 112:9;125:21;126:4; 128:4,6;131:5,8,10 watersheds (1) 38:3 watershed-wide (1) 51:17 waterways (1) 26:19 way (14) 16:2;20:3;35:6; 47:17;61:8;71:13; 77:15;78:4;86:12; 102:14;107:15;109:1; 120:13;126:20 ways (9) 18:17;21:3;48:13; 118:19;122:12,13,15, 16,18 wealthiest (1) 86:5 weather (13) 16:11;21:17;27:3; 28:4,10;49:21;65:9, 18;79:7;85:10;100:4; 108:5;122:15 week (2) 31:21;87:3 weekend (1) 64:21 weeks (4) 33:4;85:11;110:13; 133:1 Weinstein (14) 8:20;25:10;75:11; 83:3,4,6,7;109:12; 110:20;111:3;119:14; 120:10,14,19 weird (2) 87:8;121:18 welcome (4) 6:5;18:16;91:1,1 well-preserved (1) 91:19 weren't (2) 70:11;80:21 West (4) 56:13;59:3,7;66:8	what's (6) 16:4;55:20;56:3; 65:19;84:6;88:6 wheel (1) 61:8 Whenever (1) 63:21 whole (5) 7:15;47:20;87:13; 89:8;120:20 who's (2) 18:16;84:11 widen (1) 131:12 widening (2) 49:15;73:9 WIFIA (4) 39:2;55:11;57:2,8 willingness (1) 112:4 window (1) 125:7 windows (2) 46:17;96:7 wiping (1) 66:11 wishes (1) 23:3 within (9) 38:3,13;44:18;46:3; 72:9;79:17;91:21; 109:15;116:9 without (4) 14:21;44:17;50:1; 109:16 withstand (1) 21:1 witnesses (3) 11:20;35:6;42:15 words (2) 66:4;124:4 work (29) 7:11;10:1;14:16; 26:10;33:5;34:2;41:5; 42:10;49:6;53:13; 55:18;56:14,15,17; 59:11;61:7;63:11; 68:13,19;69:14; 71:14;82:16,19; 105:1,16;119:1; 122:8,10;130:6 worked (10) 9:15;30:7;34:20; 55:6;75:10;91:7;93:6; 101:3;103:7;125:3 workers (1) 92:16 workforce (1) 33:12 working (8) 20:2;24:15;47:14; 88:21;90:12;110:3; 113:14;127:21	work-plan (1) 101:14 Works (16) 10:12,19,21;11:10; 16:18;18:8;23:12; 25:1;31:19;34:15; 36:15;57:5;73:5;75:7; 77:4;98:6 world (4) 20:2;90:9;91:12,14 worsened (1) 26:21 Wyoming (1) 10:19 Y year (12) 21:16;30:2;33:12, 21;40:4;43:15;47:6; 58:10,17;60:3;78:21; 100:6 years (12) 19:5;21:5;22:8; 66:12;75:9,15;76:2,3; 86:13;109:16;119:19, 19 Yep (1) 120:4 York (2) 32:19;67:21 young (1) 106:18 Z Zoning (1) 93:14 0 0.1 (1) 43:14 0.2 (1) 45:6 1 1 (3) 75:12;83:8;101:21 1,000 (1) 33:13 1,000-year (4) 65:10;100:4;127:6, 7 1,400 (1) 37:17 1:00 (1) 6:2 100 (2) 89:5;118:13 100-year (3) 80:2;127:5,7	12 (1) 13:14 124 (1) 38:14 12-month (2) 45:1;111:13 13 (2) 91:5;92:9 13,000 (1) 93:19 13th (1) 33:11 145 (1) 40:13 15 (1) 81:14 150 (1) 99:10 16 (2) 45:18;108:15 1733 (1) 91:12 175 (1) 94:11 1768 (1) 78:7 1772 (2) 91:15;98:14 18 (6) 80:5,13;108:16; 114:7;124:14;130:12 1800s (1) 81:16 1830 (1) 92:6 1840s (1) 92:15 18th (1) 91:7 1960 (2) 44:14;54:8 1984 (1) 32:19 1987 (2) 32:12,20 1994 (3) 70:1,5;71:4 19th (1) 91:8 19th-century (1) 91:19 2 2 (1) 102:8 20 (3) 37:9;86:13;92:3 200 (1) 13:5 2006 (1) 76:16 2011 (4)	40:12;78:11; 108:15,16 2014 (1) 60:14 2016 (25) 12:7;22:10;27:7; 37:17;43:13;44:20; 47:5;55:4;57:16; 59:13;60:4,15;78:11, 13;79:19;80:3;83:19; 92:21;99:14;100:5, 11;101:1,12;115:15; 119:17 2017 (1) 80:10 2018 (11) 27:7;46:20,21; 59:13;78:11,21; 83:19;94:2;100:15; 101:10,13 206 (1) 44:13 21 (2) 40:11;78:6 22 (1) 13:9 24.6-square (1) 91:4 24-hour (1) 85:14 25 (1) 22:8 27 (2) 92:5;100:5 27th (3) 13:11;78:20;94:2 3 3 (3) 32:10;38:12;102:11 3.7 (1) 77:12 3:02 (1) 133:13 30 (2) 38:15;100:5 30th (4) 12:7;78:13;80:3; 92:21 33 (2) 44:3;128:4 3rd (1) 133:1 3's (1) 32:15 4 4 (1) 102:15 419 (1) 93:18
---	---	---	--	---

<p>49 (1) 76:2</p>				
<p>5</p>				
<p>5 (1) 102:19 50 (2) 81:14;109:16 500 (1) 92:4 500-year (2) 45:7,14 501c3 (1) 76:12</p>				
<p>6</p>				
<p>6 (1) 102:21 60 (1) 109:16 68th (1) 33:9</p>				
<p>7</p>				
<p>7 (1) 103:4 7.5 (1) 79:2 701n (1) 44:3 70s (1) 70:4 75 (1) 89:6 7th (2) 17:8;22:7</p>				
<p>8</p>				
<p>80 (1) 45:13 84-99 (1) 44:3</p>				
<p>9</p>				
<p>90-degree (1) 81:11</p>				