

**In the Matter Of:**  
**PSZONKA**  
**v.**  
**SNOHOMISH COUNTY**

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**JOHN PENNINGTON**

March 23, 2016

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IN THE SUPERIOR COURT OF THE STATE OF WASHINGTON  
IN AND FOR THE COUNTY OF KING

RYAN M. PSZONKA, et al.,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	No. 14-2-18401-8 SEA
	)	
SNOHOMISH COUNTY, et al.,	)	
	)	
Defendants.	)	
<hr/>		
TIM WARD, et al.,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	No. 14-2-29255-4 SEA
	)	
SNOHOMISH COUNTY, et al.,	)	
	)	
Defendants.	)	
<hr/>		
GREGORY REGELBRUGGE, et al.,	)	
	)	
Plaintiffs,	)	
	)	
vs.	)	No. 15-2-01672-5 SEA
	)	
STATE OF WASHINGTON, et al.,	)	
	)	
Defendants.	)	

**COPY**

Video Deposition Upon Oral Examination  
of  
JOHN E. PENNINGTON

9:00 a.m.  
March 23, 2016  
999 Third Avenue, Suite 4400  
Seattle, Washington

Carolyn L. Coleman, RPR, CCR





1 RANDI LESTER, individually; and )  
 ROBIN YOUNGBLOOD, individually, )  
 2 )  
 Plaintiffs, )  
 3 )  
 vs. )No. 15-2-02098-6 SEA  
 4 )  
 SNOHOMISH COUNTY; STATE OF )  
 5 WASHINGTON, DEPARTMENT OF )  
 NATURAL RESOURCES; and GRANDY )  
 6 LAKE FOREST ASSOCIATES, LLC, a )  
 Washington Limited Liability )  
 7 Company, )  
 )  
 8 Defendants. )  
 )

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VIDEOGRAPHER:

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CHARLES W. SEATON, JR.

1	I N D E X		Page 4
2			
3	EXAMINATION		PAGE
4			
5	BY MR. MICHELSON .....		6
6	BY MR. PHILLIPS .....		119
7			
8			
9			
10	EXHIBIT INDEX		
11			
12	EXHIBIT MARKED		PAGE
13	810	4-page Wall Street Journal article entitled	48
14		Mudslide Prompts Rethink on Counties' Disaster Planning	
15	811	2-page article entitled Unofficial Death	63
16		Toll Hits 24 in Washington Mudslide, dated 3/25/14	
17			
18	812	33-page Snohomish County Natural Hazards	70
19		Mitigation Plan Volume 1 - Planning Area-Wide Elements, Final, March 2005	
20	813	4-page Department of Emergency Management	78
21		Response to Performance Audit, to Kymber Waltmunson from John E. Pennington	
22			
23	814	3-page email string to SXO - DeptDir from	81
24		John Pennington, Subject: Landslide and Debris Removal Guidance, dated 12/13/07	
25			



1	EXHIBIT INDEX continued		Page 5
2	EXHIBIT MARKED		PAGE
3	815	1-page Snohomish County Map 14-1 Landslide Hazard Areas containing markings made by the witness	106
4			
5			
6	816	5-page Snohomish County Natural Hazards Mitigation Plan Progress Report 1st Annual Steering Committee Meeting minutes, dated 8/23/06	142
7			
8			
9	817	1-page Snohomish County LiDAR Data, 2003, entitled Oso Slide Area	150
10			
11			
12			
13	EXHIBITS REFERENCED		
14	EXHIBIT DEPOSITION OF		PAGE
15	8	Gary Haakenson	85
16	9	Gary Haakenson	105
17	10	Gary Haakenson	92
18	17	George Rowe	94
19	231	Tracy Drury, Volume I	146
20	471	Daniel Miller, Volume III	53
21	472	Daniel Miller, Volume III	39
22			
23			
24			
25			



1 THE VIDEOGRAPHER: We are on the record.  
2 This is the videotaped portion of the deposition of John  
3 Pennington. This deposition is being recorded this 23rd  
4 day of March, 2016. The time is now 9:a.m.

5 Will the court reporter please swear in the  
6 witness so we can proceed.

7 JOHN E. PENNINGTON, witness herein, having been  
8 duly sworn by the Certified  
9 Court Reporter, testified  
10 under oath as follows:

11 EXAMINATION

12 BY MR. MICHELSON:

13 Q Would you state your full name for the  
14 record.

15 A. John Edward Pennington, Jr.

16 Q. And your current home address?

17 A. My current home address is 28120 Northeast  
18 147th Place in Duvall, Washington.

19 Q. How long have you lived at that address?

20 A. I have lived at that address for ten years.

21 Q. Have you ever had your deposition taken  
22 before?

23 A. Yes, sir, I have.

24 Q. And under what circumstances have you had  
25 your deposition taken in the past?

1           A.     My deposition was taken several years ago in  
2     a suit filed against Snohomish County by a litigant  
3     named Anne Block.

4           **Q.     And when you say several years ago, do you**  
5     **have a time frame?**

6           A.     I believe it was around 2010.

7           **Q.     And what was the claim against Snohomish**  
8     **County in that lawsuit?**

9           A.     I recall -- I recall that it was based on  
10    public records.

11          **Q.     And what was your involvement in that? In**  
12    **other words, why do you understand you were being**  
13    **deposed?**

14          A.     My understanding is that she sued -- I  
15    believe -- I recall that she sued the county and our  
16    department based on public records laws and not  
17    releasing public records.

18          **Q.     Have you had your deposition taken on any**  
19    **other occasion?**

20          A.     Not that I recall.

21          **Q.     Have you ever testified at trial?**

22          A.     Only in a personal divorce.

23          **Q.     And when was that?**

24          A.     In 2010.

25          **Q.     And where was that?**

1 A. In King County, Washington.

2 Q. Let me just go through a few ground rules.

3 It's important that we don't overlap, so I'll try not to  
4 cut off your answer. You have to try not to anticipate  
5 the question, where it's going.

6 It's important that you verbalize your  
7 answer, so if you simply nod your head, it's difficult  
8 for the court reporter to take that down.

9 A. Uh-huh.

10 Q. It's important that you understand the  
11 question, so if for any reason you don't understand it,  
12 just say so, and I'll repeat it or rephrase it. And  
13 it's important that you realize that you're under oath  
14 just as if you were testifying in a court of law.

15 Do you understand those instructions?

16 A. Yes, I do.

17 Q. Are you represented by legal counsel here  
18 today?

19 A. Yes, I am represented by legal counsel.

20 Q. And are you still employed by Snohomish  
21 County?

22 A. No, I am not employed by Snohomish County.

23 Q. And when did that employment terminate?

24 A. It terminated January 4th, 2016.

25 Q. And what were the circumstances under which

1 that was terminated? Namely, were you fired, you  
2 elected to leave? What happened?

3 A. A new county executive was elected and his  
4 legislative assistant conveyed to me that I was -- they  
5 were going to go in a new direction and that my position  
6 was not going to be needed.

7 Q. And what was your position at that time?

8 A. I was the director of the Department of  
9 Emergency Management.

10 Q. And after you left was a new director of the  
11 Department of Emergency Management brought in?

12 A. No.

13 Q. So who, as you understand it, has filled your  
14 job functions?

15 A. My deputy director, Jason Biermann, has  
16 filled my responsibilities at the department.

17 Q. So is he then acting director?

18 A. I believe that his role is considered  
19 interim.

20 Q. So they're apparently then searching for  
21 someone to replace you?

22 A. I don't have that knowledge.

23 Q. What is your educational background, starting  
24 with high school?

25 A. I graduated from Stratford High School in



1 Nashville, Tennessee.

2 Q. And what year was that?

3 A. 1984.

4 Q. How old are you?

5 A. I am 49.

6 Q. And that was in 1984?

7 A. Yes, sir.

8 Q. Did you go on to college at that point in  
9 time?

10 A. I did.

11 Q. And where did you go to college?

12 A. I sat out for one year, and then went to  
13 Vanderbilt University and Belmont University  
14 simultaneously through a Navy ROTC scholarship.

15 Q. And did you receive a degree?

16 A. No, I did not.

17 Q. How many years did you go to college?

18 A. One and a half years there.

19 Q. And have you ever received a college degree?

20 A. Yes.

21 Q. And when was that and where?

22 A. In 2001 I received a bachelor's of science  
23 degree in business administration from California Coast  
24 University; and in 2012 I received my master's degree in  
25 emergency and disaster management from American Military

1 University; and I have a postgraduate certificate from  
2 the Naval Postgraduate School in Monterey, California in  
3 Homeland Security.

4 Q. So the bachelor degree you received in 2001,  
5 I'm not familiar with that college, so describe that to  
6 me.

7 A. Online university.

8 Q. So it was an online degree?

9 A. Correct.

10 Q. And then the degree in 2012, was that online  
11 as well or not?

12 A. That is correct.

13 Q. And the other education that you received in  
14 Homeland Security, was that online?

15 A. No, that was through the -- through -- in  
16 Monterey, California, at the Naval Postgraduate School  
17 Center for Homeland Defense and Security. And I am a  
18 certified emergency manager through the International  
19 Association of Emergency Managers.

20 Q. So then let's go through your occupational  
21 background after 1984. What have you done for work?  
22 Walk me through that, please.

23 A. I began in the coffee industry in 1988. I  
24 believe 1988. And started a coffee company in the  
25 Pacific Northwest, a coffee service company and

1 roasting. Small. And then in --

2 **Q. What was the name of that?**

3 A. Timber Town Coffee Company.

4 **Q. Okay.**

5 A. And then in 1994 I was elected to the State  
6 House of Representatives, and was subsequently elected  
7 to that position for three additional terms.

8 **Q. Okay. Then what?**

9 A. After September the 11th, 2001, I left the  
10 State House of Representatives to become the regional  
11 director for FEMA for Region 10: Alaska, Oregon, Idaho  
12 and Washington. And then in 2006 departed that position  
13 to begin the Department of Emergency Management in  
14 Snohomish County.

15 **Q. So let's focus on those last two for a**  
16 **moment. So in 2001 when you became the regional**  
17 **director for Region 10 of FEMA, was this an appointment?**

18 A. It was.

19 **Q. And how did that come about? Was that**  
20 **something you sought out, were sought out? How did that**  
21 **happen?**

22 A. I received a phone call after coming back  
23 from Portland, Oregon -- or coming back from Nashville  
24 to Portland, Oregon, from an individual at FEMA, and I  
25 don't recall who the individual was, asking if I would

1 be willing to come back and interview for the position  
2 of FEMA regional director based on my experiences along  
3 Interstate 5 and with the Kelso, Washington, landslide  
4 in previous years. And so I was notified.

5 Q. So there was apparently a significant  
6 landslide in Kelso in 1998; is that correct?

7 A. That is correct.

8 Q. And what was your involvement in that  
9 landslide?

10 A. I was the state representative for the area  
11 and I resided not too very far from the community, was  
12 intimately familiar with the community. And the  
13 community had been turned down for a disaster  
14 declaration, denied from President Clinton and from  
15 FEMA, and I became the advocate who turned the  
16 declaration around and got the assistance to the  
17 individuals.

18 Q. Was there a risk to human life, as you  
19 understood it, for the people that lived in that  
20 community associated with the landslide?

21 MR. LEYH: Object to the form. Go  
22 ahead.

23 A. No, I don't believe that there was.

24 Q (BY MR. MICHELSON) Did you take steps to try  
25 to secure funds to buy out owners in that community, to

1     **move them out of that area?**

2           A.     In my capacity as a state representative, is  
3     that what you're asking?

4           **Q.     I am.**

5           A.     In my capacity as state representative, after  
6     the landslide was completed -- in other words, after the  
7     federal government reversed its decision to deny federal  
8     assistance to them, as a state representative, I believe  
9     I introduced legislation, but I tried to spearhead an  
10    effort to buy out the community for the purposes of  
11    developing a state park.

12          **Q.     What was the purpose in buying out the**  
13    **community? Were they in danger? Were they no longer**  
14    **able to live there? What was your purpose?**

15          A.     My purpose was to try to help compensate the  
16    individuals who had lost their homes, were not going to  
17    be made whole, in the proverbial sense of the word, and  
18    to assist them, as any state representative would at  
19    that point.

20          **Q.     And as part of that effort did you then**  
21    **spearhead obtaining -- obtaining funding to buy them**  
22    **out?**

23          A.     No, I did not.

24          **Q.     Who handled that?**

25          A.     That was, I believe, done through -- I don't

1 recall.

2 Q. And was there, in fact, a buyout of property  
3 owners?

4 A. I don't recall. They did receive federal  
5 assistance of some form underneath the Stafford Act, and  
6 I think created mechanisms under the Robert T. Stafford  
7 Act.

8 Q. So then you were head of Region 10 up until  
9 2006 sometime, correct?

10 A. That is correct.

11 Q. And how did you happen to leave your position  
12 as head of Region 10? Were you terminated? Did you  
13 just voluntarily leave? How did that work?

14 A. Snohomish County advertised a position for a  
15 newly created Department of Emergency Management that  
16 had -- they had no department prior to that. They had a  
17 consortium or agreements or interlocal agreements. And  
18 I applied and went through a national vetting process to  
19 be -- and was selected for the position.

20 Q. And what -- in terms of your training, other  
21 than the Kelso Landslide exposure that you had, had you  
22 had any other training in emergency management up to  
23 that point in time?

24 A. I had three different disasters, federal  
25 declared disasters, in Kelso, Washington, with the

1 landslide in 1998, 1995 the floods in Woodland, 1996 the  
2 floods along Interstate 5 that basically closed  
3 Interstate 5 for that entire period of time.

4 So my involvement with the Federal Emergency  
5 Management Agency was through the Stafford Act,  
6 understanding it was also through the Washington  
7 Military Department and the Division of Emergency  
8 Management and supporting them as they were building  
9 their capacity through a new Emergency Operations  
10 Center.

11 Q. And did you serve in the military for some  
12 period of time?

13 A. No, I did not.

14 Q. When did you start with Snohomish County?  
15 When in 2006?

16 A. I believe the exact date was July the 10th or  
17 11th of 2006.

18 Q. And when you started, was your position as  
19 the director of the Department of Emergency Management?

20 A. Yes, it was.

21 Q. And to whom did you report within the county?

22 A. My direct report was to the deputy director  
23 or the deputy executive of Snohomish County, Mark Soine  
24 at the time.

25 Q. Last name?

1           A.     S-O-I-N-E, Soine.

2           **Q.     And at the point in time when you started, as**  
3 **you described it, there was no dedicated Department of**  
4 **Emergency Management?**

5           A.     It's my understanding that the department  
6 formally was created January the 1st through a county  
7 code. I wasn't privy to that conversation. But it  
8 had -- it was in its infancy and I took over in July of  
9 2006.

10          **Q.     So when you took over in July of 2006, how**  
11 **did you go about setting up a working Department of**  
12 **Emergency Management? Namely, what steps did you take**  
13 **to create that department?**

14          A.     I recall focusing very heavily on what  
15 existed from the past, examining what policies and/or  
16 procedures may have existed, examining the facility, the  
17 Emergency Operations Center at the time, beginning the  
18 process of talking to some individuals from the -- the  
19 department as it was at that time that had remained, and  
20 I believe there were two, of what their history was, and  
21 the -- and began building the department based upon  
22 that.

23          **Q.     So when you started building the department**  
24 **in July of 2006, where was the department located?**

25          A.     It was located at 109th Street, I believe is



1 the exact address, at Paine Field in a facility  
2 that dated back to the 19 -- late 1940s.

3 **Q. So if we look at that, let's say, first year**  
4 **of operation, who were your key hires or people that you**  
5 **brought in to help you with the Department of Emergency**  
6 **Management?**

7 A. I had a deputy director who was -- who was  
8 technically appointed as deputy director for me, and I  
9 believe that was from the previous -- from the deputy  
10 executive, Mark Soine.

11 **Q. Who was the deputy?**

12 A. Her name is Chris Badger, B-A-D-G-E-R. She  
13 had been with Snohomish County for a little period of  
14 time. I don't recall how long she had been there. And  
15 there were two grant-funded individuals who focused on  
16 individual Homeland Security grants and on state funding  
17 grants: Tammy Jones, Tamara Jones, and Bill Ekse,  
18 E-K-S-E.

19 **Q. How do you pronounce it?**

20 A. Ekse.

21 **Q. Ekse.**

22 A. And there was one individual who had come  
23 over from -- I believe she came from the finance  
24 department and her name is Diana Rose, R-O-S-E.

25 **Q. What was the mission of the Department of**

1 **Emergency Management when you formed it?**

2 A. To my knowledge at the time I didn't see a  
3 mission or established mission or vision for the  
4 department.

5 **Q. Maybe I misspoke, but did you establish some**  
6 **sort of mission statement for the department?**

7 A. The mission or the vision of the department  
8 was the standard emergency management mantra of  
9 protection of life, property, the economy and the  
10 environment. And the first action that I remember  
11 taking on that was reversing that to state the economy  
12 over the environment.

13 **Q. Is it fair to say that one of the primary**  
14 **goals of the department was public safety under your**  
15 **management.**

16 A. No, I don't believe that's accurate.

17 **Q. Oh. Are you familiar with the county's**  
18 **Natural Hazard Mitigation Plan?**

19 A. Yes, I am.

20 **Q. Was part of the department's function to**  
21 **carry out that plan?**

22 MR. LEYH: Object to the form.

23 A. I believe saying "carry out" is a  
24 mischaracterizations of what our responsibility is.

25 **Q. (BY MR. MICHELSON) Do you know if under the**

1 **Natural Hazard Mitigation Plan's plan, one of the**  
2 **primary functions is protection of public safety?**

3 A. I don't believe protection of public safety  
4 is a word or phrase I've seen in that plan, the  
5 protection of public safety.

6 **Q. Protection of human life?**

7 A. Sure.

8 **Q. Okay. Is it fair to say protection of human**  
9 **life is one of the primary purposes of that plan?**

10 A. I believe that's inferred in that, yes.

11 **Q. Okay. And the way you operated the**  
12 **department, is it fair to say that that was one of your**  
13 **goals: to protect human life?**

14 A. Yes.

15 **Q. And so in other words, it wasn't just to**  
16 **react to natural disasters after they occurred, but it**  
17 **was try to take steps to mitigate potential losses,**  
18 **including loss to human life, correct?**

19 A. Yes, that's correct.

20 **Q. So when you took over the Department of**  
21 **Emergency Management one of the risks that you were**  
22 **intending to address was landslide risk, correct?**

23 A. It was not the priority of our department at  
24 that time. My priority was to establish a department  
25 and prepare for flood season, which was to ensue in the

1 next three months.

2 Q. Let me put it to you this way: At some point  
3 in time after you took over that department did  
4 landslide risk become a priority?

5 A. Landslides are placed with every other hazard  
6 in the Natural Hazard Mitigation Plan.

7 Q. So that would be one of the risks that--

8 A. Yes.

9 Q. --you were designed to address, correct?

10 A. Yes.

11 Q. So at what point in time did landslide risks  
12 sort of come on the radar for you as being something  
13 that was falling within your areas of responsibility?

14 A. Based on my experiences in Kelso, I knew that  
15 landslide risks were part of the responsibility of any  
16 emergency management department or organization, and the  
17 Department of Homeland Security and Emergency Management  
18 had adopted an all-hazards philosophy so that the  
19 objective was to prepare for all hazards, not just  
20 specific hazards.

21 Q. And did you adopt that same philosophy with  
22 the Department of Emergency Management?

23 A. Yes, very much.

24 Q. So when it came to landslide risks and you  
25 started up this department, what did you do to educate

1 yourself about the landslide risks in Snohomish County  
2 so that you could address them?

3 A. My immediate concerns on building the  
4 department were the structure and the organization  
5 preparing for floods in 2006.

6 Q. We may be passing past each other: I'm not  
7 interested in what your immediate action was. What I'm  
8 interested in is knowing what you did after you became  
9 Director of Emergency Management to educate yourself  
10 about the landslide risks in Snohomish County.

11 A. My knowledge of landslides at that point was  
12 based on my experiences as a state representative in the  
13 Kelso, Washington, landslide.

14 Q. Okay. But you're not in Kelso anymore, so  
15 now you're in Snohomish County. What did you do to  
16 educate yourself about the landslide risks in Snohomish  
17 County.

18 A. In 2006 my knowledge of landslide risks in  
19 Snohomish County was based on the Natural Hazard  
20 Mitigation Plan, which was established in 2005.

21 Q. Okay. So I take it then you reviewed the  
22 2005 plan.

23 A. I reviewed it but not extensively.

24 Q. What else did you do to educate yourself  
25 about landslide risks in Snohomish County?

1           A.     I didn't do anything other than review the  
2 plan and build the department from 2006 forward while  
3 addressing at the same time repeated events.

4           Q.     Okay. So let's take the time frame 2006  
5 through 2010. Other than reviewing the 2005 Natural  
6 Hazard Mitigation Plan as it applied to landslides, did  
7 you do anything else during that four- or five-year  
8 period of time to educate yourself about landslide risks  
9 in Snohomish County?

10          A.     Yes.

11          Q.     Okay. What else did you do?

12          A.     We began the process of -- I hired a  
13 mitigation division director named Jason Biermann,  
14 brought him in for the purposes of focusing on  
15 mitigation throughout the county. His primary task was  
16 to update what we felt was an inadequate version of the  
17 1995 Hazard Mitigation Plan. He began that process. It  
18 was a multiyear process.

19                   And we hired -- we obtained a federal grant  
20 called the Pre-Disaster Mitigation grant. It was a  
21 nationally competitive grant. Set our department off  
22 for the purposes of obtaining a grant and updating that  
23 mitigation plan so we could more specifically understand  
24 the hazards that were in our area. So from 2006 to 2010  
25 our process was to update the plan over a significant

1 period of time, building stakeholders throughout all of  
2 Snohomish County, which we did. That plan was adopted  
3 by the federal government in 2010.

4 **Q. When was Jason Biermann hired?**

5 A. I believe he was hired in -- originally in --  
6 two thousand -- I believe he was hired in 2007, but he  
7 didn't take the position because he -- he took the  
8 position and then effectively disappeared. We couldn't  
9 understand where he had gone. And he was in effect  
10 deployed to I believe Iraq or Afghanistan, one of the  
11 two. Came back and assumed the position I believe in  
12 two thousand -- early 2008 and began working full-time  
13 on the Hazard Mitigation Plan.

14 **Q. So again, if we take that time period, other**  
15 **than hiring Mr. Biermann to update the 2005 plan at**  
16 **least in part, what specifically did you do to educate**  
17 **yourself about the landslide risks and attempt to**  
18 **mitigate those risks between 2006 and 2010?**

19 MR. LEYH: Object to the form.

20 **Q (BY MR. MICHELSON) You can go ahead.**

21 A. In 2006, not long after coming on in the  
22 department, it became very clear that the fall flood  
23 season was occurring. There had been fall flood tours  
24 that had been going on annually for I think a small  
25 period of time, a few years. We pulled together a fall

1 flood tour that went out to the Oso community and to  
2 that neighborhood. And I don't recall the exact month  
3 but it was just prior to the catastrophic flooding that  
4 occurred around election day, I believe, but there was  
5 catastrophic flooding that occurred eventually in the  
6 county. That was my first exposure to the direct  
7 landslide that was in that community.

8 Q. So again, my question is, what did you do to  
9 educate yourself about landslide risks and mitigate  
10 those risks between 2006 and 2010?

11 So far, what I understand is there was a 2006  
12 flood tour and you saw the Hazel Landslide at that time.  
13 What else did you do during that four-year period of  
14 time?

15 A. I believe that's my answer.

16 Q. That's it? Nothing else?

17 A. That's my answer.

18 Q. How about if I take the time period between  
19 2010 and leading up to March of 2014, so that roughly  
20 four-year period of time, let's say. What did you do  
21 during those four years to educate yourself about  
22 landslide risks in Snohomish County or mitigate those  
23 risks?

24 A. In 2010 the Hazard Mitigation Plan was  
25 adopted and approved by FEMA. It was viewed as part of



1 an enhanced mitigation plan, which is a higher  
2 threshold. That plan addressed the landslide risks  
3 along with other hazards in the county.

4 From 2010 to 2014, we conducted multiple  
5 interviews and public outreach about the risk of  
6 landslides through data that was public through the  
7 National Weather Service, through the National  
8 Oceanographic [sic] and Atmospheric Administration,  
9 NOAA, through the Department of Natural Resources and  
10 their landslide outreach efforts.

11 And then in 2013 and '14, the Mount Index  
12 river sites in Index contacted our department, contacted  
13 me directly, and said that they had a slow-moving  
14 landslide, something that was happening.

15 And I personally went out to that site on  
16 multiple occasions and leading up to exactly six days  
17 prior to March 22nd conducted multiple reverse  
18 notifications for the community, conducted multiple town  
19 meetings, met with individuals, corresponded with  
20 individuals about the landslide that they were  
21 experiencing, and personally sent reverse evacuation  
22 notifications and respectfully asking them to leave on  
23 at least two different occasions. And that began 2013  
24 through 2014.

25 Q. Okay. So let's -- well, let me take a step

1 back. In terms of your knowledge regarding the Hazel  
2 Landslide prior to March of 2014, as I understand it,  
3 you again made this one visit in the fall of 2006 as  
4 part of the flood tour, correct?

5 A. That's correct, yes.

6 Q. Did you make any other visits to the Hazel  
7 Landslide?

8 A. No, I did not.

9 Q. And what knowledge did you have about the  
10 Hazel Landslide and past landslides prior to March of  
11 2014?

12 A. In 2006, during the fall flood tour, Chris  
13 Badger, who was the appointed deputy at the time, had  
14 discussed with me what had happened in the winter of  
15 2006 and the original landslide.

16 During the fall flood tour when we were out  
17 there or enroute to that area, she was talking about the  
18 slide and its impacts to the highway and the flooding of  
19 the community and she mentioned the mitigation of the  
20 potential impacts of flooding.

21 That was my first initiation into the slide,  
22 though I recall in earlier conversations with her from  
23 me coming on in July what the department had been doing,  
24 because they were currently in the middle of essentially  
25 a disaster declaration for that particular slide.

1           **Q.**     **So in terms of past slides there and any**  
2     **questions about the potential for future slides, did you**  
3     **learn any additional information prior to March 2014**  
4     **other than what you have described?**

5           **A.**     **No, outside of knowing and understanding that**  
6     **it was a slide prone area like other areas of the**  
7     **county, including Edmonds and Burlington Northern Santa**  
8     **Fe, that there were areas that were prone to slides.**

9           **Q.**     **Within your department was there someone who**  
10    **had the, let's say, responsibility to gather information**  
11    **about landslide risks and communicate those to you?**

12          **A.**     **No.**

13          **Q.**     **Let's go back to Mount Index. So this**  
14    **question of a landslide in Mount Index, you're**  
15    **describing the time frame as 2013 and 2014. When**  
16    **actually did that start, as you recall it?**

17          **A.**     **I was -- all I know about that landslide in**  
18    **particular is that there had been a small history out**  
19    **there, and I was notified I believe in late 2013 by the**  
20    **community, one or two of the individuals, and I began**  
21    **the process of meeting with the community and**  
22    **individuals and corresponding and visiting the community**  
23    **on multiple occasions because they had reached out to**  
24    **let me know that something was happening.**

25          **Q.**     **And this was a slow-moving slide of some**

1     **sort?**

2           A.     It was my understanding initially that it had  
3     been a slow-moving slide, and as I witnessed it, it was  
4     a slow-moving slide.

5           **Q.     And you made reference to multiple reverse**  
6     **notifications.  What is a reverse notification?**

7           A.     A reverse notification is a generic phrase  
8     for REVERSE 911 because REVERSE 911 is a trademarked  
9     phrase now.  Reverse notification is the ability for me  
10    to get on a laptop computer or a desktop computer and  
11    conduct a reverse 911 to your community, to your  
12    landline or to your mobile phone if you were in a  
13    system, to ping you to let you know of an impending  
14    disaster or risk or to give to you a message or  
15    direction after a disaster about where assistance can  
16    occur.

17          **Q.     When was that set up within the county, do**  
18    **you know?**

19          A.     In 2007.

20          **Q.     So for example, if you wanted to send a**  
21    **reverse essentially 911 emergency message to residents**  
22    **of Steelhead Haven, the capacity or capability of doing**  
23    **that existed in the county from 2007 forward; is that**  
24    **accurate?**

25          A.     Yes.

1           **Q.     And other than Mount Index, had you used that**  
2           **system on other occasions for any other landslides?**

3           A.     For any other landslides, I don't recall. It  
4           had been used well over 100 times.

5           **Q.     As of what date?**

6           A.     As of my departure.

7           **Q.     Okay. But do you recall any other landslides**  
8           **where that was used?**

9           A.     I don't recall.

10          **Q.     And describe for me how it was set up with**  
11          **Mount Index. Namely, how do you come up with the phone**  
12          **numbers that this would be directed to, this reverse**  
13          **notification?**

14          A.     It is conducted through a program called  
15          AlertSense, which used to be called MyStateUSA.  
16          MyStateUSA was purchased in 2007 for approximately  
17          \$19,000 between the Public Health Department, Public  
18          Health District of Snohomish County and the Department  
19          of emergency management.

20                   The software allows you to draw a polygon  
21          around a particular community, or lines or anything that  
22          you want geometrically shaped, type in a message. That  
23          message will go text to voice as well as to emails of  
24          anyone who is subscribed to that system and will send  
25          messages to them about outreach or warning or evacuation

1 notifications, and had been utilized, like I said a lot,  
2 including in the Steelhead neighborhood.

3 **Q. When was it used in the Steelhead**  
4 **neighborhood?**

5 A. I believe it was done on multiple occasions  
6 from 2007 forward based on flood -- potential for  
7 flooding and I believe actual flooding.

8 **Q. And are these notifications something that**  
9 **would be in writing? In other words, would they be on**  
10 **computer or hard copy where we could still see them**  
11 **today type of thing of what the notification was?**

12 A. Absolutely.

13 **Q. Okay. And where are they kept?**

14 A. They would be kept through either our  
15 department or through -- AlertSense has the  
16 documentation for the particular notifications,  
17 including those in Index.

18 **Q. And when you say AlertSense, is that within**  
19 **the county or is it some outside entity?**

20 A. AlertSense is a company based out of Boise.

21 **Q. Okay. So from 2007 forward, you think both**  
22 **the county would have these notifications that went out**  
23 **to residents and AlertSense would have copies of those?**

24 A. Yes.

25 **Q. And so --**

1 THE WITNESS: Excuse me. Can I please  
2 get some more water?

3 MR. MICHELSON: Sure.

4 MR. LEYH: I'll get it for you.

5 MR. MICHELSON: Counsel can get you a  
6 glass.

7 THE WITNESS: Thank you.

8 Q (BY MR. MICHELSON) So when you became aware  
9 of this, as you described it, slow-moving landslide in  
10 Index, you talked about multiple reverse notifications  
11 that were made and a reverse evacuation order, correct?

12 A. That's not exactly correct.

13 Q. Okay.

14 A. I don't have the statutory authority, nor  
15 does any emergency manager, for someone to evacuate. So  
16 there was -- so the phrase I used was respectfully  
17 requesting that you evacuate.

18 Q. Okay. That's fine.

19 So in terms of the reverse notifications that  
20 were made in Mount Index, what do you recall those as  
21 being? What were you saying at these various times, the  
22 multiple reverse communications?

23 A. Well, they're public documents and they're  
24 available, but I recall saying that on at least two  
25 different occasions we had established a plan for the

1 community that had been cut off by the landslide. They  
2 were segmented in half. So the first part of the  
3 message I believe I recall was that respectfully -- that  
4 you are experiencing a slow-moving landslide that poses  
5 a risk to the community and that respectfully request  
6 that they leave or evacuate, and if they choose to do  
7 that, please contact the following number.

8 That number then was a trigger for us through  
9 nonprofits to evacuate the community, including over an  
10 active railway and through brush and pathways, to get  
11 the community out. It also -- one of the reverse  
12 notifications talked about delivery of services, I  
13 believe, and goods to them because they were isolated.

14 **Q. In any of these reverse notifications, did**  
15 **you raise a concern about their personal safety and the**  
16 **potential risk to human life?**

17 A. Yes, I did.

18 **Q. And why was that? What did you see there**  
19 **that was potential risk to human life?**

20 A. I was concerned about the flooding potential  
21 in particular with that particular landslide, that it  
22 would -- it would continue to find its way into the  
23 Skykomish River and block off part of the channel and  
24 start backing up and flooding communities and cut them  
25 off and isolate them even more, to the point that we



1 were concerned for the elderly and those who were  
2 dependent upon propane or delivered water systems, that  
3 their supplies or medical emergencies would not be able  
4 to be met through the Fire District.

5 **Q. Any other concern regarding human safety**  
6 **associated with the Mount Index slide?**

7 A. No. I believe one of the homes had been --  
8 had been destroyed at a point and most of the people  
9 that were within that direct area were no longer in the  
10 area and had heeded the messages.

11 **Q. I mean, did you take any steps to evaluate**  
12 **the potential risk posed by the landslide to residents?**  
13 **And just to give you an example, did you bring in the**  
14 **county geologist? Did you bring in -- ask for a**  
15 **geotechnical study, anything like that?**

16 A. Yes, I did. I asked the county for a geotech  
17 to go in and take a look, as well as the fire marshal,  
18 on whether or not the community needed to be red-tagged  
19 or yellow-tagged.

20 **Q. Explain red-tagged and yellow-tagged.**

21 A. Yellow-tagged, essentially prepare to  
22 evacuate a hazard. Red-tagged, basically that the  
23 houses are longer able to be occupied. It's not my  
24 domain but it's my understanding of what the tag system  
25 means.

1 Q. So when you asked for the geotech to come in,  
2 would this be something that was in writing?

3 A. And, actually, I need to step back. I'm not  
4 sure I asked for that individual. That individual I  
5 believe may have already been engaged in the community  
6 and I asked for what the situation was out there.

7 Q. Do you know who the individual was?

8 A. No, I don't recall.

9 Q. Was he or she a geologist as you understood  
10 it?

11 A. I don't recall.

12 Q. But you engaged with that person to obtain  
13 their evaluation regarding the landslide risk; is that  
14 accurate?

15 A. I don't recall the specifics. I just recall  
16 that the county was engaged and the fire marshal was  
17 engaged, and my primary responsibility and job was  
18 meeting with the community and notifying the community.

19 Q. Within Snohomish County, the things that  
20 you've described as occurring out at Mount Index, how  
21 would those files have been maintained in your  
22 department? So now I'm going beyond just the reverse  
23 notification issues. To the extent, you know, there was  
24 a geotech brought in or you're corresponding with the  
25 geotech about the slide, where would that be documented

1     **within the county?**

2           A.     It would be documented through the reverse  
3     notification system, through email correspondence,  
4     through any activation that we would have had from the  
5     EOC, which I believe was activated -- I recall it being  
6     activated virtually, so not a physical activation, but  
7     for the purposes of creating documentation for that  
8     specific event, because we anticipated that there was a  
9     potential for a federal Stafford Act presidential  
10    disaster declaration based on what was happening there  
11    and we were beginning the process of capturing  
12    documentation for the purpose of seeking federal  
13    assistance or some created assistance.

14           **Q.     But in terms of -- would there be hard files,**  
15    **hard copy files, relating to Mount Index?**

16           A.     I think mostly it's electronic.

17           **Q.     Okay. And within the department would there**  
18    **be some sort of sub-file system on the computer as to**  
19    **how that would be maintained, so it would be the Mount**  
20    **Index landslide file? I'm just trying to understand how**  
21    **it would have been maintained.**

22           A.     I believe that it would have been captured  
23    through -- anything regarding our department's direct  
24    interaction with them in the context of the Emergency  
25    Operations Center would have been captured in

1     SharePoint, which was the software that we were  
2     utilizing at the time for managing disasters inside the  
3     Emergency Operations Center. Everything else would have  
4     been documented through AlertSense or through  
5     traditional email correspondence.

6           Q.     After the -- and I'm jumping around a little  
7     bit here, but after the March 22, 2014, Oso Landslide  
8     did you go back into the Department of Emergency  
9     Management system to see what your department had in its  
10    file regarding the Hazel Landslide or any risks  
11    associated with the Hazel Landslide?

12           A.     No, I don't recall doing that.

13           Q.     Prior to two thousand -- March 2014, did you  
14    have any contact with any of the county geologists, and  
15    I'm thinking of Jeff Jones in particular, to have him  
16    help educate you about landslide risks in Snohomish  
17    County?

18           A.     No, I don't recall that.

19           Q.     And then I'm going to sort of go back and  
20    make sure I have this wrapped up here, but in terms of  
21    educating yourself about landslide risks or mitigation  
22    of any of those risks prior to March of 2014, have you  
23    covered today for us everything that you remember in  
24    that regard?

25           A.     All of my training, all of my education is

1 based on all-hazard risk, all hazards in general,  
2 meaning I'm supposed to not be a specific expert in  
3 landslides or floods or earthquakes or wildfires, but  
4 the generic all-hazard strategic response coordination  
5 to those types of events and preparing for those types  
6 of events. That's my training, that's my education,  
7 that's my background.

8 I have taken individual courses through FEMA  
9 on floods. I believe I've even taken an individual  
10 online course through FEMA's IS training system on  
11 landslides but I can't validate that for you right here.  
12 I've taken literally dozens and dozens of courses.

13 **Q. Okay. I understand your statement, but I**  
14 **just want to make sure I have obtained from you**  
15 **everything you recall that you did to educate yourself**  
16 **about landslide risks in Snohomish County or mitigate**  
17 **any of those risks prior to March 2014. If there's**  
18 **something else you remember, I want to ask you about**  
19 **that, but if you don't remember anything else, that's**  
20 **fine.**

21 **A.** When I came into the department in 2006 what  
22 I did to educate myself on the risks and hazards of the  
23 county was to understand what existed previously as far  
24 as policies and procedures and then lean on some of the  
25 institutional knowledge of individuals who had been

1 around the department, including radio amateur  
2 individuals, who just knew the county over an extensive  
3 period of time, and they mentioned that particular slide  
4 in 2006 as the most recent event that included the  
5 flooding.

6 Q. And this is the Hazel Landslide, correct?

7 A. Yes, sir, correct. And I was educated on the  
8 extensive flood potential for the department coming into  
9 the next three months after assuming in July.

10 Q. Anything else in response to my question?

11 A. No.

12 Q. Handing you what's previously been marked as  
13 Exhibit 472, it's a Seattle Times article dated  
14 March 24, 2014. Glance through that and I have some  
15 questions for you about it. And if it's helpful, I can  
16 actually direct you to the specific paragraph. It's on  
17 the second page of Exhibit 472. It's under the heading  
18 "Considered very safe." Do you see that heading?

19 A. Uh-huh.

20 Q. Is that a yes?

21 A. Yes.

22 Q. And that's -- the next paragraph is the one I  
23 have some questions about. Have you read those three  
24 lines?

25 A. In the second paragraph under "Considered

1 very safe"?

2 Q. It's in the first paragraph under "Considered  
3 very safe."

4 A. The first paragraph.

5 Q. Uh-huh.

6 A. Yes.

7 Q. The paragraph states, "His perspective stands  
8 in contrast to what John Pennington, head of Snohomish  
9 County's Department of Emergency Management, said at a  
10 news conference Monday. 'It was considered very safe,'  
11 Pennington said. 'This was a completely unforeseen  
12 slide. This came out of nowhere.'" Do you see that?

13 A. I do.

14 Q. Okay. Did you, in fact, make those  
15 statements, the quoted statements?

16 A. Yes, I believe I made those statements.

17 Q. So when you made the statement, "It was  
18 considered very safe," on what basis did you make that  
19 statement regarding the Hazel Landslide prior to the  
20 March 2014 failure?

21 A. That was a statement that I made based on my  
22 visit during the fall flood tour and subsequent  
23 communications with the fire chief and the community  
24 regarding floods and it was in the context of -- it was  
25 in the context of floods.

1 Q. Well, it was in the context of you were being  
2 asked questions by the press following the catastrophic  
3 March 22, 2014, landslide, correct?

4 A. That is correct.

5 Q. Okay. In responding to questions about that  
6 catastrophic slide you said, "It was considered very  
7 safe," correct?

8 A. That's what the quote says, yes.

9 Q. And that is what you said?

10 A. That is what I said.

11 Q. Okay. And in making that statement, other  
12 than basing it upon your visit to the site in 2006, was  
13 there anything else that led you to make that statement?

14 A. Yes.

15 Q. And did you talk to, for example, Chris  
16 Badger in advance of making that statement? Did she  
17 communicate to you that it was considered very safe?

18 A. No.

19 Q. Did somebody else communicate to you that the  
20 Hazel Landslide was considered very safe prior to March  
21 of 2014?

22 A. No.

23 Q. Okay. Did you believe that to be true prior  
24 to March of 2014?

25 MR. LEYH: Did he believe what was true?



1 Q (BY MR. MICHELSON) Did you believe that the  
2 Hazel Landslide was considered very safe prior to March  
3 of 2014?

4 A. I had no opinion on whether it was safe. My  
5 quote and the context of this quote was based upon the  
6 flooding risk in the community that I had had  
7 conversations with.

8 Q. Did you say anything to the press during that  
9 press conference about flooding?

10 A. Yes, I actually believe I did later.

11 Q. Well, did you say anything to the press about  
12 flooding in the context of your statement "It was  
13 considered very safe"?

14 A. My statement was regarding what had occurred  
15 and my knowledge was based upon the fall flood fight  
16 when I had two individuals from the Oso community to my  
17 left and we were discussing flooding impacts that were  
18 potential because of the 2006 slide and the mitigation  
19 efforts that had taken effect on the south side of the  
20 river.

21 Q. After making that statement did anyone  
22 suggest to you that that statement may have been an  
23 error, that, in fact, it wasn't considered to be very  
24 safe, namely, the Hazel Landslide, prior to the March  
25 2014 slide?

1           A.     I was very exhausted and I don't recall that  
2 after the fact.

3           Q.     Okay. I mean, to this date has anyone  
4 suggested to you that that statement was wrong?

5           A.     I have reviewed very few newspaper articles,  
6 but I read this particular article.

7           Q.     That's not my question. So my question is,  
8 did anyone after making this statement suggest to you  
9 that the statement was wrong?

10          A.     I don't recall.

11          Q.     Okay.

12                   MR. MICHELSON: Why don't we take just a  
13 five-minute break.

14                   THE WITNESS: Thank you.

15                   THE VIDEOGRAPHER: We are going off the  
16 record. The time is now 9:52 a.m.

17                                 (Recess taken.)

18                   THE VIDEOGRAPHER: We are back on the  
19 record. The time is now 9:59 a.m.

20          Q     (BY MR. MICHELSON) Mr. Pennington, on the  
21 Mount Index slide when you sent out the reverse  
22 notification to members of the community respectfully  
23 suggesting that they evacuate, did you get compliance,  
24 mostly compliance, no compliance? What occurred with  
25 that?

1           A.     We didn't -- we didn't do any analysis of who  
2     had left. I think there may be documentation on who was  
3     provided services by the nonprofits that we were  
4     coordinating. We had developed a plan for evacuation  
5     and some people took advantage of that.

6           **Q.     So you don't know how many people followed  
7     your respectful suggestion to leave or not?**

8           A.     If I recall correctly, the people in the  
9     immediate area that were adjacent to the slide left or  
10    were gone already, and the other parts of the community  
11    that were impacted, which were by being cut off, several  
12    of them left as well.

13          **Q.     You indicated that there were, I believe,  
14    similar evacuations suggestions in other parts of the  
15    county relating to flooding.**

16          A.     That's correct.

17          **Q.     How many of those were there do you believe,  
18    roughly speaking?**

19          A.     Clarify the question.

20          **Q.     Yeah. During the -- let's say the six years  
21    between 2006 and 2014 --**

22          A.     Uh-huh.

23                         MR. LEYH: Eight years.

24                         MR. MICHELSON: Eight years. That's why  
25     I'm a lawyer, not a mathematician.

1 Q. (BY MR. MICHELSON) But during that period of  
2 time--that's the time I'm focusing on--were there other  
3 suggested evacuations?

4 A. Yes.

5 Q. And roughly how many were there?

6 A. Between 2007 and 2014, most of the -- most of  
7 the messaging that was put out through REVERSE 911 was  
8 for impending floods or events. For actual evacuation  
9 notifications, we never -- we rarely would recommend an  
10 evacuation unless it was imminent, but we would give  
11 people as much advanced notification of an impending  
12 event such as a flood that would occur two days from  
13 now. We would notify your area, in particular your  
14 specific neighborhood, and let YOU know that this  
15 potential exists and that you should be prepared to  
16 possibly leave.

17 Q. But in answer to my question and what I'm  
18 asking about is actual evacuation recommendations.  
19 You've described the one for Mount Index. Were there  
20 any other actual recommended evacuation notices that  
21 were sent out between 2006 and 2014?

22 A. I recall there were but I can't give you an  
23 accurate number. But I don't believe that there were  
24 very many that actually recommended outright  
25 evacuations. There were of specific neighborhoods, I

1 believe, but I don't have an accurate recollection of  
2 what that number would be.

3 **Q. Were there ever any at Steelhead Haven**  
4 **relating to flooding?**

5 A. I recall that we did multiple -- I recall  
6 that we did reverse notifications up and down the  
7 Stillaguamish River that I'm confident included the  
8 Steelhead Haven neighborhood. And the messaging would  
9 have been very similar to other messages, which were  
10 prepare for flooding or flooding is occurring, which  
11 could have also -- could have also included a message  
12 for evacuation but I'm not certain of that without  
13 reviewing records.

14 **Q. Okay. So in answer to my question, you do**  
15 **not recall any other reverse notifications recommending**  
16 **an actual evacuation other than Mount Index, correct?**

17 A. No, that's not correct. I do recall  
18 evacuation notifications for specific communities from  
19 2006 forward based on flooding.

20 **Q. Okay. And which communities were those?**

21 A. The usual suspects in Snohomish County are  
22 the Skykomish Valley, the Stillaguamish Valley, the  
23 Snohomish -- lower Snohomish River Valley. So areas in  
24 and around Snohomish, areas in and around Gold Bar,  
25 areas in and around Index, in and around Sultan, in and

1 around Darrington, Sauk River, westbound all the way to  
2 Arlington.

3 They are very flood-prone areas. We know  
4 exactly when they are anticipated to flood, and when we  
5 are caught off guard, those reverse notifications were  
6 very fast and very effective.

7 **Q. When you say "very effective," how so?**

8 A. The data captures who is actually -- the data  
9 in AlertSense, which is the company, captures how many  
10 were answered by individuals or responded to.  
11 Individuals generally have to respond that they have  
12 accepted the phone call.

13 **Q. I see. So you actually get feedback, if you  
14 will, live feedback, as to whether people received the  
15 message and whether they responded?**

16 A. Yes.

17 **Q. And that's part of the way the system is set  
18 up?**

19 A. Yes, sir.

20 **Q. And so you can kind of go into the system and  
21 say, "We sent out a notice to a hundred residents and 95  
22 of them responded"?**

23 A. Correct.

24 (Exhibit No. 810 marked  
25 for identification.)

1 Q (BY MR. MICHELSON) Mr. Pennington, handing  
2 you what's been marked as Exhibit 810, my understanding  
3 is this is a Wall Street Journal article. There's no  
4 date on it but my reading of it is that it occurred  
5 Wednesday after the March 2014 Oso Landslide. The  
6 authors are listed on the last page of the article that  
7 includes Zusha Elinson and others. Have you seen this  
8 article before?

9 A. No, I have not.

10 Q. Do you recall having any conversations  
11 following the March 2014 slide with Zusha Elinson?

12 A. No, I do not.

13 Q. There is a statement that appears on the  
14 third page. It's -- the page number in the lower  
15 right-hand corner ends with 55. Do you see that?

16 A. Yes.

17 Q. Okay. And then if we move down that page,  
18 just about in the middle of that page, it states, "John  
19 Pennington, Snohomish County's Emergency Management  
20 director, said that after a landslide in 2006 the county  
21 spent millions shoring up the area." Do you see that?

22 A. I do.

23 Q. Is this a statement that you made?

24 A. Yes, I believe it is.

25 Q. And describe for me the millions of dollars

1 that the county spent to shore up the Hazel Landslide  
2 area after the 2006 slide.

3 MR. LEYH: Object to the form;  
4 foundation.

5 Q (BY MR. MICHELSON) You can go ahead. You  
6 can answer.

7 THE WITNESS: Yeah?

8 MR. LEYH: Yeah.

9 A. Okay. The statement was a mistake on my  
10 part. It was not millions. And the information came  
11 from a conversation with Chris Badger, who is the deputy  
12 director, who had told me during the fall flood fight  
13 there had been a million-plus spent on this project.

14 Q (BY MR. MICHELSON) What project?

15 A. Meaning I think the entire project that was  
16 the mitigation of that whole area post 2006. So my  
17 statement was inaccurate.

18 Q. Did you ever communicate to anyone in the  
19 news agency after March of 2014 that that statement was  
20 incorrect?

21 A. No. I believe that the only correction I  
22 made -- no, no.

23 Q. You said you made some correction after you  
24 made a statement?

25 A. I believe that I had referenced at one point



1 inaccurately that the Tulalip Tribe had done mitigation  
2 work out there, and that was incorrect as well. It was  
3 the Stillaguamish Tribe, I believe.

4 Q. Oh, I see. Okay. But in terms of your  
5 statement that the county had spent millions shoring up  
6 the area, that was based upon a conversation you had  
7 with Chris Badger?

8 A. I recall that, yes.

9 Q. And when was that conversation with Chris  
10 Badger?

11 A. I believe that conversation was during the  
12 fall flood fight tour or somewhere right around that  
13 tour.

14 Q. And what did you understand the shoring up  
15 was? Namely, you're familiar with the crib wall that  
16 was installed, the log revetment out at Hazel installed  
17 in 2006, correct?

18 A. Yes.

19 Q. You saw that when you went out for the flood  
20 tour?

21 A. Yes. I saw it across the river.

22 Q. Okay. Is that one of the items you were  
23 referring to as shoring up the area?

24 A. Yes. The whole area. But my focal point was  
25 very squarely on what was beneath my feet at the time

1 and the flooding potential, which was the Army Corps of  
2 Engineers and the county's project underneath my feet.

3 Q. But in answer to my question, you're  
4 referring to -- when you say "spent millions shoring up  
5 the area," that reference included the crib wall,  
6 correct?

7 MR. LEYH: Object to the form.

8 Q (BY MR. MICHELSON) You can go ahead and  
9 answer.

10 A. I believe it was referring to the entire post  
11 2006 event that had occurred there.

12 Q. Which would include the crib wall, correct?

13 MR. LEYH: Object to the form.

14 A. My focal point was on what was beneath my  
15 feet.

16 Q. (BY MR. MICHELSON) I'm not asking your focal  
17 point. I'm asking whether it included the crib wall.  
18 Can you answer that question, yes or no?

19 A. Yeah.

20 MR. LEYH: Object to the form.

21 Q (BY MR. MICHELSON) What is the answer?

22 A. Can you ask the question one more time,  
23 please.

24 Q. When you made reference to spending millions  
25 shoring up the area, did that include the crib wall?

1 MR. LEYH: Object to the form.

2 A. Yes.

3 Q. (BY MR. MICHELSON) Thank you.

4 You went on to state, "We did everything we  
5 could in the community to make them feel safe." Do you  
6 see that?

7 A. Yes, I do.

8 Q. Is that statement you made?

9 A. Yes, I believe it is.

10 Q. Describe for me -- when you reference "we,"  
11 are you referring to the county?

12 A. Yes, I'm referring to the county.

13 Q. And when -- so then when you said, "We, the  
14 county, did everything we could in the community to make  
15 them feel safe," what did the county do prior to March  
16 of 2014, that slide, to make the community feel safe?

17 MR. LEYH: Object to the form;  
18 foundation.

19 A. I believe this is taken out of context. I  
20 was focused on the flooding and the mitigation of  
21 potential flooding from the impacts of the 2006 slide.  
22 The work that the county and the Army Corps of Engineers  
23 did, my primary focus was on the safety of the community  
24 as it related to the floods impacting them, which  
25 occurred repeatedly after 2006 in the community.

1 Q. (BY MR. MICHELSON) After you made that  
2 statement, "we did everything we could in the community  
3 to make them feel safe," did you ever retract that  
4 statement?

5 A. No, I did not.

6 Q. When you referred to the community were you  
7 referring to the Steelhead Haven community?

8 A. Yes, I was.

9 Q. So, in essence, when you made the statement  
10 that "We, the county, did everything we could in the  
11 Steelhead Haven community to make them feel safe," did  
12 you have any other basis for that other than what you  
13 have described to me so far?

14 A. From 2007 forward, multiple communications  
15 with the community regarding the flood potential and the  
16 flood impacts coming in from the slide that was created  
17 in 2006.

18 Q. Did -- when you were sending out these flood  
19 notifications that they were at risk from flood from the  
20 Steelhead Haven community between 2006 and 2014, prior  
21 to March of 2014 did you ever send to them any notice  
22 about the landslide risk that existed there?

23 A. No, I don't recall.

24 Q. Handing you what's previously been mark ed  
25 Exhibit 471, this is an article. The upper left-hand

1 corner says "KOMO News." It's dated March 25, 2014.

2 Have you seen this article before?

3 A. No, I have not.

4 Q. Did you ever speak to someone from the KOMO  
5 News?

6 A. I believe I did but I don't recall this name.

7 Q. On the first page, right at the bottom, the  
8 very last paragraph, it states, "But John Pennington,  
9 director of the county emergency department, said local  
10 authorities were vigilant about warning the public of  
11 landslide dangers and homeowners were 'very aware of the  
12 slide potential.'" Do you see that?

13 A. Yes, I do.

14 Q. Did you make that statement?

15 A. Yes, I did.

16 Q. When you made the part of the statement that  
17 says, "local authorities were vigilant about warning the  
18 public of landslide dangers," what local authorities are  
19 you referring to?

20 A. I'm referring to our Department of Emergency  
21 Management and the state's Department of Natural  
22 Resources, along with NOAA and the National Weather  
23 Service.

24 Q. Describe for me to the best of your  
25 recollection all of the warnings that were given to the

1 **public of landslide dangers by Snohomish County or**  
2 **others prior to the March 2014 Oso Landslide.**

3 A. I personally gave I believe at a minimum of  
4 two interviews publicizing with -- I believe her name is  
5 Lee Stoll, S-T-O-L-L, and I believe she's with either  
6 KIRO or KOMO.

7 I proactively went out and pushed the issue  
8 of landslide risks throughout Snohomish County beginning  
9 in the fall of 2013 and throughout the spring, but in  
10 particular the spring of 2014. I did interviews inside  
11 our Emergency Operations Center, and I believe we also  
12 did an interview at a site in Edmonds that was  
13 experiencing a slide at the time.

14 We also did public information and outreach  
15 in concert with DNR and with the National Weather  
16 Service repeatedly to let individuals know that the  
17 landslide warning was heightened throughout the spring.

18 **Q. Spring of which year?**

19 A. 2014. And quite specifically twenty --  
20 in the spring of 2014 the Index landslide became a  
21 relatively highly publicized event in and around  
22 Snohomish County because of the actions that we were  
23 taking to notify the public and increase their awareness  
24 of what was happening.

25 **Q. Anything else?**

1 A. Not that I can recall.

2 Q. So these two interviews that you believe you  
3 did with Lee Stoll in the fall of 2013 and spring of  
4 2014, did you ever see anything published regarding  
5 those interviews?

6 A. I believe that both of the stories -- I  
7 recall that both of the stories made the news, and there  
8 may have been more, but we were actively proactively  
9 pushing the message of landslide risk when we received  
10 data.

11 Q. What data did you receive in 2013 and 2014  
12 that led the Department of Emergency Management to push  
13 the landslide risk issue?

14 A. The National Weather Service and NOAA and the  
15 Department of Natural Resources consistently push out  
16 landslide risks and heightened landslide risks. We  
17 would take that material, and if they had not publicized  
18 it, we would try to publicize it as much as we could.

19 And then Burlington Northern Santa Fe  
20 Railroad was shutting down at a consistent basis at that  
21 point based on slides occurring in the Edmonds/Mukilteo  
22 area, so the heightened awareness of landslides at that  
23 point was pretty substantial.

24 Q. Getting back to sort of my question on the  
25 question of whether this was ever seen by the public,

1 these two interviews, have you ever seen these  
2 interviews in written form?

3 A. No, I don't recall that I've seen them -- I  
4 do believe I actually have seen one in written form.

5 Q. Describe that for me so we can try to find  
6 it.

7 A. I can't describe it. It was an interview  
8 with Lee Stoll.

9 Q. And who was she with?

10 A. Either KIRO or KOMO.

11 Q. Did either of those two interviews mention  
12 the Hazel Landslide or the Steelhead Haven community?

13 A. I don't recall that they did, no.

14 Q. Did you do anything or did the Department of  
15 Emergency Management to your knowledge do anything  
16 during 2013 and 2014 to specifically warn the residents  
17 of Steelhead Haven about the heightened landslide risk?

18 A. No. Our public information message was based  
19 broadly in Snohomish County and specifically to the  
20 Mount Index river sites.

21 Q. When you made that -- did those two  
22 interviews in the 2013, early 2014 time frame, did you  
23 believe that the Steelhead Haven community at the base  
24 of the Hazel Landslide was one of the communities at  
25 risk?



1 A. No, not specifically.

2 Q. Did you ever meet with anyone in Steelhead  
3 Haven prior to March of 2014 regarding the Hazel  
4 Landslide or the risks there?

5 A. No. Only the fall flood tour in 2006.

6 Q. Well, when you did the fall flood tour did  
7 you meet with any residents?

8 A. There were two individuals that were over to  
9 my left and behind me that had accompanied us or had  
10 come out and were just part of looking over the flooding  
11 project beneath my feet.

12 Q. Did you ever prior to March of 2014 have any  
13 discussion with any residents in Steelhead Haven about  
14 the landslide risk?

15 A. None that I recall.

16 Q. After the March 2014 slide, did you have any  
17 conversations with anyone in Steelhead Haven about the  
18 landslide risk that existed prior to March of 2014?

19 A. I don't recall. I was exhausted and I don't  
20 recall that. I'm sorry.

21 Q. I mean, just so you understand the time  
22 frame, anytime after the March 22, 2014, landslide, from  
23 that date to the present, have you ever had any  
24 conversations with any of the residents of Steelhead  
25 Haven who survived about the landslide risk that existed

1 prior to March 2014 or their understanding of it?

2 A. I don't recall that.

3 Q. So if we go back to this KOMO News article,  
4 the public information that you're describing, these  
5 announcements in the spring of 2014 that involved the  
6 county, DNR and the Weather Service, what would each of  
7 these announcements say? What were they saying?

8 A. And they also included the Everett Herald  
9 pushing the message of what was happening in Mount Index  
10 and the larger landslide risk in the county at that  
11 time.

12 The messages that would come from the state,  
13 DNR or through NOAA or National Weather Service talked  
14 about the excessive amounts of rain, the data that led  
15 to the conclusion that there was therefore a heightened  
16 landslide risk in all of Puget Sound at that point and  
17 Western Washington.

18 Q. Was there anything specifically said about  
19 the risk at Hazel?

20 A. No.

21 MR. LEYH: Asked and answered.

22 A. No, not to my knowledge, no.

23 Q. (BY MR. MICHELSON) If we go back to this  
24 article, Exhibit 471, the bottom of the first page,  
25 there is a further quote attributed to you. "Homeowners

1 were very aware of the slide potential." Do you see  
2 that?

3 A. I do.

4 Q. Is that a statement you made?

5 A. It is.

6 Q. And what did you base that statement on?

7 A. On the public information strategy and  
8 messaging that had occurred throughout the entire spring  
9 of the aforementioned issues we just discussed as well  
10 as the hyper focus at that point, at that specific time,  
11 on what was happening in Index.

12 Q. At the time you made that statement did you  
13 have any basis to know one way or the other whether  
14 residents of Steelhead Haven, homeowners there, were  
15 aware of the slide potential--

16 A. No, I'm not.

17 Q. --associated with the Hazel Landslide?

18 A. No, I had no basis for understanding if they  
19 fully understood the message. Their strategy was very  
20 broad in notifying the entire county as much as possible  
21 through any means possible of the generic risk of  
22 landslides, the heightened risk, and specifically what  
23 was happening in the Index area at that time.

24 Q. But you understand my question relates to  
25 Steelhead Haven and the Hazel Landslide?

1 A. I do understand that.

2 Q. And it's fair to say that you have no basis  
3 to know whether anybody living there was aware of the  
4 slide potential prior to the March 2014 slide; is that  
5 accurate?

6 MR. LEYH: Asked and answered.

7 Q (BY MR. MICHELSON) Is that accurate?

8 A. Yes.

9 Q. Then on the next page it's -- I guess I'll  
10 call it the second paragraph, but it's the third line  
11 down. It states, "'We've done everything we could to  
12 protect them,' Pennington said." Do you see that?

13 A. I do.

14 Q. Is that a statement you made?

15 A. I believe it is.

16 Q. So when you say "we've done everything we  
17 could," was that the county?

18 A. That was referring to my department and the  
19 county in general.

20 Q. And when you're referring to "them," you were  
21 referring to the residents of Steelhead Haven, correct?

22 A. Correct.

23 Q. Okay. So when you said in essence, "We, the  
24 county, have done everything we could to protect the  
25 residents of Steelhead Haven," what did you base that

1 upon?

2 A. That was a quote based on the flooding  
3 potential in the area and the mitigation of potential  
4 impacts of flooding from the 2006 slide.

5 Q. Well, you understood at the time you made  
6 that statement that the focus was the landslide that had  
7 occurred three days earlier, correct?

8 A. Yes.

9 Q. Did you ever tell anyone "I wasn't referring  
10 to the landslide risk, I was just referring to the  
11 flooding risk"?

12 A. I believe I tried to clarify my statements a  
13 few days later, that my focal point had been with the  
14 community very specifically to the flood impacts that  
15 could be derived out of the 2006 channel migration.

16 Q. Did you ever send out a correction to this  
17 statement that "We, the county, had done everything we  
18 could to protect the residents of Steelhead Haven" to  
19 make it clear that you were only talking about flooding  
20 risks, not about landslide risks?

21 A. No. I'm not a public information officer.  
22 And I don't know if they did that.

23 Q. Well, you know how to do a correction,  
24 correct? You did that on some other statement, correct?

25 A. I'm not a public information officer.

1 Q. Do you know how to make a correction to a  
2 statement you've made?

3 A. Yes.

4 Q. Okay. And you did that on other occasions,  
5 correct?

6 A. I believe I did.

7 Q. Okay. And you didn't correct your statement  
8 "we've done everything we could to protect them,"  
9 correct?

10 A. I believe this is taken out of context.

11 Q. Did you make a correction on that statement?

12 A. I don't recall that I did.

13 (Exhibit No. 811 marked  
14 for identification.)

15 Q (BY MR. MICHELSON) Handing you what's been  
16 marked as Exhibit 811, this is an article in Time. It's  
17 dated March 25, 2014. Have you seen this article  
18 before?

19 A. No.

20 Q. And my questions relate to the -- I'm going  
21 to say the last couple of paragraphs on the first page  
22 and the first paragraph on the second page.

23 A. Uh-huh.

24 MR. LEYH: You can read the whole thing,  
25 obviously.

1 THE WITNESS: Yeah. Okay.

2 Q (BY MR. MICHELSON) So on the bottom of the  
3 first page there's a second paragraph up from the bottom  
4 that starts with the word "residents."

5 A. Yes.

6 Q. It states, "Residents of the small town  
7 devastated by a massive mudslide knew there was a high  
8 risk of this kind of disaster in the area, according to  
9 a Washington State official." Do you see that.

10 A. I do.

11 Q. Is that a statement you made?

12 A. No.

13 Q. Do you have any idea who the Washington State  
14 official was who made that statement?

15 A. No, I do not.

16 Q. Then if we go down to the next paragraph it  
17 states "'This entire year we have pushed message after  
18 message that there's a high risk of landslide,' said  
19 John Pennington, director of Snohomish County Emergency  
20 Management." Do you see that?

21 A. I do.

22 Q. And you have covered that statement, correct?  
23 Is there anything else that formed the basis of that  
24 statement other than what you've already testified to?

25 A. I don't understand the question.

1 Q. Okay. Did you make that statement?

2 A. Yeah, I'm pretty sure I made the statement.

3 Q. And my question is, you have addressed I  
4 believe in your earlier testimony the basis for that  
5 statement, the messages that were given. Is there any  
6 other basis for that statement other than what you have  
7 already testified to? Do you understand that?

8 A. I believe so. I made the statement. I  
9 recall making the statement.

10 Q. What was the basis for the statement?

11 A. I think everything that we've already just  
12 discussed on the high risk of landslides based on the  
13 excessive rainfall and the National Weather Service,  
14 NOAA, the DNR, the data.

15 Q. You then went on to state, "The dangers and  
16 the risks are known." Did you make that statement?

17 A. I don't know if I made that statement. It's  
18 in quotes but I don't know if I made that specific  
19 statement.

20 Q. You may have, you may not have?

21 A. I don't recall.

22 Q. Okay. As of March 25, 2014, did you believe  
23 the "dangers and the risks are known, "namely, the  
24 dangers and risks that led to the March 2014 Oso  
25 Landslide?



1 A. I need to ask you to ask me that one more  
2 time, please.

3 Q. In March 2014 following the landslide--

4 A. Following.

5 Q. --did you believe that the dangers and the  
6 risks were known that that type of landslide might  
7 occur?

8 MR. LEYH: Object to the form.

9 A. No, I do not believe that the magnitude of  
10 that type of landslide was known.

11 Q (BY MR. MICHELSON) Okay. And I'm not just  
12 asking about magnitude, but were the dangers and the  
13 risks known?

14 MR. LEYH: Object to the form.

15 A. I believe that the dangers and the risks of  
16 the potential for landslides were known throughout the  
17 entire area and the entire region at that time.

18 Q. (BY MR. MICHELSON) Do you know what was or  
19 wasn't known by the residents of Steelhead Haven?

20 A. No, I do not.

21 Q. Then if you go to the top of the second page  
22 there's a quote attributed to you. "'We did a great job  
23 of mitigating the effect of smaller slides,' Pennington  
24 said. 'It haunts me because we did everything we could  
25 have done and the community did feel safe.'" Do you see

1 that?

2 A. I do.

3 Q. So you're talking about slides in that  
4 paragraph, correct?

5 A. I don't believe that I am. I think I'm  
6 talking about the effects of slides which in my case is  
7 about the flooding of the neighborhood which had been  
8 occurring from 2006 forwards.

9 Q. So when you said -- well, first did you make  
10 the statement of saying "We did a great job of  
11 mitigating the effect of smaller slides"?

12 A. I believe I did make that statement.

13 Q. And when you made that statement, did you  
14 indicate that you really weren't talking about  
15 landslides, you were talking about flooding?

16 A. This particular paragraph, I'm talking about  
17 the community and the impacts from the 2006 slide as it  
18 related to flooding hitting the community.

19 Q. Not my question. Did you indicate, did you  
20 verbalize, did you say to somebody at that point in  
21 time, "I'm not talking about landslides, I'm talking  
22 about the effects of flooding"?

23 A. No, I don't believe I did.

24 Q. Did you ever correct that statement?

25 MR. LEYH: Object to the form.

1 Q (BY MR. MICHELSON) Did you ever send out a  
2 correction to that statement?

3 A. No, I did not --

4 MR. LEYH: Object to the form.

5 A. No, I did not send out a correction.

6 Q. (BY MR. MICHELSON) Did you ever send out any  
7 indication that it was inaccurate in some respect,  
8 namely, it only applied to flooding, it didn't apply to  
9 landslides?

10 MR. LEYH: Object to the form.

11 A. No, I don't recall making a correction to  
12 that.

13 Q. (BY MR. MICHELSON) Okay. So when you  
14 said -- well, did you make the statement, "It haunts me  
15 because we did everything we could have done and the  
16 community did feel safe"? Do you see that?

17 A. I very much recall making that statement.

18 Q. And when you said, "We did everything we  
19 could have done," did you indicate to anyone that that  
20 is in reference only to flooding, not landslides?

21 A. No.

22 Q. And when you said, "The community did feel  
23 safe," on what did you base that statement?

24 A. On my interaction with the community in the  
25 fall flood fight and the subsequent interactions through

1 the Fire District, the fire chief, pre-position of sand  
2 and sandbags and multiple events from 2006 forward. It  
3 wasn't one-way communication.

4 **Q. Pardon me?**

5 A. It was not one-way communication. We  
6 received information back from the community on floods  
7 that they were fine, that they felt good, they needed  
8 sand or they didn't need sand, they needed bags or they  
9 didn't need bags.

10 **Q. This all relates to the flood fight that**  
11 **occurred in January of 2006?**

12 A. For every flood event from 2006 forward in  
13 that particular area.

14 **Q. Did anyone from the community ever indicate**  
15 **to you that he or she or the community felt safe in**  
16 **terms of any landslide risk?**

17 A. In 2006 during the flood fight, the  
18 individual that was to my left as I was looking down at  
19 vegetation and a natural retention wall for flooding and  
20 had looked across at the slide, and the individual that  
21 was behind me, I looked down and I said, Are you okay  
22 with this?" The exact phrase, "Are you okay with this?"  
23 And he shook his head and went, "Yeah," and was focused  
24 on flooding. That was my interaction.

25 **Q. But you understand I wasn't asking about**

1 flooding? You understand I was asking about landslide  
2 risk?

3 A. That was my interaction with the community in  
4 the fall of 2006.

5 Q. And you had no interaction with the community  
6 about landslide risks, correct?

7 A. Not beyond that point in time, correct.

8 Q. Not beyond flooding, correct?

9 A. Correct.

10 (Exhibit No. 812 marked  
11 for identification.)

12 Q. Mr. Pennington, handing you what's been  
13 marked Exhibit 812, which is entitled Snohomish County  
14 Natural Hazards Mitigation Plan Volume 1, final, March  
15 2005, have you seen this document before?

16 A. I have seen this document.

17 Q. So earlier in your testimony you talked  
18 about, I believe, reviewing this Natural Hazard  
19 Mitigation Plan after you started in 2006; is that  
20 accurate?

21 A. I reviewed it not extensively because we  
22 began the process of updating the plan pretty  
23 immediately.

24 Q. I have some questions about statements in  
25 this document. If you turn to what is Page ES-2, it's

1 at the bottom of the page, do you see that page?

2 A. Yes.

3 Q. Okay. It talks about the plan development  
4 methodology, and Phase 2 is to assess the risk. Do you  
5 see that?

6 A. Yes.

7 Q. And then in that paragraph it indicates, "The  
8 Snohomish County Department of Emergency Management had  
9 contracted with the University of Washington's Institute  
10 for Hazards Management and Planning" --

11 MR. LEYH: Mitigation, Hazard  
12 Mitigation.

13 Q -- "Hazard Mitigation and Planning to update  
14 the Snohomish County Hazard Identification and  
15 Vulnerability Analysis (HIVA)." Do you see that?

16 A. I do.

17 Q. Do you ever see that document? Was there  
18 some sort of hazard identification and vulnerability  
19 analysis performed by the University of Washington for  
20 Snohomish County?

21 A. I don't recall. This was done prior to my  
22 coming to the department.

23 Q. That's not my question. I was just asking--

24 A. I don't recall.

25 Q. --if you ever saw that.

1 A. I don't recall.

2 Q. It then goes on to state that "This update  
3 would use the best available science and technology to  
4 create a visual representation of hazards in the form of  
5 Geographic Information System mapping to be used in all  
6 stages of emergency management (preparedness, response,  
7 recovery and mitigation)." Do you see that?

8 A. Yes.

9 Q. Does that refresh your recollection? Did you  
10 ever see any sort of visual representation of hazards  
11 prepared by the University of Washington?

12 A. I've seen documents attached to this and it's  
13 called a HIVA, and I've seen the HIVA but I have not --  
14 but it has been many, many years ago and, again, this is  
15 a document created for at least a two-year-plus period  
16 before I was ever with the department.

17 Q. At the bottom of page ES-3, so it's the next  
18 page, rather, it talks about mitigation guiding  
19 principle, goals and objectives. Do you see that?

20 A. Yes.

21 Q. And Goal No. 1 is to prevent natural  
22 hazard-related injury and loss of life. Do you see  
23 that?

24 A. Yes.

25 Q. When you took over the department did that

1 remain to be one of the goals?

2 A. Not preventing natural hazard-related injury  
3 and loss of life. The stated goals were preservation  
4 and protection of life, property, the environment and  
5 the economy. Very succinct.

6 Q. Well, did you understand that one of the  
7 purposes of your department, the Department of Emergency  
8 Management, was to prevent natural hazard-related injury  
9 and loss of life?

10 MR. LEYH: Object to the form.

11 A. I think it's inferred in the generic  
12 statement and the generic principles of emergency  
13 management.

14 Q. (BY MR. MICHELSON) And as part of the  
15 Department of Emergency Management, while this plan, the  
16 2005, was still in effect, was it part of your mission  
17 to carry out that goal?

18 A. It is -- it was the department's  
19 responsibility to take the adopted plan as it was and to  
20 try to mitigate based on strategies that are funded and  
21 formed at the State of Washington through the Emergency  
22 Management Council. It's a process that essentially  
23 takes mitigation money after a disaster up to a  
24 percentage, now 20 percent, as used to mitigate not  
25 specifically where the disaster occurred but statewide.



1           This document helps to guide the strategy for  
2 mitigating the county along with other counties when  
3 mitigation moneys become available. So it's a strategic  
4 document for if we're going to mitigate, here's how it  
5 should be accomplished, here is what we would like to  
6 do.

7           **Q. Let me put it to you this way: Was one of**  
8 **the goals of the Department of Emergency Management**  
9 **after you took over as long as the 2005 plan was in**  
10 **effect, was one of the goals to prevent natural**  
11 **hazard-related injury and loss of life?**

12           A. It was to prevent and protect -- protect and  
13 preserve the life, property, environment and economy of  
14 Snohomish County and those that reside in it.

15           **Q. If you turn to Page 21-3, it's the second to**  
16 **the last page. It's 21-1. It talks about countywide**  
17 **mitigation initiatives.**

18           A. Yes.

19                   MR. LEYH: Sorry. Where are you?

20                   MR. PHILLIPS: Second to the last page  
21 of the exhibit.

22                   MR. LEYH: No, I have that, but where  
23 are you -- it's a table.

24                   MR. MICHELSON: So far I just identified  
25 that it's a table.

1 MR. LEYH: Oh, I thought you were --  
2 sorry.

3 MR. MICHELSON: We're getting down to  
4 looking at a portion of it.

5 Q (BY MR. MICHELSON) So Topic No. 5, do you  
6 see that?

7 A. Yes.

8 Q. Okay. And so under "Countywide mitigation  
9 initiatives," Topic 5 is "Sponsor and maintain a natural  
10 hazards informational website to include the following  
11 types of information: Hazard-specific information such  
12 as warnings, private property mitigation alternatives,  
13 important facts on risks and vulnerability." Do you see  
14 that?

15 A. Yes.

16 Q. And that -- the lead agency was supposed to  
17 be your department, DEM, with support from SWM, which is  
18 what, Stormwater Management?

19 A. Surface Water Management.

20 Q. Surface Water Management. Correct?

21 A. Yes.

22 Q. Okay. And the time line was to do this in  
23 short-term, right?

24 A. That's as it was written.

25 Q. When you took over the Department of

1 **Emergency Management was that done?**

2 A. No. To my knowledge, it was not done, not  
3 within the Department of Emergency Management.

4 **Q. Do you know why it was not done?**

5 A. No, I do not. We had websites that we  
6 developed, we had information that we pushed in --  
7 beginning in June or July of 2006 when I took over, our  
8 primary objective was to get an organizational structure  
9 underneath us that would allow us to respond to anything  
10 coming in the fall flood flight.

11 **Q. If you turn to the next page, it sort of**  
12 **shows priorities, and for Item No. 5 --**

13 A. But I -- may I -- but I do not know if  
14 Surface Water Management took that responsibility from  
15 DEM upon the department being formed after this document  
16 was created, so I don't know if Surface Water Management  
17 may have done that.

18 **Q. You're not aware of them having done it?**

19 A. I don't know.

20 **Q. So again, on this Item No. 5 we've been**  
21 **talking about, on the next page there's a prioritization**  
22 **chart, and when it talks about setting up this system,**  
23 **it indicates priority is high. Do you see that?**

24 A. Yes.

25 **Q. So after you took over, did anyone**

1 communicate to you that it was not a high priority for  
2 your department to set up this natural hazards  
3 information website which would include hazard-specific  
4 information such as warnings, private property  
5 mitigation alternatives, and important facts on risk and  
6 vulnerability?

7 A. I believe some of this information may reside  
8 with Surface Water Management, not my department, until  
9 the 2010 plan, where more information was provided based  
10 on our county -- our department's involvement with the  
11 mitigation plan at that point.

12 Q. Do you understand that wasn't my question?

13 A. I'm not sure what your question is.

14 Q. Really? Okay, let's try it again.

15 Did anyone communicate to you that it was no  
16 longer a high priority for your department along with  
17 support from SWM to go ahead and sponsor and maintain a  
18 natural hazards informational website to include the  
19 following types of information: hazard-specific  
20 information such as warnings, private property  
21 mitigation alternatives, important facts on risk and  
22 vulnerability?

23 A. I don't recall that, but I recall under CRS,  
24 which stands for Community Rating System, that Surface  
25 Water Management and Snohomish County had been a

1 designated lead for establishing high standards and  
2 thresholds that involve mitigation that may include this  
3 information.

4 Q. Did anyone ever tell you this was not a high  
5 priority for your department?

6 A. No, I do not recall that.

7 (Exhibit No. 813 marked  
8 for identification.)

9 Q (BY MR. MICHELSON) Mr. Pennington, handing  
10 you what's been marked as Exhibit 813, it's a Department  
11 of Emergency Management Response to Performance Audit.  
12 It apparently is authored by you. It's dated August 11,  
13 2006. Is this a document you, in fact, authored?

14 A. No, it is not.

15 Q. Is it a document that you sent to the  
16 performance auditor?

17 A. Yes, it is a document that I sent to her.

18 Q. It came out under your signature, if you  
19 will, under you, as director of the department, correct?

20 A. Yes.

21 Q. And who in fact did the work for you?

22 A. This was a response to recommendations based  
23 on an audit that I responded to.

24 Q. And did you review the document, namely,  
25 Exhibit 813, the performance audit response, before it

1 was sent out?

2 A. Yes, I believe I did.

3 Q. What do you recall about the performance  
4 audit? In other words, I'm getting the impression from  
5 this that there were some criticisms that had been made  
6 about the performance of the Snohomish County Department  
7 of Emergency Management. And is that in fact what --  
8 did the audit contain some sort of criticisms?

9 A. What I recall is that the audit had been  
10 scheduled before -- as the new department was created in  
11 January, that as part of the creation that the former  
12 county executive, Aaron Reardon, asked that a  
13 performance audit be done of what existed in emergency  
14 management in Snohomish County. Not of the department,  
15 but what actually existed for emergency management  
16 throughout the county.

17 When I came onboard in January I met with  
18 Kymber Waltmunson, and I believe she was either in  
19 process of this or just was in infancy of it beginning,  
20 and these were recommendations that were actually made  
21 to help guide the department forward as opposed to  
22 critiquing as much what had existed in the past. It was  
23 an examination of what existed in the past and as a  
24 pathway forward potentially.

25 Q. The very first two sentences in your response

1 state, "The Snohomish County Department of Emergency  
2 Management takes seriously its mission. There is no  
3 greater challenge to a government and its leaders than  
4 the protection of its citizens." Do you see that?

5 A. I do.

6 Q. Those are words you made?

7 A. They are.

8 Q. You agreed with that statement when you made  
9 it?

10 A. I do.

11 Q. You agreed with that statement when you left  
12 the department, correct?

13 A. I do.

14 Q. Under Recommendation No. 9, there is a  
15 statement: "DEM should ensure preparedness for all  
16 hazards and alignment of activities with Snohomish  
17 County hazards including the following," and we don't  
18 know what the rest of that statement was. Do you see  
19 that, what I'm referring to?

20 A. Yes, yes.

21 Q. And then there's a response, and this is --  
22 the response you submitted was in part, "We concur  
23 strongly with recommendations to enhance our focus on  
24 mitigation and to develop additional hazard-specific  
25 plans relevant to Snohomish County." Do you see that?

1 A. Yes.

2 Q. Did your department ever develop a  
3 hazard-specific plan relating to landslide risk?

4 A. I do not believe that we did.  
5 (Exhibit No. 814 marked  
6 for identification.)

7 Q (BY MR. MICHELSON) Handing you what's been  
8 marked as Exhibit 814, this is an email apparently from  
9 you to SXO dated December 13, 2007. It's regarding  
10 landslide and debris removal guidance, and importance is  
11 high. Did you author that email?

12 A. I authored the forwarding of this email.

13 Q. Okay. And what is SXO?

14 A. I believe it's the abbreviation for the  
15 executive offices, department directors.

16 Q. And so I understand it then, you're sending  
17 this on to all of the executive officers and department  
18 directors in Snohomish County; is that accurate?

19 A. Yes, I think so.

20 Q. And the message is coming from, what you're  
21 forwarding is coming from the Washington State EMD. Do  
22 you see that?

23 A. Yes.

24 Q. And from a person by the name of Donna Voss.  
25 Do you know who she was?



1 A. Yes.

2 Q. And who was she?

3 A. She had worked for the Emergency Management  
4 Division, and I had some interaction over time with her  
5 from FEMA, and she's an employee of EMD.

6 Q. And describe for me, what did you understand  
7 that the role of the Washington State EMD is? And is  
8 that Emergency Management Department?

9 A. Division.

10 Q. Division. Okay. And so describe for me what  
11 the role of that entity was back in 2007.

12 MR. LEYH: Object to the form;  
13 foundation.

14 Q (BY MR. MICHELSON) Based upon your knowledge  
15 and interaction.

16 A. Well, based upon my knowledge, experience and  
17 interaction with them, they are the state's lead for  
18 emergency management. They are underneath the military  
19 department and the adjutant general. They have a  
20 director. And their job is to coordinate with local and  
21 tribal emergency management organizations for emergency  
22 management.

23 Q. So from the email list that is being sent to  
24 by Donna Voss on December 13 of 2007, it appears there  
25 are messages that come out from the Washington State

1 Emergency Management Division to a bunch of different  
2 counties, correct?

3 A. I believe that's accurate.

4 Q. How frequently would you, in your role as the  
5 Department of Emergency Management for Snohomish County,  
6 receive messages from the Washington State EMD?

7 A. Frequently. Frequently, infrequently in --  
8 infrequently before disasters and frequently after.

9 Q. And this message relates to landslides and  
10 mudslide sites. Do you see that?

11 A. Yes.

12 Q. So then if we go down to the bottom of the  
13 first page in her message, it indicates, "Under the  
14 disaster declaration No. 1734-DR-WA, December 2007  
15 Severe Storms and Flooding, FEMA will have geotechnical  
16 experts available to review the landslide and mudslide  
17 sites. Guidance will be given on whether a geotechnical  
18 study is needed."

19 Do you see that?

20 A. Yes.

21 Q. Within Snohomish County, did you take  
22 advantage of that offer to have a geotechnical study  
23 performed by experts that FEMA had available of any  
24 landslide or mudslide site?

25 A. Under -- under this, no, and I believe that

1 Disaster 1734 in December of 2007 may have been just the  
2 Lynnwood area and not included in the original  
3 declaration, I believe. And if my memory is correct, we  
4 had no landslides attached to anything under this  
5 disaster declaration, and it was a very specific area of  
6 the south county, I believe.

7 Q. It's fair to say that certainly as of this  
8 date, December 2007, you were aware that FEMA could make  
9 available geotechnical experts to review landslides and  
10 mudslides, correct?

11 A. It's one of the basic tenets of FEMA's non --  
12 yes, yes.

13 Q. Okay. So during the period of time you were  
14 the Director of Emergency Management in Snohomish  
15 County, did you ever take advantage of that? Did you  
16 ever have a geotechnical expert review any landslide  
17 site in Snohomish County?

18 A. No, not that I recall.

19 Q. Were you aware that following the January  
20 2006 slide Vaughn Collins and Steve Thomsen in Snohomish  
21 County had essentially suggested or recommended that a  
22 geotechnical study be performed of the Oso Landslide?

23 MR. LEYH: Object to the form;  
24 mischaracterizes.

25 Q. (BY MR. MICHELSON) You can go ahead and

1     **answer.**

2           A.     I don't recall that.

3                   MR. LEYH:   I've got it memorized.  I  
4     could give you mine.

5           **Q       (BY MR. MICHELSON)   Directing your attention**  
6     **to what's previously been marked as Exhibit 8, it's an**  
7     **email exchange in late January of 2006 that involved**  
8     **Steve Thomsen and Vaughn Collins and others relating to**  
9     **Steelhead Drive follow-up.**

10                   MR. LEYH:   It's actually early 2006, not  
11     late 2006.

12                   MR. MICHELSON:  I thought I said January  
13     but maybe I didn't.  It's January 31, 2006.

14           **Q       (BY MR. MICHELSON)   Have you seen this**  
15     **document before?**

16           A.     Never.

17           **Q.     Did you know who Vaughn Collins was?  Have**  
18     **you ever met Vaughn Collins?**

19           A.     I don't recall that name.

20           **Q.     Did you know who Steve Thomsen was?**

21           A.     Yes.

22           **Q.     Did you have interactions with Steve Thomsen**  
23     **in your role as director of Department of Emergency**  
24     **Management?**

25           A.     Yes.

1 Q. And how frequently would those interactions  
2 be?

3 A. At cabinet meetings on a weekly basis and  
4 during activation of the Emergency Operations Center.

5 Q. If you look down on the first page to the  
6 email from Vaughn Collins that was sent to Joan Lee,  
7 John Engel, Chris Nelson, Steve Thomsen, Owen Carter  
8 regarding Steelhead Drive follow-up, I have questions  
9 for you about a couple of statements in there.

10 So the message goes on to state, "Chris and I  
11 talked some about near and longer term monitoring and  
12 analysis items here. We were thinking public safety  
13 primarily, but some the costs could be shared with the  
14 tribe probably [sic]."

15 Item No. 1, "Have a geotechnical evaluation  
16 of the slide done. Could additional slides run out  
17 further? Has this slide created additional  
18 instabilities at the upper end where further movement  
19 would be closest to existing homes?" Do you see that?

20 A. Uh-huh. Yes.

21 Q. Were you aware that that recommendation had  
22 been made?

23 MR. LEYH: Object to the form;  
24 mischaracterizes.

25 A. No, and I have not seen this document before.

1 Q (BY MR. MICHELSON) You knew who Steve  
2 Thomsen was, correct?

3 A. Yes.

4 Q. Did he ever mention to you that that  
5 recommendation had been made?

6 MR. LEYH: Object to the form.

7 A. No, I do not recall that.

8 Q (BY MR. MICHELSON) Did you know Joan Lee?

9 A. No, I do not recall that name.

10 Q. Did you know John Engel?

11 A. Yes, I know John Engel.

12 Q. Okay. Did John Engel ever tell you that that  
13 recommendation had been made?

14 MR. LEYH: Object to the form.

15 A. No, I do not recall that.

16 Q (BY MR. MICHELSON) Did you know who Owen  
17 Carter was?

18 A. Yes, I do.

19 Q. Did Owen Carter ever mention to you that that  
20 recommendation had been made?

21 MR. LEYH: Object to the form.

22 A. No, I do not recall that.

23 Q. (BY MR. MICHELSON) If someone following the  
24 2006 landslide had notified you that they were  
25 recommending a geotechnical evaluation of the Hazel

1 Landslide because they were concerned as to whether  
2 additional slides could run out further, is that the  
3 type of thing that your department could have done?  
4 Namely, could it have taken on the responsibility of  
5 arranging for a geotechnical study?

6 MR. LEYH: Object to the form.

7 A. I believe in its -- in the department's  
8 infancy, the answer would be no. As the department grew  
9 over time, I believe the answer would be yes.

10 Q (BY MR. MICHELSON) So let me put it to you  
11 this way: If we look at the time period between 2006  
12 and 2014 prior to the March 2014 slide, is it fair to  
13 say that if someone had suggested and recommended a  
14 geotechnical study be performed on the Hazel Landslide  
15 because there was a public safety concern, is that  
16 something that the Department of Emergency Management  
17 could have taken on and arranged?

18 MR. LEYH: Object to the form.

19 A. I don't believe that we would have taken on  
20 and arranged it. I believe we would have potentially  
21 facilitated the procurement of someone that could have  
22 done it. In other words, finding the money for someone  
23 to do it, not the technical expertise itself.

24 Q. (BY MR. MICHELSON) Right. But that is  
25 something -- that is the type of project that the

1 Department of Emergency Management could take on,  
2 correct?

3 MR. LEYH: Object to the form.

4 A. I think I made myself clear that it is not  
5 something that we could take on as a direct  
6 responsibility of the department, but would be able to  
7 work with those individuals in these departments who are  
8 the geotechnical experts to facilitate the funding of  
9 those projects if they sought them.

10 Q. (BY MR. MICHELSON) Right. And you either  
11 facilitated or otherwise pursued information regarding a  
12 geotechnical study at Mount Index, correct?

13 A. I believe it was either submitted to me or I  
14 submitted to them information about what was going on  
15 out there.

16 Q. Did you know in your role as head of the  
17 director of the department -- of the director of the  
18 Department of Emergency Management how to go about  
19 obtaining a geotechnical study?

20 A. Yes. But that would be to go back to these  
21 particular individuals.

22 Q. Right. I mean, for example, you knew that  
23 Jeff Jones was a geologist in the department and that  
24 you could communicate with him, correct?

25 A. I didn't know Jeff Jones personally, but I



1 knew to go back to Public Works if there were  
2 geotech-related issues that needed to occur.

3 **Q. So that would be people like Steve Thomsen**  
4 **you could go to, correct?**

5 **A.** That's correct.

6 THE VIDEOGRAPHER: Excuse me, counsel.  
7 We have one minute of media remaining.

8 MR. MICHELSON: That's not much. Why  
9 don't we take a break.

10 THE WITNESS: This is the end of Disc  
11 No. 1. This deposition will continue on Disc. No. 2.  
12 The time is now 11:06 a.m. Going off the record.

13 (Recess taken.)

14 THE VIDEOGRAPHER: We are back on the  
15 record. This is the beginning of Disc No. 2 in the  
16 continuing deposition of John Pennington. The time is  
17 now 11:16 a.m.

18 **Q (BY MR. MICHELSON) Mr. Pennington, back to**  
19 **Exhibit 8, this is that email exchange in January of**  
20 **2006 that we've been talking about just before the**  
21 **break. Under Paragraph 1 it indicates -- Mr. Collins**  
22 **indicates, "Has this slide created additional**  
23 **instabilities at the upper end where further movement**  
24 **would be closest to existing homes?" Do you see that**  
25 **statement?**

1 A. Yes.

2 Q. And at the top of the page Steve Thomsen  
3 responds, "Vaughn, you bring up valid points that we  
4 should follow up on." Do you see that?

5 A. Yes.

6 Q. Did anyone communicate to you after you came  
7 in to the Department of Emergency Management that  
8 Mr. Collins had made that statement and Mr. Thomsen had  
9 concluded "Vaughn, you bring up valid points that we  
10 should follow up on"?

11 A. No, I don't recall that, and I wasn't brought  
12 in until July of that year.

13 Q. Mr. Collins also indicates in Paragraph 2,  
14 "Also consider putting targets on the slide which could  
15 be monitored to detect long-term slide movement." And  
16 again, at the top of the page Mr. Thomsen says, "Vaughn,  
17 you bring up valid points that we should follow up on."

18 Did anyone pass on to you that Mr. Collins  
19 had made that statement and that Mr. Thomsen had  
20 responded that they were valid points that should be  
21 followed up on?

22 A. No, I do not recall that I've seen that.

23 Q. Is it fair to say that in your role as the  
24 director of the Department of Emergency Management that  
25 this is the type of information you would want to know?

1 Namely, if there was a landslide risk where someone was  
2 suggesting that there be a geotechnical study performed,  
3 an evaluation of slide run-out distances, do monitoring  
4 to detect long-term slide movement, is it fair to say  
5 that is the type of information you would want to know?

6 A. Yes.

7 Q. If you had been notified that there was that  
8 type of concern regarding the Hazel Landslide that  
9 occurred in 2006 and that had been brought to your  
10 attention, would it be your practice to follow up on the  
11 concern to see if it was valid?

12 MR. LEYH: Object to the form.

13 A. Can you repeat the question?

14 Q. (BY MR. MICHELSON) Would it be your practice  
15 to follow up on that type of concern--

16 A. Yes.

17 Q. --if it had been brought to your attention?

18 A. Yes.

19 Q. Mr. Pennington, handing you what's previously  
20 been marked as Exhibit 10, so this is some excerpts from  
21 the Stillaguamish River Comprehensive Flood Hazard  
22 Management Plan that was adopted by the county on  
23 February 18th of 2004, have you ever seen that plan  
24 before?

25 A. No.

1 Q. If -- in reference to the Hazel Landslide, on  
2 the very last page of this document there was a  
3 recommended Action No. 21 indicating, "Implement a  
4 Steelhead Haven slide stabilization project," and then  
5 it goes on to state, "Implement a stabilization project  
6 through the authority of the Corps that meets public  
7 safety and environmental restoration goals of this  
8 plan." Do you see that?

9 A. Yes.

10 Q. In your role as director of Department of  
11 Emergency Management over the entire time period that  
12 you were there, did anyone bring to your attention that  
13 the county had adopted this plan with that  
14 recommendation?

15 A. No, I do not recall that.

16 Q. In your role as director of the Department of  
17 Emergency Management, is that the type of information  
18 you would have wanted to know, namely, that a  
19 recommendation to implement a slide stabilization  
20 project at Steelhead Haven had been made and the plan  
21 had been adopted?

22 A. Yes.

23 Q. And if you had received that information, is  
24 that the type of information you would follow up on and  
25 explore?

1 A. Within my capacity, yes.

2 Q. Mr. Pennington, handing you what has  
3 previously been marked as Exhibit 17, it's entitled  
4 Natural Hazard Mitigation Plan Update Volume 1 Planning  
5 Area-Wide Elements, September of 2010. Have you seen  
6 this document before?

7 A. Yes.

8 Q. And was this a plan update that was prepared  
9 during the period of time that you were director of the  
10 Department of Emergency Management?

11 A. Yes.

12 Q. And did you have any role or involvement in  
13 preparation of the plan?

14 A. No executive guidance of the project manager  
15 and of the committees that were established to build the  
16 plan.

17 Q. So if you turn to what is Page X111 at the  
18 bottom, it has acknowledgments. Do you see that?

19 A. Uh-huh.

20 Q. Is that a yes?

21 A. Yes.

22 Q. And so the project manager was Jason  
23 Biermann, who you referred to earlier.

24 A. Yes, correct.

25 Q. But it says then other DEM staff. Your name

1 is shown there as being involved.

2 A. Yes.

3 Q. I take it you reviewed the plan, correct?

4 A. I reviewed most of the plan.

5 Q. From the Department of Public Work, Steve  
6 Thomsen was involved, correct?

7 A. Yes.

8 Q. And from Surface Water Management, John Engel  
9 was involved, correct?

10 A. Yes.

11 Q. And did you interact with them on preparation  
12 of this plan?

13 A. No, I did not.

14 Q. So if you turn to the executive summary,  
15 which starts with Page ES-1, it indicates in the second  
16 paragraph, "Snohomish County and a partnership of local  
17 governments within the county had developed and  
18 maintained a hazard mitigation plan to reduce future  
19 loss of life and property resulting from disasters."

20 Correct?

21 A. Yes.

22 Q. And did -- was that in fact one of the goals  
23 of this 2010 plan, namely, to reduce future loss of life  
24 and property?

25 A. I believe that's -- yes.

1 Q. And then under the Plan Update, it talks  
2 about, and this is the very bottom of Page ES-1, "Use of  
3 best available data to update the risk assessment  
4 portion of the plan." Do you see that?

5 A. Yes.

6 Q. Were you familiar with the concept of LiDAR?

7 A. Yes. Not technically, but aware of what  
8 LiDAR is, yes.

9 Q. Under your guidance as the director of the  
10 Department of Emergency Management, was LiDAR used in  
11 any respect by the department to study landslide hazard  
12 risks?

13 A. I'm not aware of that, no.

14 Q. Did you know that the LiDAR tool was  
15 available and could be used to study landslide hazard  
16 risks?

17 A. I was aware that it was primarily being  
18 utilized for the purposes of discovering earthquake  
19 fault lines.

20 Q. But were you aware that LiDAR enabled you to  
21 sort of see through the trees and see where landslides  
22 had occurred, how they had run out, that type of thing?

23 A. No.

24 Q. If you turn to Page ES-4, under Guiding  
25 Principle, it says, "Through partnerships, reduce the

1 vulnerability to natural hazards in order to protect the  
2 health, safety, welfare and economy of the community."

3 Do you see that?

4 A. Yes.

5 Q. And then Goal No. 1 remained "Reduce natural  
6 hazard-related injury and loss of life."

7 A. Yes.

8 Q. You didn't try to change that goal, correct?

9 A. No, not from the mitigation standpoint.

10 Q. And that remained the goal under the 2010  
11 plan that DEM under your guidance was to carry out,  
12 correct?

13 A. Yes.

14 Q. So then if you turn to the next page, ES-5,  
15 there's a table that shows Hazard Mitigation Plan Update  
16 Objectives, and Objective No. 10 is to "Educate the  
17 public on the risk from and preparedness for natural  
18 hazards and ways to mitigate their impacts." Do you see  
19 that?

20 A. Yes.

21 Q. To your knowledge -- well, let me back up.  
22 One of the goals that it applies to is Goal No. 1, which  
23 is reduce natural hazard-related injury and loss of  
24 life. Do you see that?

25 A. Yes.



1 Q. So what was done by the Department of  
2 Emergency Management to educate the public about ways to  
3 mitigate the impacts of natural disaster -- pardon me,  
4 natural hazards such as landslides?

5 A. We hired a public education and outreach  
6 coordinator.

7 Q. And who is that?

8 A. Her name is Dara, D-A-R-A, Salmon,  
9 S-A-L-M-O-N. And her specific purpose was public  
10 education and outreach.

11 Q. And when was she hired?

12 A. I don't recall the exact date but I recall it  
13 was I believe -- I believe prior to the adoption of this  
14 plan.

15 Q. So sometime prior to 2010?

16 A. I believe so.

17 Q. In terms of her outreach efforts about how to  
18 mitigate the impact of natural hazards and educating the  
19 public on the risk, do you know whether she did anything  
20 to educate the public on the risk of landslides?

21 A. I'm not directly familiar. We had a  
22 strategic plan that focused on public education and  
23 outreach, and her job encompassed all of the hazards  
24 throughout the county, public meetings, private  
25 meetings, trainings, releases of information.

1           **Q.     Do you know whether there were any public**  
2           **training meetings dealing with landslide risks?**

3           A.     I do not know that.

4           **Q.     You indicate there was a strategic, what did**  
5           **you call it, plan regarding how to handle that release**  
6           **of information?**

7           A.     No, there was a strategic plan for the  
8           Department of Emergency Management. There have been  
9           multiple strategic plans. One of the focal points has  
10          been on public education and outreach.

11          **Q.     Okay. So what -- when would those plans have**  
12          **been issued? I mean, if we take the time period between**  
13          **2006 and 2014, describe for me the plans that were**  
14          **adopted by the Department of Emergency Management.**

15          A.     I believe that our first strategic plan was  
16          adopted in 2007. Subsequently, I believe 2009, and I  
17          want to say in two-year intervals. I don't recall the  
18          exact years. But beginning in 2007 we created the first  
19          ever strategic plan for the Department of Emergency  
20          Management.

21          **Q.     How many updates would there have been**  
22          **between 2007 and 2014?**

23          A.     I believe that as 2015 concluded we were in  
24          the final updating phase of our fourth iteration of our  
25          strategic plan.

1           **Q.     What do you recall the strategic plan being**  
2 **regarding landslide risks?**

3           A.     I don't recall the very specifics of it as  
4 far as how it was being updated at that point because it  
5 was not finalized when I departed.

6           **Q.     Who was updating the plan on landslide risks?**

7           A.     It was incorporated -- sorry. Can you ask  
8 the question again, please?

9           **Q.     Who was updating the plan on landslide risks?**

10          A.     Define "plan."

11          **Q.     The strategic plan that you're referring to.**

12          A.     The strategic plan was focused on the larger  
13 strategic goals and objectives of the department, not  
14 specific annexes or specific incidents. They would have  
15 incorporated public education and outreach, as an  
16 example, for all hazards in the county, including  
17 landslide risks.

18          **Q.     But would landslide risks be addressed**  
19 **specifically within that plan?**

20          A.     I don't recall if it is directly referenced  
21 in the strategic plan of the department.

22          **Q.     So then if you turn to the next page, it's**  
23 **entitled Action Plan - Countywide Mitigation**  
24 **Initiatives. At the bottom of the page is CW-5, which**  
25 **is similar to what existed back in 2005, I believe. So**

1 it says, "Sponsor and maintain a natural hazard  
2 informational website to include the following types of  
3 information: Hazard-specific information such as  
4 warning, private property mitigation alternatives,  
5 important facts on risks and vulnerability." Do you see  
6 that?

7 A. Yes.

8 Q. And it's to be done in the short term. Do  
9 you see that?

10 A. Yes.

11 Q. Was that ever done?

12 A. I believe that this was encompassed through  
13 our website and the publishing of this particular plan  
14 on the website as well as any annexes that were specific  
15 to certain -- certain parts of the plan.

16 Q. So at some point in time after 2010, then,  
17 this is the publishing of any annexes that were part of  
18 the plan and placing them on the website?

19 A. I don't recall. I recall that we -- I recall  
20 that we made a point to put the plan more prominently on  
21 the website, and it was a large voluminous plan and we  
22 had to come up with creative technical ways to place it  
23 on the website.

24 Q. Because it was so big?

25 A. Yes, sir.

1 Q. If you turn to the last page of the exhibit,  
2 it talks about mitigation alternatives catalog for  
3 landslides. Do you see that?

4 A. No.

5 Q. The last page of this exhibit, so the very  
6 last page.

7 A. Oh.

8 Q. Do you see that?

9 A. Yes.

10 Q. Okay. So it's a Table 20-4. Do you know who  
11 prepared this document that talked about mitigation  
12 alternatives?

13 A. No. Jason Biermann was my program manager  
14 who was coordinating all of this.

15 Q. So it talks about ways to reduce landslide  
16 risks, one of which it says manipulate the hazard by  
17 stabilizing the slope either through dewatering or  
18 armoring, armoring of the toe. Do you see that?

19 A. Yes.

20 Q. And then it indicates this is on a government  
21 scale to stabilize slopes. Do you see that?

22 A. Yes.

23 Q. Can you identify any areas where Snohomish  
24 County stabilized landslide slopes?

25 A. No, not within my department, no, I do not.

1 Q. I'm just saying, as director of the  
2 Department of Emergency Management, you know, through  
3 the end of 2015, are you aware of any incidences where  
4 the county pursued mitigation measures to stabilize  
5 slopes?

6 A. No, I'm not familiar with that.

7 Q. Another way to mitigate a landslide risk  
8 listed here is to reduce exposure, and it says on the  
9 right-hand side, Acquire properties located in high-risk  
10 landslide areas." Do you see that?

11 A. Yes.

12 Q. Did the county do anything to identify  
13 properties located in high-risk landslide areas after  
14 this plan was adopted in 2010?

15 A. I do not know. That would have been the  
16 responsibility of the mitigation committee and the  
17 steering committee.

18 Q. Are you aware of any instances where the  
19 county acquired properties located in high-risk  
20 landslide areas during the period of time that you were  
21 the director of the Department of Emergency Management?

22 A. No, I'm not familiar with that.

23 Q. In terms of landslide risks, down at the  
24 bottom of the page it says, "Increase preparation or  
25 response capability," "Institute warn ing system." Do

1 you see that?

2 A. Yes.

3 Q. You described this system that was adopted  
4 under -- after 2007 or in 2007 to send out these sort of  
5 immediate warnings. Do you know if that was adopted as  
6 part of this plan or is it referring to something else?

7 A. This plan was adopted after we instituted a  
8 reverse notification system, and we also had siren  
9 and -- siren warning systems we were in the process of  
10 implementing as well.

11 Q. Talk to me about siren warning. How was that  
12 going to work?

13 A. The best example would be for Sultan and the  
14 Culmback Dam. The City of Sultan has a siren warning  
15 system and reverse notification in the event of a breach  
16 of the Culmback Dam.

17 Q. Was there any sort of siren warning system  
18 set up relating to the Steelhead Haven community or the  
19 Hazel Landslide?

20 A. No.

21 Q. Are you aware of whether Steelhead Haven,  
22 that community, was ever shown as being a landslide  
23 hazard risk under any county plan or other document?

24 A. I believe that this plan and then in 2015  
25 both identify it as a high risk area for landslides.

1 Q. Okay, but I guess I'm looking at the time  
2 period prior to the March 2014 Oso Landslide. So when  
3 you say this plan identified it as being a high risk  
4 area, my question is, was the Steelhead Haven community  
5 itself, not the Hazel Landslide across the river, but  
6 the community itself, identified as being in a high risk  
7 area?

8 A. I don't recall that specific neighborhood.

9 Q. And when you recall some identification are  
10 you referring to the map prepared by Tetra Tech that  
11 showed high risk areas in the county?

12 A. Yes.

13 Q. So handing you what's previously been marked  
14 as Exhibit 9, is this the map you were referring to?

15 A. Yes, I believe it is.

16 Q. And so on this map can you identify where the  
17 Hazel Landslide is located?

18 A. I believe I can.

19 Q. Okay. So I'll give you a pen, and on this  
20 copy of Exhibit 9, could you circle the area that you  
21 believe is identifying the Hazel Landslide area and put  
22 your initials next to it? Here's a pen for you.

23 A. (Complies.)

24 MR. MICHELSON: Can we have this marked  
25 as the next exhibit.



1 (Exhibit No. 815 marked  
2 for identification.)

3 Q (BY MR. MICHELSON) Handing you what's been  
4 marked again as Exhibit 815, the circle you've made is  
5 the circle where you believe the Hazel Landslide is,  
6 correct?

7 A. In the general area, yes.

8 Q. Okay. And the circle apparently is referring  
9 to -- I'm going to call it a pink dot, but a pink or red  
10 dot that appears on the north side of the Stillaguamish  
11 River; is that correct?

12 A. It is a bad map production, but, yes, that's  
13 what it looks like.

14 Q. Okay. Are you aware of any map that shows a  
15 landslide -- pardon me, a landslide hazard area to be on  
16 the south side of the Stillaguamish River in that area?

17 A. I don't recall that.

18 Q. Other than what you have already described  
19 about observing the crib wall or the log revetment out  
20 at Hazel in the fall of 2006, did you have any other  
21 role, knowledge, or involvement regarding the log  
22 revetment project?

23 A. I'm sorry. Can I take a minute, please, with  
24 counsel?

25 Q. Really not unless it's a privileged issue.

1 MR. LEYH: Unless it's something that  
2 has to do with privilege, you need to answer this  
3 question and then we can take a break.

4 THE WITNESS: It was referring to this  
5 map.

6 MR. LEYH: Yeah. Why don't you read  
7 back the last question, answer that question, and then  
8 we can do that.

9 THE WITNESS: Okay, sure.

10 (Record read by the court reporter.)

11 A. No.

12 THE VIDEOGRAPHER: We are going off the  
13 record. The time is now 11:42 a.m.

14 (Recess taken.)

15 THE VIDEOGRAPHER: We are back on the  
16 record. The time is now 11:44 a.m.

17 MR. LEYH: Would you please read the  
18 question I asked you to find.

19 (Record read by the court reporter.)

20 MR. LEYH: Did you want to clarify your  
21 answer to that question?

22 THE WITNESS: I do. This map designates  
23 a landslide hazard on the south side of the  
24 Stillaguamish River. It's in yellow and marked under  
25 "other landslide potential areas." The red map that you

1 pointed me to was the Department of Natural Resources  
2 landslide hazard areas. So it was identified on this  
3 map as an area. Just a different color.

4 Q (BY MR. MICHELSON) You're saying essentially  
5 that anything yellow on this map is identified as an  
6 other landslide potential hazard area, correct?

7 A. In answering your question, that it is on the  
8 south side of the river, yes.

9 Q. Anything in yellow on this map is what is  
10 being identified as an other landslide potential area,  
11 correct?

12 A. Yes, correct.

13 Q. But in terms of the DNR maps, state maps  
14 about landslide hazard areas, the area that you have  
15 circled regarding the Hazel Landslide that is in pink or  
16 red, whatever color you want to call it, is on the north  
17 side of the river, correct?

18 A. Predominantly, yes.

19 Q. Do you know if it passes anywhere onto the  
20 south side of the river?

21 A. Again, this is not a very well-produced map,  
22 but it appears, though, that the red dot is in the river  
23 and almost to the other side of the river and maybe into  
24 that area.

25 Q. In terms of the March 2014 Oso Landslide, on

1    **behalf of the county, were you responsible in some way,**  
2    **shape or form to head up to response to that landslide?**

3            A.     Can you define what "head up" means, because  
4    it's a very technical term in this field?

5            Q.     "Head up" is?

6            A.     Yes.

7            Q.     Okay. I guess I don't care if you use "head  
8    up." What was your role and involvement following the  
9    2014 Oso Landslide?

10           A.     The response coordination for the Department  
11    of Emergency Management and response coordination for  
12    the county once the Emergency Operations Center was  
13    activated per county code and per statute in Washington  
14    State.

15           Q.     Are you aware that various devices were set  
16    up to monitor movement of the landslide following the  
17    March 22, 2014, slide?

18           A.     I am aware that there were devices placed in  
19    the area, yes.

20           Q.     Did you have any role or involvement in that?

21           A.     I believe I was consulted at one point or  
22    notified, and I cannot recall who it was.

23           Q.     Did you understand the purpose of those  
24    devices at least in part was to try to detect movement  
25    of the landslide should further movement occur so that

1 **workers in the area could be warned and evacuated?**

2 A. Yes, I recall that. But we may be talking  
3 about two different things. I believe I'm talking  
4 about -- referring to something that was further down  
5 the line beyond the first two weeks or so in response,  
6 beyond a two-week period, I believe, where additional  
7 monitoring devices were put in. I don't believe I was  
8 completely aware of devices being placed in immediately  
9 after the response -- or after the slide.

10 **Q. Well, when the workers were in the area**  
11 **trying to deal with the slide aftermath was there any**  
12 **warning system to your knowledge that was sent out to**  
13 **try to provide advanced warning of further slide**  
14 **movement that might threaten human life?**

15 A. I'm not familiar with the details of that.

16 **Q. If we take the -- let's say the two months**  
17 **following the 2014 Oso landslide, describe for me your**  
18 **role and involvement, what your day-to-day activities**  
19 **were in relation to the landslide other than dealing**  
20 **with the press.**

21 A. In the two months --

22 **Q. Yes.**

23 A. -- two months after or two months of the date  
24 it occurred until two months? Can you clarify the  
25 question, please?

1 Q. Yeah. The landslide on March 22, 2014.

2 A. Uh-huh.

3 Q. So we have, let's say, April and May after  
4 that. So during the end of March, April and May, what  
5 was your role and involvement in relation to the Oso  
6 Landslide?

7 A. My role was as the director for the  
8 department coordinating the response, helping to  
9 transition the 530 corridor to recovery, seeking federal  
10 disaster assistance, establishing the parameters by  
11 which federal disaster assistance was going to be  
12 coordinated, looking at establishing economic recovery  
13 for the community and in particular Darrington and  
14 launching off the long-term recovery function of the  
15 disaster, transitioning it out into another individual.

16 Q. Following the March 22, 2014, Oso Landslide,  
17 to your knowledge, did anyone suggest or raise a concern  
18 that more should have been done prior to that landslide  
19 to either evaluate the risk, mitigate the risk, or warn  
20 or educate the residents about the risk?

21 MR. LEYH: Could you read the question  
22 back, please, Carolyn.

23 (Record read by the court reporter.)

24 MR. LEYH: Object to the form. Go ahead  
25 and answer.

1           A.     I recall dozens of emails and phone calls,  
2 messages being left on my phone by individuals from all  
3 over the country who had no affiliation and some who had  
4 complete affiliation talking about the landslide, and  
5 everything was a complete blur as to people looking at  
6 and trying to look in hindsight at what had occurred.  
7 And that's not uncommon for any disaster but it was  
8 definitely accentuated for this disaster.

9           Q.     **(BY MR. MICHELSON) Let me try to be more**  
10 **specific. Following the March 22, 2014, Oso Landslide**  
11 **did anyone who was an employee of Snohomish County ever**  
12 **raise a concern to your knowledge as to whether more**  
13 **should have been done to evaluate the risk, mitigate the**  
14 **risk or educate or warn residents prior to the slide?**

15          A.     I don't recall that directly, no.

16          Q.     **Did anyone from any government agency to your**  
17 **knowledge raise that concern?**

18          A.     I do not recall that either, no.

19          Q.     **Following the 2014 Oso Landslide, to your**  
20 **knowledge, did the county take any steps, implement any**  
21 **changes to reduce the likelihood of a similar disaster**  
22 **in the future?**

23                   MR. LEYH: Object to the form.

24          A.     Can you repeat the question, please?

25          Q.     **(BY MR. MICHELSON) My question is, after the**

1 **March 22, 2014, landslide, to your knowledge, did the**  
2 **county take any steps to reduce the likelihood of a**  
3 **future disaster in the future?**

4 A. My department makes adjustments after every  
5 disaster if we see certain things that need to be  
6 adjusted to. And our department made adjustments after  
7 Oso just as they would during the catastrophic floods of  
8 2006. Countywide, I'm not familiar with a countywide  
9 initiative that made adjustments to that effect.

10 Q. Let me put it to you this way: Your  
11 department, Department of Emergency Management, after  
12 the March 22, 2014, slide, did your department implement  
13 any changes on how it would evaluate landslide risks in  
14 the county going forward?

15 A. We placed a higher focus, as did I think the  
16 entire nation, on the risks of catastrophic landslides  
17 to the degree that this one occurred particularly. So  
18 we placed a focus on it at that point, of course.

19 And we made other adjustments as to our  
20 response coordination inside the Emergency Operations  
21 Center, looking at technology, lessons learned from the  
22 activation that was surrounded -- the response  
23 coordination of the support of the first responders out  
24 there.

25 So there were numerous things that were



1 adjusted. One of them was examining with a different  
2 view the catastrophic nature of landslides like this.  
3 It had never been seen.

4 Q. After the March 22, 2014, Oso Landslide did  
5 you implement in writing any different procedures than  
6 had existed prior in your department regarding how to  
7 evaluate or mitigate landslide risks?

8 A. I don't recall that specifically.

9 Q. Can you think of anything that your  
10 department actually did differently in terms of  
11 evaluating landslide risks following the Oso Landslide?

12 A. No, and that still would have most likely  
13 remained within the domain of Public Works and Surface  
14 Water for the initial technical expertise for that.

15 Q. Are you aware of anything that the Department  
16 of Public Works or Surface Water Management did  
17 differently after the March 22, 2014, landslide in  
18 evaluating landslide risks in Snohomish County?

19 A. No, I'm not familiar with anything.

20 Q. Are you aware of anything that your  
21 department did differently after the March 22, 2014,  
22 landslide in terms of mitigating landslide risks in  
23 Snohomish County?

24 MR. LEYH: Object to the form; vague.

25 Q (BY MR. MICHELSON) You know what mitigation

1 is?

2 A. Yes, I know what mitigation is.

3 Q. Okay. Did your department do anything  
4 differently after the March 22, 2014, landslide in the  
5 manner in which it approached mitigation of landslide  
6 risks?

7 A. Yes.

8 MR. LEYH: Object to the form.

9 Q (BY MR. MICHELSON) Go ahead.

10 A. Yes.

11 Q. What did it do differently?

12 A. Mitigation became -- mitigation of landslides  
13 and addressing landslides, especially of the  
14 catastrophic nature and especially as it related to  
15 Snohomish County, were incorporated to a different  
16 degree in the 2015 Hazard Mitigation Plan which was  
17 completed and signed by FEMA. There is a natural  
18 heightened awareness to landslides in this nation  
19 because of what occurred. That was also incorporated  
20 into our plan.

21 Q. Other than heightened awareness, as a  
22 practical matter, what difference has that made in  
23 Snohomish County in terms of the way landslide hazard  
24 mitigation has been addressed?

25 A. Landslide hazard or any mitigation in the

1 state of Washington is contingent on the funding that is  
2 contingent upon the disaster which builds up to 20  
3 percent of the estimated cost of disasters. The Natural  
4 Hazard Mitigation Plan has pulled out the objectives,  
5 the strategies, the targeted goals, and it's funded to a  
6 line at which there is no more money. That is the  
7 strategy in Washington State for how we mitigate all  
8 hazards.

9 So what changed from 2010 forward -- or 2010  
10 forward and as we developed the new plan was that there  
11 was an obvious heightened awareness of landslide risks,  
12 a need for mapping, other things to occur. And if they  
13 were placed in this Hazard Mitigation Plan or others,  
14 they will be funded according to mitigation efforts that  
15 are currently out there in the state of Washington and  
16 other creative funding mechanisms.

17 **Q. Let me be real specific. Has mapping of**  
18 **landslide hazards within Snohomish County changed after**  
19 **the 2014 Oso Landslide?**

20 A. It was a direct recommendation of the 530,  
21 SR 530 Commission.

22 **Q. I'm not asking about a recommendation. Did**  
23 **it, in fact, change? Did something start to be done**  
24 **differently in Snohomish County after the March 2014**  
25 **slide in terms of the way landslide s were mapped?**

1 A. I'm not familiar directly with your question.

2 Q. Okay. Do you know if anything started to be  
3 done differently in Snohomish County after March of 2014  
4 regarding educating or warning residents of landslide  
5 risks in the county?

6 A. Yes.

7 Q. What started to be done differently?

8 A. Public education and outreach, which was  
9 already being conducted in our department and in  
10 coordination with other departments, was more focused on  
11 the heightened awareness of landslides in the county  
12 after March 22, 2014.

13 Q. Was -- after the March 22, 2014, landslide  
14 occurred, has there been any effort in the county to  
15 your knowledge while you were still there to prioritize  
16 landslide risks in the county?

17 A. There was -- there have been intense  
18 conversations about landslides that were incorporated  
19 into public education and outreach.

20 Q. Really not my question. I'm asking about  
21 prioritization of landslide risks in the county. And  
22 did that change? Did something happen after the March  
23 2014 slide on that issue? Is there now some sort of  
24 prioritization of landslide risks from Snohomish County  
25 that didn't exist prior to March of 2014?

1 MR. LEYH: Object to the form.

2 A. Outside of my department, I am not familiar  
3 with that.

4 Q. (BY MR. MICHELSON) Is there one in your  
5 department?

6 A. In my department the focus is on public  
7 education and outreach and addressing communities' needs  
8 if they reach to us about the needs for landslide risks  
9 and hazards, yes.

10 Q. Anything beyond that in terms of actually  
11 prioritizing where the risk is greater?

12 A. No, not that I'm aware of specifically.

13 Q. And how about in terms of run-out distances  
14 of landslides, the potential run-out distance in given  
15 locations? Has anything been done within your  
16 department to pursue that issue following the March 2014  
17 Oso Landslide?

18 A. Within my specific department, no, none that  
19 I recall.

20 Q. And how about outside your department to your  
21 knowledge?

22 A. I'm not familiar with other departments  
23 outside of mine on this issue.

24 MR. MICHELSON: I have no further  
25 questions at this time. Thank you.

1 THE WITNESS: Thank you.

2 MR. PHILLIPS: I have some. I'm happy  
3 to continue. I think I can probably finish during the  
4 lunch hour if people want to see if we can get this done  
5 and not have to reconvene.

6 MR. LEYH: You know, It's noon. I think  
7 we'll probably break for lunch. We can do a short  
8 break.

9 MR. PHILLIPS: All right. What do you  
10 want to do? 45 minutes?

11 MR. LEYH: 45 minutes, yeah.

12 THE VIDEOGRAPHER: We are going off the  
13 record. The time is now 12:00 p.m.

14 (Recess taken.)

15 THE VIDEOGRAPHER: We are back on the  
16 record. The time is now 12:48 p.m.

17 EXAMINATION

18 BY MR. PHILLIPS:

19 Q. Good afternoon, Mr. Pennington. I met you  
20 briefly before the deposition. My name is John Phillips  
21 and I have some follow-on questions for you. I  
22 represent a group of plaintiffs, all right?

23 A. Okay.

24 Q. You indicated that you stepped down from your  
25 position as executive director of DEM on January 1,

1 2016; is that correct?

2 A. Yes, correct.

3 Q. Are you currently employed?

4 A. Yes.

5 Q. What are you doing now?

6 A. I am doing federal contract work for the  
7 Federal Emergency Management Agency and the Emergency  
8 Management Institute.

9 Q. Is that independent contractor work?

10 A. Yes.

11 Q. And have you any claim outstanding against  
12 Snohomish County with respect to your termination?

13 A. No, I do not.

14 Q. This AlertSense program, is that the phrase  
15 that -- is that accurate phrase for the means of  
16 providing reverse notifications and so forth?

17 A. Yes.

18 Q. Okay. And that program, if I understood your  
19 testimony this morning, it allows you to delineate a  
20 very specific and circumscribed geographic area to give  
21 some kind of notification to, correct?

22 A. That's one of the many features, yes.

23 Q. And sometimes it's just a warning that you  
24 could be dealing with floodwaters in a couple days based  
25 on forecast or something like that. You mentioned

1 that's one of the reasons that you do that, correct?

2 A. Yes.

3 Q. You also mentioned that there are times,  
4 however, when you will actually -- and if I caught the  
5 phrase correctly you will provide a reverse evacuation  
6 notice. Was that the correct phrase?

7 A. Yes.

8 Q. If I understood your testimony this morning,  
9 that is done rarely, but in your recollection it  
10 occurred more than just the Index example; is that fair?

11 A. Yes.

12 Q. All right. And if I understood your  
13 testimony as well, in your experience generally,  
14 residents who get a reverse evacuation notice are fairly  
15 attentive to such notices; is that correct?

16 MR. LEYH: Object to the form.

17 A. Can you clarify the question for me, please?

18 Q. (BY MR. PHILLIPS) Sure. For example, in the  
19 Index example, you said the people who were in the  
20 immediate vicinity of the creeping landslide, when they  
21 got -- if they hadn't already left, if they got the  
22 reverse evacuation notice, they attended to that notice  
23 and left. Is that fair?

24 A. Yes.

25 Q. And generally speaking, while I know this is



1 not a frequent experience for you, on the occasions  
2 where the county deems it sufficiently important to send  
3 a reverse evacuation notice to a circumscribed group of  
4 residents, is your experience that residents are fairly  
5 responsive to such notices?

6 MR. LEYH: Object to the form.

7 Q (BY MR. PHILLIPS) You can answer the  
8 question.

9 A. What do you mean by "responsive"?

10 Q. Well, in the example I just gave you, they  
11 got up and left, right, in Index?

12 MR. LEYH: Object to the form.

13 A. When we send a reverse notification, on the  
14 screen will show you the percentages of the people who  
15 have answered the call, who have responded to the call,  
16 not if they've left. But it is a hard percentage that  
17 accumulates over a period of time.

18 Q. (BY MR. PHILLIPS) So there are two levels of  
19 responsiveness. One is that when you get a reverse  
20 evacuation notice you can see the extent to which there  
21 has been a response by the residents to whom you sent  
22 it, correct?

23 A. Yes.

24 Q. And generally speaking, when you do a reverse  
25 evacuation notice, that is a fairly high response rate,

1 correct?

2 A. That's never been -- that's never been  
3 studied.

4 Q. What is your impression, as the executive  
5 director?

6 A. The impression has been that it is acted upon  
7 based on phone calls that come in to either our  
8 department under phone I.D., so they see it as coming  
9 from that department, or -- and always in advanced  
10 notification we will let SNOPAC or SNOCOM, the two 911  
11 dispatch centers, but primarily SNOPAC, know that we are  
12 about to conduct a reverse 911 so that they in turn can  
13 take and field any questions or inquiries about the  
14 notification, whether it's potential evacuation or  
15 direct evacuation.

16 Q. I guess what I'm trying to get a sense from  
17 is, as the executive director of the Department of  
18 Emergency Management, is your impression that when you  
19 respectfully request people to leave their property and  
20 their homes because of a concern for their safety that  
21 they do so?

22 MR. LEYH: Object to the form.

23 A. My experience is that people generally do not  
24 adhere to those evacuation notifications very much.

25 Q. (BY MR. PHILLIPS) And what basis do you have

1 for that?

2 A. Historical knowledge and experience and  
3 understanding of other emergency management  
4 organizations around the nation who I've discussed this  
5 with.

6 Q. I'm just talking about what your basis is in  
7 Snohomish County to state based on your experience of  
8 Snohomish County when people get an evacuation notice  
9 they don't leave?

10 MR. LEYH: Object to the form.

11 A. No, I believe that significant numbers of  
12 people do evacuate during those periods of time where we  
13 have recommended an evacuation period.

14 Q. (BY MR. PHILLIPS) Well, maybe I've  
15 miscommunicated with you because I was asking you  
16 whether in your experience significant numbers of people  
17 do evacuate when you give them a reverse evacuation  
18 notice. Is it your testimony that they do?

19 MR. LEYH: Object to the form.

20 A. In 2007, when this program was implemented in  
21 Snohomish County, the general public didn't fully  
22 understand what it was about, and it took a period of  
23 time and disasters for the percentages of people to  
24 respond proactively to that message to occur, where now  
25 the message is viewed as credible from a department that

1 is credible, and the actions that they generally take  
2 are increasing over time.

3 Q. (BY MR. PHILLIPS) So if I get what you're  
4 saying, it took some time for these kinds of  
5 notifications to be perceived as something more than  
6 just crying wolf?

7 A. Yes, correct.

8 Q. All right. And when would you say under your  
9 tutelage did the DEM achieve sufficient credibility that  
10 those kinds of notices--we're talking about the  
11 evacuation notices right now--achieved a level of  
12 credibility that most people who got them responded by  
13 leaving the area?

14 MR. LEYH: Object to the form.

15 A. I believe that by 2009 and the flood events  
16 and winter events and severe weather of 2009 and 2010  
17 that the messages were received as credible messages  
18 from the Department of Emergency Management.

19 Q. And when you say that are you also saying  
20 that if they were received as credible messages that  
21 you're also including within that that people then left  
22 their homes because the message was perceived as  
23 credible?

24 MR. LEYH: Object to the form.

25 A. We have no mechanisms for understanding who

1 has or has not evacuated for what period of times unless  
2 they check into shelters or put themselves into the  
3 systems.

4 Q. (BY MR. PHILLIPS) Right. And I'm asking you  
5 globally is it your understanding that once your  
6 messaging, your evacuation notices, achieved  
7 credibility, is it your understanding that generally  
8 having achieved that credibility that residents acted on  
9 those notices, not to simply say, "We've received them,"  
10 but also leaving their homes because they saw the  
11 perceived danger as credible?

12 MR. LEYH: Object to the form; no  
13 foundation.

14 A. I believe that's accurate.

15 Q. (BY MR. PHILLIPS) Okay. Now, you talked  
16 also -- in 2014, as I understand it, there was what was  
17 going on at Index, which was a slow-moving slide,  
18 correct?

19 A. Yes.

20 Q. There was some sliding occurring along the  
21 Burlington Northern rail corridor in Snohomish County as  
22 well, correct?

23 A. Yes.

24 Q. And then there was a lot of rain falling, so  
25 there was a perceived general heightened risk with

1     **respect to landslides; is that correct?**

2             A.     Yes.

3             **Q.     And you also mentioned DNR outreach at some**  
4 **point with respect to a heightened level of awareness of**  
5 **landslide risks in the first part of 2014. What did you**  
6 **mean by DNR outreach?**

7             A.     I'm not sure I said the word "outreach," but  
8 DNR, the National Weather Service, and NOAA, those three  
9 entities -- NOAA is National Weather Service or vice  
10 versa. Those entities will send out information  
11 regarding precipitation forecasts, including briefings  
12 of potential landslide risks.

13            **Q.     Okay. And I want to confine myself to DNR**  
14 **for the moment. What kinds of notifications have you**  
15 **gotten in Snohomish County from DNR with respect to**  
16 **landslide risks?**

17            A.     The notifications I've received from DNR will  
18 come through the state and they're very generic.  
19 They're not specific to Snohomish County, or if they  
20 are, I can't recall that.

21                    But generally the messages that we would heed  
22 and be briefed were messages and data that came  
23 primarily from NOAA and the National Weather Service.  
24 They were briefings. I recall the Department of Natural  
25 Resources perhaps being on some of the conference calls

1 where we were briefed, along with other departments.

2 Q. So do I understand your testimony to be that  
3 at least in your experience as the executive director of  
4 the Department of Emergency Management, you never  
5 received a specific notification from DNR about  
6 landslide risks in Snohomish County about which DNR was  
7 aware?

8 A. I don't believe I said that and I don't  
9 recall that. I --

10 Q. I didn't say you said it. I just want to  
11 make sure that you are agreeing with what I'm stating.

12 A. I don't believe I'm agreeing with what you're  
13 stating. You're confusing me.

14 Q. Well, let me ask the question again. That's  
15 certainly not my intention.

16 Do you agree that DNR has never sent you a  
17 specific -- prior to March 22, 2014, has never sent you  
18 any kind of notification about a very specific landslide  
19 risk in Snohomish County?

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

21 Q. Okay. And that includes any landslides that  
22 are on DNR land? You don't recall receiving any  
23 notification from DNR regarding landslide risks on their  
24 own land in Snohomish County?

25 A. I have received notification s from the

1 Department of Natural Resources and from NOAA and the  
2 National Weather Service over an extensive period of  
3 time about landslide risk and heightened landslide risks  
4 in generic terms as I recall.

5 Q. Okay. I got the generic risks part, and you  
6 can see I've moved on to very specific questions of you,  
7 and that's what I want to make sure you're answering.

8 You're also not aware or have no recollection  
9 of ever receiving a specific notification from DNR about  
10 a specific landslide risk on its land within Snohomish  
11 County?

12 A. I can't recall that specifically.

13 Q. Okay. Now, you mentioned with respect to  
14 Index that either at the time that you got involved with  
15 Index or sometime thereafter that a geotechnical  
16 evaluation of that slide had already been done. Is that  
17 correct?

18 A. Can you define what "geotechnical" means?

19 Q. Well, a geotechnical evaluation would involve  
20 either a geologist, a geomorphologist, a geotechnical  
21 engineer looking at the landslide and evaluating its  
22 stability. That's what I mean by geotechnical analysis.

23 A. I believe that in Index someone from the  
24 county went out to examine the landslide. I think work  
25 had already been done there by geotechs, or I believe it



1 had been done by geotechs, but we didn't order a geotech  
2 study or pay for a geotech study to my knowledge.

3 Q. All right. But it was unclear to me, so as  
4 far as you know, it was someone from the county who did  
5 at least some kind of geotechnical evaluation, whether  
6 or not a formal study was commissioned?

7 MR. LEYH: Object to the form.

8 Q (BY MR. PHILLIPS) Is that correct?

9 A. I'm not sure it's correct. As I recall, an  
10 individual from the county in a conversation that was  
11 one-way or two-way was asked to go out and take a look  
12 or told me they had been out to take a look at the slide  
13 or there was some information that was passed to me, but  
14 I don't recall who the individual was.

15 Q. And was that person a geologist, as far as  
16 you know?

17 A. I don't recall.

18 Q. So if -- and you worked with the community in  
19 Index, did you not?

20 A. Extensively.

21 Q. And you went to meetings with them, right?

22 A. Yes.

23 Q. And if you had been told that geological  
24 professionals had concluded that a geotechnical  
25 evaluation of the landslide in their community was

1 necessary and that someone needed to do that, would you  
2 have thought that was something that was important to  
3 convey to the community when you met with them?

4 MR. LEYH: Object to the form.

5 A. I'm not sure that was my domain or  
6 responsibility to do that. If there was information I  
7 would have tried to pass it along.

8 Q. (BY MR. PHILLIPS) Right. So I mean, if you  
9 were told -- I recognize that the scenario was a little  
10 different, but I'm just trying to understand what you  
11 would have done in the circumstances as the executive  
12 director of the Department of Emergency Management that  
13 if you had been told with respect to this slide in Index  
14 that, you know, it's moving slowly right now but it  
15 could be much worse and we'll only know whether it could  
16 get much worse if a geotechnical evaluation is  
17 performed, which we're not going to do, would you  
18 consider that to be information that would have been  
19 important to convey to the community?

20 MR. LEYH: Object to the form.

21 A. These are hypothetical questions that I'm not  
22 sure I know how to answer.

23 Q (BY MR. PHILLIPS) So you don't know how to  
24 answer whether or not you think that would have been  
25 information that the community would have liked to have

1 known?

2 MR. LEYH: Object to the form.

3 A. The community of Index reached out to me and  
4 said they have a slow-moving landslide. I met with  
5 them, I engaged with them, I designed a plan for them, I  
6 did everything in my power to try to assist the  
7 community, and I did. Geotechnical expertise is not my  
8 role and responsibility.

9 Q (BY MR. PHILLIPS) But if you discovered in  
10 your work with the community that in fact you had  
11 information that indicated that the landslide in their  
12 community was more dangerous to them than they  
13 understood it to be, wouldn't that be information you  
14 would have wanted to convey to them?

15 MR. LEYH: Object to the form.

16 A. Yes.

17 Q (BY MR. PHILLIPS) Now, if I understood your  
18 testimony with respect to this AlertSense notification  
19 system, and I'm going over old ground but I want to make  
20 sure the record is clear, you're not aware of ever  
21 giving any kind of reverse evacuation notice to the  
22 Steelhead Haven community with respect to landslide  
23 risks, correct?

24 A. I recall that is correct, yes.

25 Q. And if I understood your testimony, that,

1    however, you may have provided a reverse evacuation  
2    notice to the Steelhead Haven community with respect to  
3    flood risks at some point between 2007 and 2014; is that  
4    correct?

5           A.     I'm very confident that happened.

6           Q.     And do you have any reason to believe that  
7    after your messaging became credible, the residents of  
8    Steelhead Haven community who received such evacuation  
9    notices with respect to flooding did not heed those  
10   notices?

11          A.     Can you repeat the question?

12                   MR. PHILLIPS:  Why don't you read it  
13   back, please.  Thank you.

14                                (Record read by the court reporter.)

15          A.     I'm not certain that we sent evacuation  
16   notices to Steelhead Haven directly for that particular  
17   message.  We would notify them about floods and floods  
18   potential, and at times even the communities along the  
19   Stillaguamish we would notify about how they may be able  
20   to obtain sand and sandbags.

21          Q.     (BY MR. PHILLIPS)  Well, I guess I've been  
22   unclear.  I understand that you will often send notices,  
23   these reverse notices, about floods and flood risks, but  
24   that is different from giving an evaluation notice,  
25   correct?

1 A. Yes.

2 Q. And my question to you a moment ago was not  
3 about those other kinds of notices. It was about  
4 whether you have ever given an evacuation notice to the  
5 Steelhead Haven community with respect to flood risks.  
6 And what is your answer to that question?

7 A. I think you actually asked the question in  
8 respect to landslides.

9 Q. I asked both, but just answer my question  
10 right now.

11 A. I have never done to that my knowledge on  
12 landslides, and I am not sure if it included an  
13 evacuation notification regarding floods, but we have  
14 reached to the community through REVERSE 911 in the  
15 entire Stillaguamish Valley repeatedly.

16 Q. About flood risks?

17 A. Correct.

18 Q. I want you to listen to this question just to  
19 wrap up this particular subject.

20 Do you have any knowledge at all that a  
21 reverse evacuation notice has ever been sent to the  
22 Steelhead Haven community for any risk?

23 A. I believe that an evacuation or prepare to  
24 evacuation notice for flooding may have been sent around  
25 2007 to 2009.

1 Q. Okay. And do you have any knowledge about  
2 the responsiveness of the community to those notices?

3 A. No.

4 Q. All right.

5 Now, you responded to some questions earlier  
6 by Mr. Michelson about the fact that your training is in  
7 identifying and mitigating all hazards, not landslides  
8 in particular; is that fair?

9 A. My job is not to identify hazards and  
10 mitigation. My job is to guide the department -- my job  
11 was to guide the Department of Emergency Management.  
12 Our program manager and steering committee that  
13 identified the hazards and risks throughout the county.

14 Q. But I was focusing on all hazards, not  
15 landslide hazards. You responded to him by saying your  
16 focus was on all hazards, whatever hazard has an impact  
17 on human safety, correct?

18 A. All hazards was our strategic long-term  
19 focus, yes.

20 Q. And when you think about that from your  
21 perspective, would you also agree that a citizen in  
22 Snohomish County is also interested in their personal  
23 safety with respect to all hazards?

24 A. Yes.

25 Q. And so when you think about trying to make a

1 community feel safe or be safe, you're thinking about  
2 that in terms of the risk of all hazards to those  
3 individuals or that community, true?

4 A. True.

5 Q. Now, if you could turn to Exhibit 811, which  
6 was introduced earlier.

7 MR. LEYH: Which one is it?

8 MR. PHILLIPS: This is the Time Magazine  
9 article with a caption Unofficial Death Toll Hits 24 in  
10 Washington Mudslide.

11 Q. (BY MR. PHILLIPS) Do you want me to find it  
12 for you?

13 A. Yes, please.

14 Q. Want to hand that to me and I'll do that?

15 A. Are they numerical?

16 Q. They are.

17 A. Okay.

18 Q. I remember Mr. Michelson asked you some  
19 questions about this and things you were quoted as  
20 saying in this article.

21 A. Yes.

22 Q. Now, at the bottom of the page it states  
23 that, quoting from you, "This entire year we have pushed  
24 message after message that there is a high risk of  
25 landslides" and you agreed that you said that, correct?

1 A. Yes.

2 Q. And then it goes on and says, "The dangers  
3 and risks are known." Do you see that?

4 A. Yes.

5 Q. I take it that's a reference to the dangers  
6 and risks in landslides in general, not any particular  
7 landslide?

8 A. Correct.

9 Q. And then it goes on to say, "A smaller  
10 mudslide hit the area in 2006 and Pennington said  
11 adjustments had since been made after the event,  
12 including millions of dollars in land development, in  
13 order to prevent a potential disaster."

14 Now, I think you've already provided some  
15 testimony with respect to another article that you were  
16 incorrect in referring to millions of dollars, correct?

17 A. Well, this isn't a quote from me.

18 Q. No, I know, but do you want me to go back to  
19 the one where you are quoted in which you're referring  
20 to millions of dollars--

21 MR. LEYH: What's the question?

22 Q. --to ask the question again of you?

23 MR. LEYH: What's the question?

24 MR. PHILLIPS: I just asked it.

25 Q. (BY MR. PHILLIPS) You understood that you



1 said that millions of dollars in development were in  
2 fact expended in a different article, and you already  
3 have testified that you did say that, correct?

4 A. No, I did not say that millions of dollars in  
5 development. I did not use that word.

6 Q. Okay. Well, let's just go on to the next  
7 sentence in which you are quoted. By the way, did you  
8 ever issue any correction with respect that attribution  
9 to you in this article?

10 MR. LEYH: Object to the form.

11 A. No.

12 Q (BY MR. PHILLIPS) And you said, "We did a  
13 great job of mitigating the effect of smaller slides."  
14 Do you see that?

15 A. Yes.

16 Q. And that is something you said, correct?

17 A. I believe so.

18 Q. All right. And when you talk about  
19 mitigating the effect of smaller slides, you testified  
20 this morning that that's based on what you saw on your  
21 tour in the fall of 2006, correct?

22 A. I believe so, yes.

23 Q. And what you were told by Chris Badger,  
24 correct?

25 A. Regarding this quote, "We did a great job of

1 mitigating the effect of smaller slides"?

2 Q. Yes.

3 A. It was my impression that the mitigation  
4 efforts that were conducted for the purposes of  
5 mitigating the flood impacts from the slide were  
6 effective and the community felt that they were  
7 effective.

8 Q. Okay. And those things that you were talking  
9 about as mitigation efforts were the buttressing of the  
10 bank on the south side of the river, the channeling of  
11 the river, and the building of the log revetment on the  
12 north side of the river, correct?

13 MR. LEYH: Object to the form.

14 A. I am referring to the effects of smaller  
15 slides in this case impacting flood.

16 Q (BY MR. PHILLIPS) I'll move to strike that  
17 answer and ask you to listen to my question.

18 The mitigation measures that you're talking  
19 about here are the constructions that occurred in 2006  
20 after the 2006 slide, correct?

21 MR. LEYH: Object to the form;  
22 overbroad.

23 Q (BY MR. PHILLIPS) Is that right?

24 A. Yeah.

25 MR. LEYH: Same objection.

1 A. Yes.

2 Q. (BY MR. PHILLIPS) Okay. And we went over  
3 this this morning but I'll make sure that the record is  
4 clear. That included the log revetment and the shoring  
5 up of the banks of the river, correct?

6 MR. LEYH: Object to the form;  
7 mischaracterizes.

8 A. We did a great job of mitigating the effect  
9 of smaller slides, meaning the impacting of floods, on  
10 the south side of the river and into the community and  
11 into the neighborhood.

12 Q (BY MR. PHILLIPS) Okay. I'm going to move  
13 to strike that answer, and I'm going to continue to move  
14 to strike that answer until you answer my question, all  
15 right?

16 What were the mitigation measures you were  
17 referring to, Mr. Pennington?

18 A. The mitigation measures on the south side  
19 that were the flood retaining wall and issues to prevent  
20 them from flooding and what had been done across the  
21 river.

22 Q. Which is the log revetment, correct?

23 A. Which was what was done across the river.

24 Q. Well, what was done across the river, sir?

25 A. My focal point was on the revetment system

1     underneath me.

2           **Q.     What was done across the river?**

3           A.     I'm not intimately familiar with it.

4           **Q.     You're not intimately familiar with it but**  
5     **you felt sufficiently familiar with it in order to tell**  
6     **a national magazine that "we did a great job of**  
7     **mitigating the effect of smaller slides"; is that right?**

8           A.     The words effects of the slide mean blocking  
9     of the river, channel migration, flooding the community.

10          **Q.     Is the answer yes?**

11                   MR. LEYH: Object to the form.

12          A.     The effects mean mitigating the impacts of  
13     flooding from the 2006 slide that blocked the channel,  
14     increased channel migration, and potentially would flood  
15     the neighborhoods.

16          **Q.     (BY MR. PHILLIPS) You testified this morning**  
17     **that when you were out there for that tour in 2006 you**  
18     **were standing right next to two residents of the**  
19     **Steelhead Haven community and you said to them, "Are you**  
20     **okay with this?" Do you remember saying that this**  
21     **morning?**

22          A.     Yes.

23          **Q.     What is "this"?**

24          A.     This was my hands like this looking beneath  
25     at the natural vegetation and the retaining system that

1 had been placed in by the Army Corps of Engineers and  
2 the county.

3 Q. And your impression was that those residents  
4 felt that whatever mitigation measures had occurred put  
5 them in a safe position, correct?

6 MR. LEYH: Object to the form.

7 A. My impression was that they felt very  
8 comfortable in the lifestyle that they were living there  
9 and that the floods were a part of that equation but  
10 they felt safer from the floods that could come from the  
11 small landslides.

12 Q. (BY MR. PHILLIPS) Well, tell me what they  
13 told you about their lifestyle there, if you would.

14 A. Nothing.

15 Q. Okay. So you're just adding that into your  
16 testimony here? They didn't tell you anything about  
17 their lifestyle, did they?

18 A. No.

19 MR. PHILLIPS: Let's mark this as an  
20 exhibit.

21 (Exhibit No. 816 marked  
22 for identification.)

23 Q (BY MR. PHILLIPS) Now, you testified that  
24 you were hired as the executive director of the  
25 emergency management -- or the Department of Emergency

1 Management in July of 2006, correct?

2 A. Yes.

3 Q. And Chris Badger at that point was working  
4 nominally under you, correct?

5 A. Yes.

6 Q. And this is a -- appears to be a progress  
7 report of the Snohomish County Natural Hazards  
8 Mitigation Plan dated August 23, 2006, which would have  
9 been about a month after you were hired; is that  
10 correct?

11 A. Yes.

12 Q. And it doesn't look like you attended this  
13 but it looks like Ms. Badger did. Would she have  
14 attended that meeting at your behest?

15 A. Probably. Probably.

16 Q. And in this -- and --

17 A. Actually, I don't recall this meeting and I  
18 don't recall that I would have delegated her or asked  
19 her to. I want to clarify that.

20 Q. Well, let me ask you, what -- were there in  
21 fact Snohomish County Natural Hazard Mitigation Plan  
22 meetings from time to time by the steering meeting --  
23 steering committee?

24 A. Yes.

25 Q. And did the steering committee in one form or

1 another report to you the results of their -- of their  
2 progress?

3 A. Occasionally, but not often.

4 Q. Was the steering committee operating under  
5 your management?

6 A. No.

7 Q. Who was managing the steering committee?

8 A. I'm not sure who the chair was.

9 Q. And on Page 4 of this document it says,  
10 "Needs for plan enhancement" at the bottom of the page.  
11 Do you see that?

12 A. Yes.

13 Q. And it says, "Risk assessment" down at the  
14 bottom of the page. Do you see that?

15 A. Yes.

16 Q. And under that it talks about landslides. Do  
17 you see that?

18 A. Yes.

19 Q. It says, "Should the SC" -- is "SC" Snohomish  
20 County?

21 A. I don't know.

22 Q. Maybe it's the steering committee.

23 A. I believe it's probably the steering  
24 committee.

25 Q. "Should the steering committee recommend

1 changing the risk assessment for landslides based on the  
2 Stillaguamish landslide at Steelhead Drive?" Do you see  
3 that?

4 A. Yes.

5 Q. Were you ever made aware of a consideration  
6 by the steering committee to change the risk assessment  
7 for landslides based on what had happened in 2006 at  
8 Steelhead Haven?

9 A. No, I did not recall that I was.

10 Q. Were you -- and the person who would have  
11 informed you of that would have been Chris Badger, I  
12 assume?

13 A. Most likely, yes.

14 Q. You see on the following page it says, "The  
15 risk may have changed." Do you see that?

16 A. What page?

17 Q. The next page, Page 5. So it says, "Should  
18 the SC recommend changing the risk assessment for  
19 landslides based on the Stillaguamish landslide at  
20 Steelhead Drive?" Do you see that?

21 A. Yes.

22 Q. On the following page it says, "The risk may  
23 have changed."

24 A. Yes.

25 Q. "Vulnerability to the community as a whole



1 may not have changed but may have changed for roads and  
2 other infrastructures." Do you see that?

3 A. Yes.

4 Q. Did you ever have any discussion with any of  
5 your colleagues at the Department of Emergency  
6 Management about whether or not the risks may have  
7 changed at the 2006 Hazel Landslide after it occurred?

8 A. I don't --

9 MR. LEYH: Object to the form;  
10 mischaracterizes.

11 A. I don't recall.

12 Q. (BY MR. PHILLIPS) Would that have been  
13 something that you would have wanted to know about as  
14 the Director of Emergency Management, the Department of  
15 Emergency Management, a discussion about the facts that  
16 the risks for Steelhead Haven may have changed as a  
17 result of the 2006 slide?

18 A. Yes.

19 Q. And let me show you a document which has  
20 already been marked and it's Exhibit 231. This document  
21 is entitled Stillaguamish River Ecosystem Restoration  
22 Final Feasibility Report. It was done for the Corps of  
23 Engineers and Snohomish County. Have you ever seen this  
24 document before?

25 A. No.

1 Q. If you could turn to Page 34, this document,  
2 which is dated November of 2000, states at the bottom of  
3 the first paragraph, sir, "Based on the available data  
4 and assuming the future resembles the past, SHL," which  
5 I'll represent to you stands for the Steelhead Haven  
6 Landslide, "poses a significant risk to human lives and  
7 private property since human development of the  
8 floodplain in this area has steadily increased since the  
9 1967 event. The persistence of this landslide, failure  
10 potential, and detrimental effects it induces emphasizes  
11 the assertion that immediate attention is given to  
12 addressing the current conditions."

13 Do you see that?

14 A. Yes.

15 Q. And were you aware of that statement in 2000  
16 at any time during the -- your tenure as the director of  
17 the Department of Emergency Management from July of 2006  
18 until March 22, 2014?

19 A. No, I don't recall that I was ever informed  
20 of this.

21 Q. And would that have been something you would  
22 have liked to have known about in your -- and been  
23 informed about in your position as the director of the  
24 Department of Emergency Management?

25 A. Yes.

1 Q. Would you also have wanted to know -- strike  
2 that. If you'll turn to Page 44, it says under the  
3 Conclusions and recommendations, and this is with  
4 respect to the Steelhead Haven landslide, prior to the  
5 construction of any mitigation measures, a complete h&h  
6 geomorphological and geotechnical analysis will be done  
7 for this site. Do you see that?

8 A. Yes.

9 Q. Would it matter to you if, in fact, no  
10 geomorphological or geotechnical analysis was done for  
11 the site before mitigation measures were taken after the  
12 2006 slide?

13 MR. LEYH: Object to the form.

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

15 Q (BY MR. PHILLIPS) Well, would it -- so I'm  
16 starting from the proposition of what would or would not  
17 concern you as the executive director of the Department  
18 of Emergency Management, okay? And now I'm asking you a  
19 question -- since we talked about the mitigation  
20 measures that were taken after the 2006 slide, I'm  
21 simply asking you, would it matter to you that no  
22 geomorphological or geotechnical analysis was performed  
23 prior to the construction of those mitigation measures?

24 MR. LEYH: Object to the form.

25 A. I'm not a technical expert and wouldn't know

1 how to answer this question.

2 Q (BY MR. PHILLIPS) Fair enough. But if  
3 technical people say that before construction you need  
4 to do a geomorphological and geotechnical analysis and,  
5 in fact, none is then done, would that not raise a  
6 concern for you as the Director of Emergency Management?

7 MR. LEYH: Object to the form.

8 A. In my role and capacity, it would not have  
9 been within my domain in the department.

10 Q. (BY MR. PHILLIPS) Okay. Are you familiar  
11 with the Rowen slide, sir?

12 A. No. No.

13 Q. You were asked some questions about LiDAR  
14 earlier. Have you ever reviewed LiDAR imagery of the  
15 Rowen slide, which is about a half mile to the west of  
16 the Steelhead Haven slide and what's now become known as  
17 the Oso Landslide?

18 A. Yes, I have.

19 Q. And were you given any debriefing regarding  
20 the significance of the LiDAR of the Rowan Landslide?

21 A. I believe the only time I saw that document  
22 or saw LiDAR was when I was in Darrington and LiDAR maps  
23 were produced for the first time, and it was actually  
24 just laid before me in the context of, "Hey, this just  
25 came in."

1 Q. All right. And did anyone explain to you the  
2 significance of that LiDAR and the Rowan Landslide?

3 A. No.

4 Q. And has anyone ever explained that to you?

5 A. No, but I've looked at it myself.

6 Q. Well, do you have any basis to understand the  
7 significance of the Rowan Landslide LiDAR?

8 MR. LEYH: Object to the form.

9 A. No. I'm not a technical expert.

10 Q. (BY MR. PHILLIPS) And so as the executive  
11 director of the Department of Emergency Management, do I  
12 understand that without someone with technical expertise  
13 explaining to you the significance of the Rowan  
14 Landslide LiDAR, you have no basis for understanding its  
15 potential significance with respect to predicting what  
16 would have happened at Oso?

17 A. No, I have a full understanding of its  
18 capability to assist entire communities in understanding  
19 the landslide and earthquake and continue on and on  
20 risks. LiDAR is a very effective tool.

21 Q. Well, let's just mark this.

22 (Exhibit No. 817 marked  
23 for identification.)

24 Q (BY MR. PHILLIPS) I'll represent to you that  
25 Exhibit 817 is LiDAR that includes both the Rowan

1   Landslide and the area of the Hazel Landslide but, of  
2   course, prior to the Oso Landslide. Do you recognize it  
3   as such?

4           A.    Yes.

5           Q.    In fact, it's before the 2006 slide. Do you  
6   see in the right-hand--

7           A.    Yes.

8           Q.    --corner it says "2003"?

9           A.    Yes.

10          Q.    Okay. Now, I may have asked an imprecise  
11   question of you. The first time you were shown LiDAR of  
12   the Rowen slide, was that as part of the March 22 -- the  
13   response to the March 22, 2014, event?

14          A.    No. I appreciate you clarifying. No. What  
15   I was referring to was during the response when I was in  
16   Darrington after March 22nd in a communications van, one  
17   of the two communications vans in our department where  
18   we had established a makeshift EOC for Darrington, the  
19   LiDAR was run over the top of the Oso area and that map  
20   was dropped on the table in front of me in a larger  
21   version and said, "Look, this just came in." And there  
22   was no further conversation. It was just put there. We  
23   were in the middle of everything at that point.

24          Q.    So I guess what I need to then roll back and  
25   simply ask, was that the first time that you saw LiDAR

1 of the Rowen slide?

2 A. I believe it was.

3 Q. Okay. And do I correctly -- do you have any  
4 knowledge today of the significance of the Rowan  
5 Landslide LiDAR as a predictor of the run-out for the  
6 Hazel Landslide?

7 A. No. I'm not a technical expert that knows  
8 that.

9 Q. And when you saw that LiDAR--it sounds like  
10 the first time you saw it would have been as part of  
11 your emergency response in Darrington after the Oso  
12 Landslide--did you have any understanding of the  
13 potential significance of the Rowan Landslide LiDAR as a  
14 predictor of the run-out of the Oso Landslide?

15 A. No, I did not.

16 Q. And would you have been able to make any  
17 determinations of the significance of the Rowan  
18 Landslide as depicted on LiDAR without technical  
19 assistance?

20 A. Without technical assistance I would not have  
21 known how to interpret it.

22 Q. All right. Thank you.

23 You were asked some questions about Exhibit  
24 No. 8, which we don't need to specifically go back to,  
25 but which was the email from Vaughn Collins that talked

1 about the -- discussed a potential geotechnical  
2 investigation or monitoring of the landslide after the  
3 2006 slide. Do you recall questions along those lines?

4 A. I do.

5 Q. All right. So my question to you is -- and  
6 you said that you interacted with the Public Works  
7 department through the representatives who attended the  
8 cabinet meetings, correct?

9 A. Yes.

10 Q. Mr. Thomsen, among others?

11 A. Yes, Steve Thomsen.

12 Q. And is it your recollection that -- let me  
13 strike that question and ask it differently. To your  
14 recollection, did the Snohomish County executive ever  
15 consider the prudence of conducting or funding a  
16 geotechnical investigation of the Hazel Landslide after  
17 the 2006 slide?

18 A. I don't recall it, but I wasn't part of that  
19 discussion until six months after it occurred.

20 Q. So at least from six months afterwards until  
21 your termination, you never -- you have no recollection  
22 of any such consideration, correct?

23 MR. LEYH: Object to the form.

24 A. I don't recall a conversation attached to  
25 this email ever happening inside a cabinet meeting.



1 Q (BY MR. PHILLIPS) And I take that that last  
2 response would include any discussion of whether or not  
3 monitoring of the landslide would be a prudent thing to  
4 do?

5 A. I don't recall any conversation like that  
6 occurring in a cabinet meeting until after the 2014  
7 slide where the conversations were routinely driven  
8 about the landslide.

9 Q. And I appreciate your response and I'm really  
10 limiting it up to the point of the 2014 landslide, okay?  
11 And I take it then as well you're not aware of any  
12 executive-level discussion of whether or not the risks  
13 of -- of whether the risk assessment for the landslide  
14 at Steelhead Haven or along Steelhead Drive or across  
15 from Steelhead Drive should be changed based on changing  
16 risks in the landslide after the 2006 landslide?

17 MR. LEYH: Object to the form.

18 A. I don't recall any conversation like that.

19 Q (BY MR. PHILLIPS) In fact, you don't recall  
20 any executive-level discussion of the Steelhead Haven  
21 landslide prior to March 22, 2014, do you?

22 A. No, I do not.

23 MR. PHILLIPS: I don't think I have any  
24 further questions. Thank you.

25 MR. LEYH: Anybody else? Okay.

1 THE VIDEOGRAPHER: No further questions?

2 This is the end of Disc No. 2 and concludes this  
3 deposition. The time is now 1:32 p.m. Going off the  
4 record.

5 (Deposition concluded.)

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1 C E R T I F I C A T E

2 STATE OF WASHINGTON )  
3 COUNTY OF KING ) SS.

4 I, the undersigned Washington Certified Court  
5 Reporter, pursuant to RCW 5.28.010 authorized to  
6 administer oaths and affirmations in and for the State  
7 of Washington, do hereby certify:

8 That the annexed and foregoing deposition  
9 consisting of pages 1 through 155 of the testimony of  
10 each witness named herein was taken stenographically  
11 before me and reduced to typed format under my  
12 direction;

13 I further certify that according to CR 30(e) the  
14 witness was given the opportunity to examine, read and  
15 sign the deposition after the same was transcribed,  
16 unless indicated in the record that the review was  
17 waived;

18 I further certify that all objections made at the  
19 time of said examination to my qualifications or the  
20 manner of taking the deposition or to the conduct of any  
21 part have been noted by me upon each said deposition;

22 I further certify that I am not a relative or  
23 employee of any such attorney or counsel, and that I am  
24 not financially interested in the said action or the  
25 outcome thereof;

26 I further certify that each witness before  
27 examination was by me duly sworn to testify the truth,  
28 the whole truth and nothing but the truth.

29 I further certify that the deposition, as  
30 transcribed, is a full, true and correct transcript of  
31 the testimony, including questions and answers, and all  
32 objections, motions, and exceptions of counsel made and  
33 taken at the time of the foregoing examination and was  
34 prepared pursuant to Washington Administrative Code  
35 308-14-135, the transcript preparation format  
36 guidelines;

37 I further certify that I am sealing the  
38 deposition in an envelope with the title of the above  
39 cause and name of the witness visible, and I am



1 delivering the same to the appropriate authority;

2 I further advise you that as a matter of firm  
3 policy, the Stenographic notes of this transcript will  
4 be destroyed three years from the date appearing on this  
Certificate unless notice is received otherwise from any  
party or counsel thereto on or before said date;

5 IN WITNESS WHEREOF, I have hereunto set my hand  
6 and affixed my official seal this 3rd day of April,  
2016.

7

8

9

10 CAROLYN L. COLEMAN, RPR, CCR  
11 Washington State Certified Court Reporter  
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D E C L A R A T I O N

I declare under penalty of perjury that I have read my within deposition, and the same is true and accurate, save and except for the changes and/or corrections, if any, as indicated by me on the Correction Sheet.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2016,

at \_\_\_\_\_(city/state).

\_\_\_\_\_  
JOHN E. PENNINGTON

CAROLYN L. COLEMAN, RPR, CCR  
Court Reporter



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5

PLEASE MAKE ALL CHANGES OR CORRECTIONS ON THIS SHEET,  
 6 SHOWING PAGE, LINE, AND REASON, IF ANY. SIGN THIS SHEET  
 AND SIGN THE ACCOMPANYING SIGNATURE PAGE (DECLARATION).

7

8	PAGE	LINE	CORRECTION AND REASON
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JOHN E. PENNINGTON  
 Date taken: 03/23/2016

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5 TO: April 3, 2016

6 JOSEPH B. GENSTER  
Deputy Prosecuting Attorney  
SNOHOMISH COUNTY PROSECUTING ATTORNEY  
7 Civil Division  
3000 Rockefeller, M/S 504  
8 Everett, Washington 98201

9

IN RE: PSZONKA, et al. v. STATE OF WASHINGTON, et al.  
10 DEPOSITION OF: JOHN E. PENNINGTON

11 A copy of the deposition transcript of the  
above-named deponent is provided via eTranscript. Please  
12 have the deponent review the transcript and sign the  
Correction Sheet and Declaration. The signed Correction  
13 Sheet and Declaration should then, within 30 days, be  
forwarded to:

14 CAROLYN L. COLEMAN, RPR, CCR  
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who will then enclose them in the original transcript,  
17 seal it, and forward it to you for retention until the  
time of trial.

18 If you have any questions, feel free to contact  
me at the number listed above.

19

20

Sincerely,

21

22

\_\_\_\_\_  
CAROLYN L. COLEMAN, RPR, CCR

23

24 cc: G. Michelson C. Yackulic  
K. Willie L. Cochran  
25 R. Tomisser D. Meyers

<p style="text-align: center;"><b>Exhibits</b></p> <hr/> <p><b>Pennington 3-23-16 Ex (810)</b> 47:24 48:2</p> <p><b>Pennington 3-23-16 Ex (811)</b> 63:13,16 136:5</p> <p><b>Pennington 3-23-16 Ex (812)</b> 70:10,13</p> <p><b>Pennington 3-23-16 Ex (813)</b> 78:7,10,25</p> <p><b>Pennington 3-23-16 Ex (814)</b> 81:5,8</p> <p><b>Pennington 3-23-16 Ex (815)</b> 106:1,4</p> <p><b>Pennington 3-23-16 Ex (816)</b> 142:21</p> <p><b>Pennington 3-23-16 Ex (817)</b> 150:22,25</p> <hr/> <p style="text-align: center;"><b>\$</b></p> <hr/> <p><b>\$19,000</b> 30:17</p> <hr/> <p style="text-align: center;">-</p> <hr/> <p><b>--associated</b> 60:17</p> <p><b>--corner</b> 151:8</p> <p><b>--did</b> 66:5</p> <p><b>--if</b> 71:25 92:17</p> <p><b>--to</b> 137:22</p> <p><b>--you</b> 21:9</p> <hr/> <p style="text-align: center;"><b>0</b></p> <hr/> <p><b>03/23/2016</b> 159:23</p> <hr/> <p style="text-align: center;"><b>1</b></p> <hr/> <p><b>1</b> 4:18 70:14 72:21 86:15 90:11,21 94:4 97:5,22 119:25 156:6</p>	<p><b>1-page</b> 5:3,9</p> <p><b>10</b> 12:11,17 15:8,12 92:20 97:16</p> <p><b>100</b> 30:4</p> <p><b>105</b> 5:16</p> <p><b>106</b> 5:3</p> <p><b>109th</b> 17:25</p> <p><b>10th</b> 16:16</p> <p><b>11</b> 78:12</p> <p><b>119</b> 4:6</p> <p><b>11:06</b> 90:12</p> <p><b>11:16</b> 90:17</p> <p><b>11:42</b> 107:13</p> <p><b>11:44</b> 107:16</p> <p><b>11th</b> 12:9 16:17</p> <p><b>12/13/07</b> 4:24</p> <p><b>12:00</b> 119:13</p> <p><b>12:48</b> 119:16</p> <p><b>13</b> 81:9 82:24</p> <p><b>14</b> 26:11</p> <p><b>14-1</b> 5:3</p> <p><b>142</b> 5:6</p> <p><b>146</b> 5:19</p> <p><b>147th</b> 6:18</p> <p><b>150</b> 5:9</p> <p><b>155</b> 156:6</p> <p><b>17</b> 94:3</p> <p><b>1734</b> 84:1</p> <p><b>1734-DR-WA</b> 83:14</p> <p><b>18th</b> 92:23</p> <p><b>19</b> 18:2</p> <p><b>1940s</b> 18:2</p> <p><b>1967</b> 147:9</p> <p><b>1984</b> 10:3,6 11:21</p> <p><b>1988</b> 11:23,24</p> <p><b>1994</b> 12:5</p> <p><b>1995</b> 16:1 23:17</p>	<p><b>1996</b> 16:1</p> <p><b>1998</b> 13:6 16:1</p> <p><b>1:32</b> 155:3</p> <p><b>1st</b> 5:6 17:6</p> <hr/> <p style="text-align: center;"><b>2</b></p> <hr/> <p><b>2</b> 71:4 90:11,15 91:13 155:2</p> <p><b>2-page</b> 4:15</p> <p><b>20</b> 73:24 116:2</p> <p><b>20-4</b> 102:10</p> <p><b>2000</b> 147:2,15</p> <p><b>2001</b> 10:22 11:4 12:9,16</p> <p><b>2003</b> 5:9 151:8</p> <p><b>2004</b> 92:23</p> <p><b>2005</b> 4:19 22:20,22 23:5 24:15 70:15 73:16 74:9 100:25</p> <p><b>2006</b> 12:12 15:9 16:15, 17 17:9,10,24 22:5,18 23:2,4,24 24:18,21 25:10,11 27:3,12,15 38:21 39:4 41:12 42:18 44:21 45:21 46:19 48:20 49:2,16 50:17 51:11 52:21,25 53:17,20 58:5 62:4,15 67:8,17 69:2,11, 12,17 70:4,19 76:7 78:13 84:20 85:7,10,11,13 87:24 88:11 90:20 92:9 99:13 106:20 113:8 137:10 138:21 139:19,20 141:13,17 143:1,8 145:7 146:7,17 147:17 148:12, 20 151:5 153:3,17 154:16</p> <p><b>2007</b> 24:6 29:19,23 30:16 31:6,21 45:6 53:14 81:9 82:11,24 83:14 84:1,8 99:16,18,22 104:4 124:20 133:3 134:25</p> <p><b>2008</b> 24:12</p> <p><b>2009</b> 99:16 125:15,16 134:25</p> <p><b>2010</b> 7:6,24 23:5,24 24:3,18 25:10,19,24 26:4</p>	<p>77:9 94:5 95:23 97:10 98:15 101:16 103:14 116:9 125:16</p> <p><b>2012</b> 10:24 11:10</p> <p><b>2013</b> 26:11,23 28:15,19 55:9 56:3,11 57:16,22</p> <p><b>2014</b> 25:19 26:4,24 27:2,11 28:3,15 37:7,13, 22 38:17 39:14 40:20 41:3,21,24 42:3,25 44:21 45:6,21 48:5,11 49:19 52:16 53:20,21 54:1 55:2,10,19,20 56:4,11 57:16,22 58:3,12,16,18, 22 59:1,5 61:4 63:17 65:22,24 66:3 88:12 99:13,22 105:2 108:25 109:9,17 110:17 111:1, 16 112:10,19 113:1,12 114:4,17,21 115:4 116:19,24 117:3,12,13, 23,25 118:16 126:16 127:5 128:17 133:3 147:18 151:13 154:6,10, 21</p> <p><b>2015</b> 99:23 103:3 104:24 115:16</p> <p><b>2016</b> 6:4 8:24 120:1 157:6 158:10</p> <p><b>2033</b> 3:22 159:2</p> <p><b>206</b> 3:13</p> <p><b>206 622-3110</b> 159:3</p> <p><b>21</b> 93:3</p> <p><b>21-1</b> 74:16</p> <p><b>21-3</b> 74:15</p> <p><b>22</b> 37:7 41:3 58:22 109:17 111:1,16 112:10 113:1,12 114:4,17,21 115:4 117:12,13 128:17 147:18 151:12,13 154:21</p> <p><b>22nd</b> 26:17 151:16</p> <p><b>23</b> 143:8</p> <p><b>231</b> 146:20</p> <p><b>23rd</b> 6:3</p> <p><b>24</b> 4:16 39:14 136:9</p> <p><b>25</b> 54:1 63:17 65:22</p>
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<p><b>2577</b> 157:11  <b>2801</b> 3:18  <b>28120</b> 6:17</p> <hr/> <p style="text-align: center;"><b>3</b></p> <hr/> <p><b>3-page</b> 4:23  <b>30(e)</b> 156:9  <b>300</b> 3:18  <b>31</b> 85:13  <b>33-page</b> 4:18  <b>34</b> 147:1  <b>39</b> 5:21  <b>3rd</b> 157:5</p> <hr/> <p style="text-align: center;"><b>4</b></p> <hr/> <p><b>4</b> 144:9  <b>4-page</b> 4:13,20  <b>44</b> 148:2  <b>4400</b> 3:4  <b>45</b> 119:10,11  <b>471</b> 53:25 59:24  <b>472</b> 39:13,17  <b>48</b> 4:13  <b>49</b> 10:5  <b>4th</b> 8:24</p> <hr/> <p style="text-align: center;"><b>5</b></p> <hr/> <p><b>5</b> 13:3 16:2,3 75:5,9  76:12,20 145:17  <b>5-page</b> 5:6  <b>5.28.010</b> 156:4  <b>504</b> 3:8  <b>53</b> 5:20  <b>530</b> 111:9 116:20,21  <b>55</b> 48:15</p>	<hr/> <p style="text-align: center;"><b>6</b></p> <hr/> <p><b>6</b> 4:4  <b>63</b> 4:15</p> <hr/> <p style="text-align: center;"><b>7</b></p> <hr/> <p><b>70</b> 4:18  <b>78</b> 4:20</p> <hr/> <p style="text-align: center;"><b>8</b></p> <hr/> <p><b>8</b> 85:6 90:19 152:24  <b>81</b> 4:23  <b>810</b> 4:13 47:24 48:2  <b>811</b> 63:13,16 136:5  <b>812</b> 4:18 70:10,13  <b>813</b> 78:7,10,25  <b>814</b> 4:23 81:5,8  <b>815</b> 106:1,4  <b>816</b> 5:6 142:21  <b>817</b> 5:9 150:22,25  <b>826</b> 3:22 159:2  <b>85</b> 5:15</p> <hr/> <p style="text-align: center;"><b>9</b></p> <hr/> <p><b>9</b> 80:14 105:14,20  <b>911</b> 29:8,11,21 45:7  123:10,12 134:14  <b>92</b> 5:17  <b>94</b> 5:18  <b>95</b> 47:21  <b>98104</b> 3:5  <b>98109</b> 3:14  <b>98121</b> 3:18,22 159:3  <b>98201</b> 3:9  <b>9:52</b> 43:16  <b>9:59</b> 43:19</p>	<p><b>9:a.m</b> 6:4</p> <hr/> <p style="text-align: center;"><b>A</b></p> <hr/> <p><b>a.m.</b> 43:16,19 90:12,17  107:13,16  <b>Aaron</b> 79:12  <b>abbreviation</b> 81:14  <b>ability</b> 29:9  <b>Absolutely</b> 31:12  <b>accentuated</b> 112:8  <b>accepted</b> 47:12  <b>accompanied</b> 58:9  <b>ACCOMPANYING</b>  159:6  <b>accomplished</b> 74:5  <b>accumulates</b> 122:17  <b>accurate</b> 19:16 29:24  35:14 45:23 46:1 61:5,7  70:20 81:18 83:3 120:15  126:14 158:6  <b>achieve</b> 125:9  <b>achieved</b> 126:6,8  <b>acknowledgments</b>  94:18  <b>Acquire</b> 103:9  <b>acquired</b> 103:19  <b>Act</b> 15:5,7 16:5 36:9  <b>acted</b> 123:6 126:8  <b>acting</b> 9:17  <b>action</b> 19:10 22:7 93:3  100:23 156:16  <b>actions</b> 55:22 125:1  <b>activated</b> 36:5,6  109:13  <b>activation</b> 36:4,6 86:4  113:22  <b>active</b> 33:10  <b>actively</b> 56:8  <b>activities</b> 80:16 110:18</p>	<p><b>actual</b> 31:7 45:8,18,20  46:16  <b>adding</b> 142:15  <b>additional</b> 12:7 28:3  80:24 86:16,17 88:2  90:22 110:6  <b>address</b> 6:16,17,19,20  18:1 20:22 21:9 22:2  <b>addressed</b> 26:2 65:3  100:18 115:24  <b>addressing</b> 23:3  115:13 118:7 147:12  <b>adhere</b> 123:24  <b>adjacent</b> 44:9  <b>adjusted</b> 113:6 114:1  <b>adjustments</b> 113:4,6,  9,19 137:11  <b>adjutant</b> 82:19  <b>administer</b> 156:4  <b>administration</b> 10:23  26:8  <b>Administrative</b>  156:22  <b>adopt</b> 21:21  <b>adopted</b> 21:18 24:2  25:25 73:19 92:22 93:13,  21 99:14,16 103:14  104:3,5,7  <b>adoption</b> 98:13  <b>advance</b> 41:16  <b>advanced</b> 45:11  110:13 123:9  <b>advantage</b> 44:5 83:22  84:15  <b>advertised</b> 15:14  <b>advise</b> 157:2  <b>advocate</b> 13:15  <b>affiliation</b> 112:3,4  <b>affirmations</b> 156:4  <b>affixed</b> 157:5  <b>Afghanistan</b> 24:10</p>
---	---	--	---



<b>aforementioned</b> 60:9	<b>anticipate</b> 8:4	20 137:15 138:2,9	<b>authority</b> 32:14 93:6 157:1
<b>aftermath</b> 110:11	<b>anticipated</b> 36:8 47:4	<b>articles</b> 43:5	<b>authorized</b> 156:4
<b>afternoon</b> 119:19	<b>anymore</b> 22:14	<b>asking--</b> 71:23	<b>authors</b> 48:6
<b>agency</b> 16:5 49:19 75:16 112:16 120:7	<b>anytime</b> 58:22	<b>assertion</b> 147:11	<b>Avenue</b> 3:4,13,22 159:2
<b>agree</b> 128:16 135:21	<b>apparently</b> 9:20 13:5 78:12 81:8 106:8	<b>assess</b> 71:4	<b>aware</b> 32:8 54:11 60:1, 15 61:3 76:18 84:8,19 86:21 96:7,13,17,20 103:3,18 104:21 106:14 109:15,18 110:8 114:15, 20 118:12 128:7 129:8 132:20 145:5 147:15 154:11
<b>agreed</b> 80:8,11 136:25	<b>APPEARANCES</b> 3:1	<b>assessment</b> 96:3 144:13 145:1,6,18 154:13	<b>awareness</b> 55:23 56:22 115:18,21 116:11 117:11 127:4
<b>agreeing</b> 128:11,12	<b>appearing</b> 157:3	<b>assist</b> 14:18 132:6 150:18	<b>B</b>
<b>agreements</b> 15:17	<b>appears</b> 48:13 82:24 106:10 108:22 143:6	<b>assistance</b> 13:16 14:8 15:5 29:15 36:13 111:10, 11 152:19,20	<b>B-a-d-g-e-r</b> 18:12
<b>ahead</b> 13:22 24:20 49:5 51:8 77:17 84:25 111:24 115:9	<b>applied</b> 15:18 23:6 68:8	<b>assistant</b> 9:4	<b>bachelor</b> 11:4
<b>Alaska</b> 12:11	<b>applies</b> 97:22	<b>ASSOCIATES</b> 3:16	<b>bachelor's</b> 10:22
<b>Alaskan</b> 3:18	<b>apply</b> 68:8	<b>Association</b> 11:19	<b>back</b> 12:22,23 13:1 18:2 24:11 27:1 28:13 35:3 37:8,19 43:18 56:24 59:3,23 69:6 82:11 89:20 90:1,14,18 97:21 100:25 107:7,15 111:22 119:15 133:13 137:18 151:24 152:24
<b>Alertsense</b> 30:15 31:15,18,20,23 37:4 47:9 120:14 132:18	<b>appointed</b> 18:8 27:13	<b>assume</b> 145:12	<b>background</b> 9:23 11:21 38:7
<b>alignment</b> 80:16	<b>appointment</b> 12:17	<b>assumed</b> 24:11	<b>backing</b> 33:24
<b>all-hazard</b> 38:1,4	<b>approached</b> 115:5	<b>assuming</b> 39:9 147:4	<b>bad</b> 106:12
<b>all-hazards</b> 21:18	<b>approved</b> 25:25	<b>Atmospheric</b> 26:8	<b>Badger</b> 18:12 27:13 41:16 49:11 50:7,10 138:23 143:3,13 145:11
<b>alternatives</b> 75:12 77:5,21 101:4 102:2,12	<b>approved</b> 25:25	<b>attached</b> 72:12 84:4 153:24	<b>bags</b> 69:8,9
<b>amateur</b> 39:1	<b>approximately</b> 30:16	<b>attempt</b> 24:17	<b>bank</b> 139:10
<b>American</b> 10:25	<b>April</b> 111:3,4 157:5	<b>attended</b> 121:22 143:12,14 153:7	<b>banks</b> 140:5
<b>amounts</b> 59:14	<b>area</b> 5:9 13:10 14:1 23:24 27:17 28:6 34:9,10 44:9 45:13 48:21 49:2,16 50:6,23,24 51:5,25 56:22 60:23 62:3 64:8 66:17 69:13 84:2,5 104:25 105:4,7,20,21 106:7,15, 16 108:3,6,10,14,24 109:19 110:1,10 120:20 125:13 137:10 147:8 151:1,19	<b>attention</b> 85:5 92:10,17 93:12 147:11	<b>Bar</b> 46:24
<b>analysis</b> 44:1 71:15,19 86:12 129:22 148:6,10, 22 149:4	<b>Area-wide</b> 4:19 94:5	<b>attentive</b> 121:15	<b>base</b> 57:23 60:6 61:25 68:23
<b>and/or</b> 17:15 158:6	<b>areas</b> 5:4 21:13 28:6,8 46:23,24,25 47:3 102:23 103:10,13,20 105:11 107:25 108:2,14	<b>attorney</b> 3:3,7,12,17 156:15	<b>based</b> 7:9,16 13:2 17:21 21:14 22:12,19
<b>Anne</b> 7:3	<b>Arlington</b> 47:2	<b>attributed</b> 59:25 66:22	
<b>annexed</b> 156:6	<b>armoring</b> 102:18	<b>attribution</b> 138:8	
<b>annexes</b> 100:14 101:14,17	<b>Army</b> 51:1 52:22 142:1	<b>audit</b> 4:21 78:11,23,25 79:4,8,9,13	
<b>announcements</b> 59:5,7	<b>arranged</b> 88:17,20	<b>auditor</b> 78:16	
<b>Annual</b> 5:6	<b>arranging</b> 88:5	<b>August</b> 78:12 143:8	
<b>annually</b> 24:24	<b>article</b> 4:13,15 39:13 43:6 48:3,6,8 53:25 54:2 59:3,24 63:16,17 136:9,	<b>author</b> 81:11	
<b>answering</b> 108:7 129:7		<b>authored</b> 78:12,13 81:12	
<b>answers</b> 156:20		<b>authorities</b> 54:10,17, 18	



<p>31:6,20 36:10 38:1 40:21 42:5,15 46:19 50:6 56:21 57:18 62:2 65:12 73:20 77:9 78:22 82:14,16 120:24 123:7 124:7 138:20 145:1,7,19 147:3 154:15</p> <p><b>basic</b> 84:11</p> <p><b>basically</b> 16:2 34:22</p> <p><b>basing</b> 41:12</p> <p><b>basis</b> 40:18 53:12 56:20 60:13,18 61:2 64:23 65:4,6,10 86:3 123:25 124:6 150:6,14</p> <p><b>began</b> 11:23 17:21 23:12,17 24:12 26:23 28:20 70:22</p> <p><b>begin</b> 12:13</p> <p><b>beginning</b> 17:17 36:11 55:8 76:7 79:19 90:15 99:18</p> <p><b>behalf</b> 109:1</p> <p><b>behest</b> 143:14</p> <p><b>Belmont</b> 10:13</p> <p><b>beneath</b> 50:25 51:14 58:11 141:24</p> <p><b>Biermann</b> 9:15 23:13 24:4,15 94:23 102:13</p> <p><b>big</b> 101:24</p> <p><b>Bill</b> 18:17</p> <p><b>bit</b> 37:7</p> <p><b>block</b> 7:3 33:23</p> <p><b>blocked</b> 141:13</p> <p><b>blocking</b> 141:8</p> <p><b>blur</b> 112:5</p> <p><b>Boise</b> 31:20</p> <p><b>bottom</b> 54:7 59:24 64:2,3 71:1 72:17 83:12 94:18 96:2 100:24 103:24 136:22 144:10,14 147:2</p> <p><b>breach</b> 104:15</p> <p><b>break</b> 43:13 90:9,21 107:3 119:7,8</p>	<p><b>briefed</b> 127:22 128:1</p> <p><b>briefings</b> 127:11,24</p> <p><b>briefly</b> 119:20</p> <p><b>bring</b> 34:13,14 91:3,9, 17 93:12</p> <p><b>broad</b> 60:20</p> <p><b>broadly</b> 57:19</p> <p><b>brought</b> 9:11 18:5 23:14 35:24 91:11 92:9, 17</p> <p><b>brush</b> 33:10</p> <p><b>build</b> 23:2 94:15</p> <p><b>building</b> 16:8 17:21,23 22:3 24:1 139:11</p> <p><b>builds</b> 116:2</p> <p><b>bunch</b> 83:1</p> <p><b>Burlington</b> 28:7 56:19 126:21</p> <p><b>business</b> 10:23</p> <p><b>buttressing</b> 139:9</p> <p><b>buy</b> 13:25 14:10,21</p> <p><b>buying</b> 14:12</p> <p><b>buyout</b> 15:2</p> <hr/> <p style="text-align: center;"><b>C</b></p> <hr/> <p><b>cabinet</b> 86:3 153:8,25 154:6</p> <p><b>CALFO</b> 3:4</p> <p><b>California</b> 10:23 11:2, 16</p> <p><b>call</b> 12:22 47:12 61:10 99:5 106:9 108:16 122:15</p> <p><b>called</b> 23:20 30:14,15 72:13</p> <p><b>calls</b> 112:1 123:7 127:25</p> <p><b>capability</b> 29:22 103:25 150:18</p> <p><b>capacity</b> 14:2,5 16:9 29:22 94:1 149:8</p>	<p><b>caption</b> 136:9</p> <p><b>captured</b> 36:22,25</p> <p><b>captures</b> 47:8,9</p> <p><b>capturing</b> 36:11</p> <p><b>care</b> 109:7</p> <p><b>Carolyn</b> 3:21 111:22 157:10 158:24 159:25</p> <p><b>carolyn@ moburgreporting. com</b> 3:23</p> <p><b>carry</b> 19:21,23 73:17 97:11</p> <p><b>Carter</b> 86:7 87:17,19</p> <p><b>case</b> 67:6 139:15</p> <p><b>catalog</b> 102:2</p> <p><b>catastrophic</b> 25:3,5 41:2,6 113:7,16 114:2 115:14</p> <p><b>caught</b> 47:5 121:4</p> <p><b>CCR</b> 3:21 157:10 158:24 159:25</p> <p><b>Center</b> 11:17 16:10 17:17 36:25 37:3 55:11 86:4 109:12 113:21</p> <p><b>centers</b> 123:11</p> <p><b>certificate</b> 11:1 157:3</p> <p><b>certified</b> 6:8 11:18 156:3 157:10</p> <p><b>certify</b> 156:5,9,12,15, 17,19,24</p> <p><b>chair</b> 144:8</p> <p><b>challenge</b> 80:3</p> <p><b>change</b> 97:8 116:23 117:22 145:6</p> <p><b>changed</b> 116:9,18 145:15,23 146:1,7,16 154:15</p> <p><b>changing</b> 145:1,18 154:15</p> <p><b>channel</b> 33:23 62:15 141:9,13,14</p> <p><b>channeling</b> 139:10</p>	<p><b>CHARLES</b> 3:25</p> <p><b>chart</b> 76:22</p> <p><b>check</b> 126:2</p> <p><b>chief</b> 40:23 69:1</p> <p><b>choose</b> 33:6</p> <p><b>Chris</b> 18:12 27:12 41:15 49:11 50:7,9 86:7,10 138:23 143:3 145:11</p> <p><b>CHRISTIE</b> 3:13</p> <p><b>circle</b> 105:20 106:4,5,8</p> <p><b>circled</b> 108:15</p> <p><b>circumscribed</b> 120:20 122:3</p> <p><b>circumstances</b> 6:24 8:25 131:11</p> <p><b>citizen</b> 135:21</p> <p><b>citizens</b> 80:4</p> <p><b>City</b> 104:14</p> <p><b>city/state</b> 158:12</p> <p><b>Civil</b> 3:8</p> <p><b>claim</b> 7:7 120:11</p> <p><b>clarify</b> 44:19 62:12 107:20 110:24 121:17 143:19</p> <p><b>clarifying</b> 151:14</p> <p><b>clear</b> 24:22 62:19 89:4 132:20 140:4</p> <p><b>Clinton</b> 13:14</p> <p><b>closed</b> 16:2</p> <p><b>closest</b> 86:19 90:24</p> <p><b>Coast</b> 10:23</p> <p><b>code</b> 17:7 109:13 156:22</p> <p><b>coffee</b> 11:23,24,25 12:3</p> <p><b>COLEMAN</b> 3:21 157:10 158:24 159:25</p> <p><b>colleagues</b> 146:5</p> <p><b>college</b> 10:8,11,17,19 11:5</p> <p><b>Collins</b> 84:20 85:8,17, 18 86:6 90:21 91:8,13,18</p>
--	---	---	---



<p>152:25</p> <p><b>color</b> 108:3,16</p> <p><b>comfortable</b> 142:8</p> <p><b>Commission</b> 116:21</p> <p><b>commissioned</b> 130:6</p> <p><b>committee</b> 5:7 103:16, 17 135:12 143:23,25 144:4,7,22,24,25 145:6</p> <p><b>committees</b> 94:15</p> <p><b>communicate</b> 28:11 41:17,19 49:18 77:1,15 89:24 91:6</p> <p><b>communication</b> 69:3, 5</p> <p><b>communications</b> 32:22 40:23 53:14 151:16,17</p> <p><b>communities</b> 33:24 46:18,20 57:24 133:18 150:18</p> <p><b>communities'</b> 118:7</p> <p><b>community</b> 13:11,12, 13,20,25 14:10,13 25:1,7 26:18 27:19 28:20,21,22 29:11 30:21 33:1,5,9,11 34:18 35:5,18 40:23 42:6,16 43:22 44:10 52:5,14,16,23,25 53:2,6, 7,11,15,20 57:12,23 62:14 66:25 67:17,18 68:16,22,24 69:6,14,15 70:3,5 77:24 97:2 104:18,22 105:4,6 111:13 130:18,25 131:3, 19,25 132:3,7,10,12,22 133:2,8 134:5,14,22 135:2 136:1,3 139:6 140:10 141:9,19 145:25</p> <p><b>company</b> 11:24,25 12:3 31:20 47:9</p> <p><b>compensate</b> 14:15</p> <p><b>competitive</b> 23:21</p> <p><b>complete</b> 112:4,5 148:5</p> <p><b>completed</b> 14:6 115:17</p>	<p><b>completely</b> 40:11 110:8</p> <p><b>compliance</b> 43:23,24</p> <p><b>Complies</b> 105:23</p> <p><b>Comprehensive</b> 92:21</p> <p><b>computer</b> 29:10 31:10 36:18</p> <p><b>concept</b> 96:6</p> <p><b>concern</b> 33:15 34:5 88:15 92:8,11 111:17 112:12,17 123:20 148:17 149:6</p> <p><b>concern--</b> 92:15</p> <p><b>concerned</b> 33:20 34:1 88:1</p> <p><b>concerns</b> 22:3</p> <p><b>concert</b> 55:15</p> <p><b>concluded</b> 91:9 99:23 130:24 155:5</p> <p><b>concludes</b> 155:2</p> <p><b>conclusion</b> 59:15</p> <p><b>Conclusions</b> 148:3</p> <p><b>concur</b> 80:22</p> <p><b>conditions</b> 147:12</p> <p><b>conduct</b> 29:11 123:12 156:13</p> <p><b>conducted</b> 26:4,17,18 30:14 117:9 139:4</p> <p><b>conducting</b> 153:15</p> <p><b>conference</b> 40:10 42:9 127:25</p> <p><b>confident</b> 46:7 133:5</p> <p><b>confine</b> 127:13</p> <p><b>confusing</b> 128:13</p> <p><b>consideration</b> 145:5 153:22</p> <p><b>considered</b> 9:18 39:18,25 40:2,10,18 41:6,17,20 42:2,13,23</p> <p><b>consistent</b> 56:20</p>	<p><b>consistently</b> 56:15</p> <p><b>consisting</b> 156:6</p> <p><b>consortium</b> 15:17</p> <p><b>construction</b> 148:5, 23 149:3</p> <p><b>constructions</b> 139:19</p> <p><b>consulted</b> 109:21</p> <p><b>contact</b> 33:7 37:14</p> <p><b>contacted</b> 26:12</p> <p><b>context</b> 36:24 40:24,25 41:1 42:5,12 52:19 63:10 149:24</p> <p><b>contingent</b> 116:1,2</p> <p><b>continue</b> 33:22 90:11 119:3 140:13 150:19</p> <p><b>continued</b> 3:1 5:1</p> <p><b>continuing</b> 90:16</p> <p><b>contract</b> 120:6</p> <p><b>contracted</b> 71:9</p> <p><b>contractor</b> 120:9</p> <p><b>contrast</b> 40:8</p> <p><b>conversation</b> 17:7 49:11 50:6,9,11 130:10 151:22 153:24 154:5,18</p> <p><b>conversations</b> 27:22 42:7 48:10 58:17,24 117:18 154:7</p> <p><b>convey</b> 131:3,19 132:14</p> <p><b>conveyed</b> 9:4</p> <p><b>coordinate</b> 82:20</p> <p><b>coordinated</b> 111:12</p> <p><b>coordinating</b> 44:4 102:14 111:8</p> <p><b>coordination</b> 38:4 109:10,11 113:20,23 117:10</p> <p><b>coordinator</b> 98:6</p> <p><b>copies</b> 31:23</p> <p><b>copy</b> 31:10 36:15 105:20</p>	<p><b>corner</b> 48:15 54:1</p> <p><b>Corps</b> 51:1 52:22 93:6 142:1 146:22</p> <p><b>correct</b> 11:9,12 13:6,7 15:9,10 20:18,19,22 21:9 27:4,5 32:11,12 39:6,7 41:3,4,7 44:16 46:16,17 47:23 50:17 51:6,12 61:21,22 62:7,24 63:5,7, 9 64:22 67:4,24 70:6,7,8, 9 75:20 78:19 80:12 83:2 84:3,10 87:2 89:2,12,24 90:4,5 94:24 95:3,6,9,20 97:8,12 106:6,11 108:6, 11,12,17 120:1,2,21 121:1,6,15 122:22 123:1 125:7 126:18,22 127:1 129:17 130:8,9 132:23, 24 133:4,25 134:17 135:17 136:25 137:8,16 138:3,16,21,24 139:12, 20 140:5,22 142:5 143:1, 4,10 153:8,22 156:20</p> <p><b>correction</b> 49:21,23 62:16,23 63:1,11 68:2,5, 11 138:8 158:8 159:8</p> <p><b>corrections</b> 158:7 159:5</p> <p><b>correctly</b> 44:8 121:5 152:3</p> <p><b>corresponded</b> 26:19</p> <p><b>correspondence</b> 36:3 37:5</p> <p><b>corridor</b> 111:9 126:21</p> <p><b>cost</b> 116:3</p> <p><b>costs</b> 86:13</p> <p><b>Council</b> 73:22</p> <p><b>counsel</b> 8:17,19 32:5 90:6 106:24 156:15,21 157:4</p> <p><b>counties</b> 74:2 83:2</p> <p><b>Counties'</b> 4:13</p> <p><b>country</b> 112:3</p> <p><b>county</b> 3:2,7 4:18 5:3,6, 9 7:2,8,15 8:1,21,22 9:3 12:14 15:14 16:14,21,23 17:6 18:13 22:1,10,15, 17,19,25 23:9,15 24:2</p>
---	---	---	--



<p>25:6,22 26:3 28:7 29:17, 23 30:18 31:19,22 34:14, 16 35:16,19 36:1 37:14, 17 38:16,23 39:2 44:15 46:21 48:20 49:1 50:5 52:11,12,14,15,22 53:10 54:9 55:1,8,22 57:19 59:6,10 60:20 61:17,19, 24 62:17 64:19 70:13 71:8,14,20 74:2,14 77:10,25 79:6,12,14,16 80:1,17,25 81:18 83:5,21 84:6,15,17,21 92:22 93:13 95:16,17 98:24 100:16 102:24 103:4,12, 19 104:23 105:11 109:1, 12,13 112:11,20 113:2, 14 114:18,23 115:15,23 116:18,24 117:3,5,11,14, 16,21,24 120:12 122:2 124:7,8,21 126:21 127:15,19 128:6,19,24 129:11,24 130:4,10 135:13,22 142:2 143:7, 21 144:20 146:23 153:14 156:3</p> <p><b>county's</b> 19:17 40:9 48:19 51:2</p> <p><b>countywide</b> 74:16 75:8 100:23 113:8</p> <p><b>couple</b> 63:21 86:9 120:24</p> <p><b>courses</b> 38:8,12</p> <p><b>court</b> 3:20 6:5,9 8:8,14 107:10,19 111:23 133:14 156:3 157:10 158:25 159:1</p> <p><b>covered</b> 37:23 64:22</p> <p><b>CR</b> 156:9</p> <p><b>create</b> 17:13 72:4</p> <p><b>created</b> 15:6,15 17:6 36:13 53:16 72:15 76:16 79:10 86:17 90:22 99:18</p> <p><b>creating</b> 36:7</p> <p><b>creation</b> 79:11</p> <p><b>creative</b> 101:22 116:16</p> <p><b>credibility</b> 125:9,12 126:7,8</p>	<p><b>credible</b> 124:25 125:1, 17,20,23 126:11 133:7</p> <p><b>creeping</b> 121:20</p> <p><b>crib</b> 50:15 51:5,12,17,25 106:19</p> <p><b>criticisms</b> 79:5,8</p> <p><b>critiquing</b> 79:22</p> <p><b>CRS</b> 77:23</p> <p><b>crying</b> 125:6</p> <p><b>Culmback</b> 104:14,16</p> <p><b>current</b> 6:16,17 147:12</p> <p><b>cut</b> 8:4 33:1,24 44:11</p> <p><b>CW-5</b> 100:24</p> <hr/> <p style="text-align: center;"><b>D</b></p> <hr/> <p><b>D-a-r-a</b> 98:8</p> <p><b>Dam</b> 104:14,16</p> <p><b>danger</b> 14:13 126:11</p> <p><b>dangerous</b> 132:12</p> <p><b>dangers</b> 54:11,18 55:1 65:15,23,24 66:5,12,15 137:2,5</p> <p><b>Daniel</b> 5:20,24</p> <p><b>Dara</b> 98:8</p> <p><b>Darrington</b> 47:1 111:13 149:22 151:16,18 152:11</p> <p><b>data</b> 5:9 26:6 47:8 56:10,11 59:14 65:14 96:3 127:22 147:3</p> <p><b>date</b> 16:16 30:5 43:3 48:4 58:23 84:8 98:12 110:23 157:3,4 159:23</p> <p><b>dated</b> 4:16,24 5:7 18:2 39:13 54:1 63:17 78:12 81:9 143:8 147:2 158:10</p> <p><b>day</b> 6:4 25:4 157:5 158:10</p> <p><b>day-to-day</b> 110:18</p> <p><b>days</b> 26:16 45:12 62:7, 13 120:24</p>	<p><b>deal</b> 110:11</p> <p><b>dealing</b> 99:2 110:19 120:24</p> <p><b>Death</b> 4:15 136:9</p> <p><b>debriefing</b> 149:19</p> <p><b>debris</b> 4:24 81:10</p> <p><b>December</b> 81:9 82:24 83:14 84:1,8</p> <p><b>decision</b> 14:7</p> <p><b>declaration</b> 13:14,16 27:25 36:10 83:14 84:3,5 159:6</p> <p><b>declare</b> 158:4</p> <p><b>declared</b> 15:25</p> <p><b>dedicated</b> 17:3</p> <p><b>deems</b> 122:2</p> <p><b>DEFENDANT</b> 3:2,10</p> <p><b>Defense</b> 11:17</p> <p><b>define</b> 100:10 109:3 129:18</p> <p><b>degree</b> 10:15,19,23,24 11:4,8,10 113:17 115:16</p> <p><b>delegated</b> 143:18</p> <p><b>delineate</b> 120:19</p> <p><b>delivered</b> 34:2</p> <p><b>delivering</b> 157:1</p> <p><b>delivery</b> 33:12</p> <p><b>DEM</b> 75:17 76:15 80:15 94:25 97:11 119:25 125:9</p> <p><b>denied</b> 13:14</p> <p><b>deny</b> 14:7</p> <p><b>departed</b> 12:12 100:5</p> <p><b>department</b> 3:10 4:20 7:16 9:8,11,16 12:13 15:15,16 16:7,19 17:3,5, 11,13,19,21,23,24 18:5, 24,25 19:4,6,7,14 20:12, 20,23,24 21:3,16,17,22, 25 22:4 23:2,21 24:22 26:9,12 27:23 28:9 30:17,18 31:15 35:22 36:17 37:8,9 38:21 39:1,</p>	<p>8 40:9 54:9,20,21 56:12, 15 57:14 61:18 71:8,22 72:16,25 73:7,15 74:8 75:17,25 76:3,15 77:2,8, 16 78:5,10,19 79:6,10, 14,21 80:1,12 81:2,15,17 82:8,19 83:5 85:23 88:3, 8,16 89:1,6,17,18,23 91:7,24 93:10,16 94:10 95:5 96:10,11 98:1 99:8, 14,19 100:13,21 102:25 103:2,21 108:1 109:10 111:8 113:4,6,11,12 114:6,10,15,21 115:3 117:9 118:2,5,6,16,18,20 123:8,9,17 124:25 125:18 127:24 128:4 129:1 131:12 135:10,11 142:25 146:5,14 147:17, 24 148:17 149:9 150:11 151:17 153:7</p> <p><b>department's</b> 19:20 36:23 73:18 77:10 88:7</p> <p><b>departments</b> 89:7 117:10 118:22 128:1</p> <p><b>departure</b> 30:6</p> <p><b>dependent</b> 34:2</p> <p><b>depicted</b> 152:18</p> <p><b>deployed</b> 24:10</p> <p><b>deposed</b> 7:13</p> <p><b>deposition</b> 5:14 6:2,3, 21,25 7:1,18 90:11,16 119:20 155:3,5 156:6,10, 13,19,24 158:5</p> <p><b>Deptdir</b> 4:23</p> <p><b>deputy</b> 3:7 9:15 16:22, 23 18:7,8,9,11 27:13 49:11</p> <p><b>derived</b> 62:15</p> <p><b>describe</b> 11:5 30:10 48:25 52:10 54:24 57:5,7 82:6,10 99:13 110:17</p> <p><b>describing</b> 28:15 59:4</p> <p><b>designated</b> 78:1</p> <p><b>designates</b> 107:22</p> <p><b>designed</b> 21:9 132:5</p>
--	---	---	--



<p><b>desktop</b> 29:10</p> <p><b>destroyed</b> 34:8 157:3</p> <p><b>details</b> 110:15</p> <p><b>detect</b> 91:15 92:4 109:24</p> <p><b>determinations</b> 152:17</p> <p><b>detrimental</b> 147:10</p> <p><b>devastated</b> 64:7</p> <p><b>develop</b> 80:24 81:2</p> <p><b>developed</b> 44:4 76:6 95:17 116:10</p> <p><b>developing</b> 14:11</p> <p><b>development</b> 71:3 137:12 138:1,5 147:7</p> <p><b>devices</b> 109:15,18,24 110:7,8</p> <p><b>dewatering</b> 102:17</p> <p><b>Diana</b> 18:24</p> <p><b>DIANE</b> 3:16</p> <p><b>Diane.meyers@millernash.com</b> 3:19</p> <p><b>difference</b> 115:22</p> <p><b>differently</b> 114:10,17, 21 115:4,11 116:24 117:3,7 153:13</p> <p><b>difficult</b> 8:7</p> <p><b>direct</b> 16:22 25:6 34:9 36:23 39:16 89:5 116:20 123:15</p> <p><b>directed</b> 30:12</p> <p><b>Directing</b> 85:5</p> <p><b>direction</b> 9:5 29:15 156:8</p> <p><b>directly</b> 26:13 98:21 100:20 112:15 117:1 133:16</p> <p><b>director</b> 9:8,10,15,17 12:11,17 13:2 16:19,22 18:7,8 22:9 23:13 48:20 49:12 54:9 64:19 78:19 82:20 84:14 85:23 89:17 91:24 93:10,16 94:9 96:9</p>	<p>103:1,21 111:7 119:25 123:5,17 128:3 131:12 142:24 146:14 147:16,23 148:17 149:6 150:11</p> <p><b>directors</b> 81:15,18</p> <p><b>disappeared</b> 24:8</p> <p><b>disaster</b> 4:14 10:25 13:13 27:25 29:14,15 36:10 64:8 73:23,25 83:14 84:1,5 98:3 111:10,11,15 112:7,8,21 113:3,5 116:2 137:13</p> <p><b>disasters</b> 15:24,25 20:16 37:2 83:8 95:19 116:3 124:23</p> <p><b>Disc</b> 90:10,11,15 155:2</p> <p><b>discovered</b> 132:9</p> <p><b>discovering</b> 96:18</p> <p><b>discussed</b> 27:14 60:9 65:12 124:4 153:1</p> <p><b>discussing</b> 42:17</p> <p><b>discussion</b> 58:13 146:4,15 153:19 154:2, 12,20</p> <p><b>dispatch</b> 123:11</p> <p><b>distance</b> 118:14</p> <p><b>distances</b> 92:3 118:13</p> <p><b>District</b> 30:18 34:4 69:1</p> <p><b>division</b> 3:8 16:7 23:13 82:4,9,10 83:1</p> <p><b>divorce</b> 7:22</p> <p><b>DNR</b> 55:15 59:6,13 65:14 108:13 127:3,6,8, 13,15,17 128:5,6,16,22, 23 129:9</p> <p><b>document</b> 70:15,16,25 71:17 72:15 74:1,4 76:15 78:13,15,17,24 85:15 86:25 93:2 94:6 102:11 104:23 144:9 146:19,20, 24 147:1 149:21</p> <p><b>documentation</b> 31:16 36:7,12 44:2</p> <p><b>documented</b> 35:25 36:2 37:4</p>	<p><b>documents</b> 32:23 72:12</p> <p><b>dollars</b> 48:25 137:12,16 138:1,4</p> <p><b>dollars--</b> 137:20</p> <p><b>domain</b> 34:24 114:13 131:5 149:9</p> <p><b>Donna</b> 81:24 82:24</p> <p><b>dot</b> 106:9,10 108:22</p> <p><b>dozens</b> 38:12 112:1</p> <p><b>draw</b> 30:20</p> <p><b>Drive</b> 85:9 86:8 145:2, 20 154:14,15</p> <p><b>driven</b> 154:7</p> <p><b>dropped</b> 151:20</p> <p><b>Drury</b> 5:19</p> <p><b>duly</b> 6:8 156:18</p> <p><b>DUNN</b> 3:17</p> <p><b>Duvall</b> 6:18</p> <hr/> <p style="text-align: center;"><b>E</b></p> <hr/> <p><b>E-k-s-e</b> 18:18</p> <p><b>EAKES</b> 3:4</p> <p><b>earlier</b> 27:22 62:7 65:4 70:17 94:23 135:5 136:6 149:14</p> <p><b>early</b> 24:12 57:22 85:10</p> <p><b>earthquake</b> 96:18 150:19</p> <p><b>earthquakes</b> 38:3</p> <p><b>economic</b> 111:12</p> <p><b>economy</b> 19:9,11 73:5 74:13 97:2</p> <p><b>Ecosystem</b> 146:21</p> <p><b>ed</b> 53:24</p> <p><b>Edmonds</b> 28:7 55:12</p> <p><b>Edmonds/mukilteo</b> 56:21</p> <p><b>educate</b> 21:25 22:9,16, 24 23:8 24:16 25:9,21</p>	<p>37:16 38:15,22 97:16 98:2,20 111:20 112:14</p> <p><b>educated</b> 39:7</p> <p><b>educating</b> 37:21 98:18 117:4</p> <p><b>education</b> 11:13 37:25 38:6 98:5,10,22 99:10 100:15 117:8,19 118:7</p> <p><b>educational</b> 9:23</p> <p><b>Edward</b> 6:15</p> <p><b>effect</b> 24:9 42:19 66:23 67:11 73:16 74:10 113:9 138:13,19 139:1 140:8 141:7</p> <p><b>effective</b> 47:6,7 139:6, 7 150:20</p> <p><b>effectively</b> 24:8</p> <p><b>effects</b> 67:6,22 139:14 141:8,12 147:10</p> <p><b>effort</b> 14:10,20 117:14</p> <p><b>efforts</b> 26:10 42:19 98:17 116:14 139:4,9</p> <p><b>Ekse</b> 18:17,20,21</p> <p><b>elderly</b> 34:1</p> <p><b>elected</b> 9:2,3 12:5,6</p> <p><b>election</b> 25:4</p> <p><b>electronic</b> 36:16</p> <p><b>Elements</b> 4:19 94:5</p> <p><b>Elinson</b> 48:7,11</p> <p><b>email</b> 4:23 36:3 37:5 81:8,11,12 82:23 85:7 86:6 90:19 152:25 153:25</p> <p><b>emails</b> 30:23 112:1</p> <p><b>EMD</b> 81:21 82:5,7 83:6</p> <p><b>emergencies</b> 34:3</p> <p><b>emergency</b> 4:20 9:9, 11 10:25 11:18,19 12:13 15:15,22 16:4,7,9,19 17:4,12,17 18:5 19:1,8 20:21 21:16,17,22 22:9 29:21 30:19 32:15 36:24 37:3,8 40:9 48:19 54:9, 20 55:11 56:12 57:15</p>
---	--	--	--





<p>64:19 71:8 72:6 73:7,12, 15,21 74:8 76:1,3 78:11 79:7,13,15 80:1 82:3,8, 18,21 83:1,5 84:14 85:23 86:4 88:16 89:1,18 91:7, 24 93:11,17 94:10 96:10 98:2 99:8,14,19 103:2,21 109:11,12 113:11,20 120:7 123:18 124:3 125:18 128:4 131:12 135:11 142:25 146:5,14, 15 147:17,24 148:18 149:6 150:11 152:11</p> <p><b>emphasizes</b> 147:10</p> <p><b>employed</b> 8:20,22 120:3</p> <p><b>employee</b> 82:5 112:11 156:15</p> <p><b>employment</b> 8:23</p> <p><b>enabled</b> 96:20</p> <p><b>encompassed</b> 98:23 101:12</p> <p><b>end</b> 86:18 90:10,23 103:3 111:4 155:2</p> <p><b>ends</b> 48:15</p> <p><b>engaged</b> 35:5,12,16,17 132:5</p> <p><b>Engel</b> 86:7 87:10,11,12 95:8</p> <p><b>engineer</b> 129:21</p> <p><b>Engineers</b> 51:2 52:22 142:1 146:23</p> <p><b>enhance</b> 80:23</p> <p><b>enhanced</b> 26:1</p> <p><b>enhancement</b> 144:10</p> <p><b>enroute</b> 27:17</p> <p><b>ensue</b> 20:25</p> <p><b>ensure</b> 80:15</p> <p><b>entire</b> 16:3 49:15 51:10 60:8,20 64:17 66:17 93:11 113:16 134:15 136:23 150:18</p> <p><b>entities</b> 127:9,10</p> <p><b>entitled</b> 4:13,15 5:9 70:13 94:3 100:23</p>	<p>146:21</p> <p><b>entity</b> 31:19 82:11</p> <p><b>envelope</b> 156:24</p> <p><b>environment</b> 19:10,12 73:4 74:13</p> <p><b>environmental</b> 93:7</p> <p><b>EOC</b> 36:5 151:18</p> <p><b>equation</b> 142:9</p> <p><b>error</b> 42:23</p> <p><b>ES-1</b> 95:15 96:2</p> <p><b>ES-2</b> 70:25</p> <p><b>ES-3</b> 72:17</p> <p><b>ES-4</b> 96:24</p> <p><b>ES-5</b> 97:14</p> <p><b>essence</b> 53:9 61:23</p> <p><b>essentially</b> 27:24 29:21 34:21 73:22 84:21 108:4</p> <p><b>establish</b> 19:5 20:24</p> <p><b>established</b> 19:3 22:20 32:25 94:15 151:18</p> <p><b>establishing</b> 78:1 111:10,12</p> <p><b>estimated</b> 116:3</p> <p><b>evacuate</b> 32:15,17 33:6,9 34:22 43:23 124:12,17</p> <p><b>evacuated</b> 110:1 126:1</p> <p><b>evacuation</b> 26:21 30:25 32:11 44:4 45:8, 10,18,20 46:12,16,18 121:5,14,22 122:3,20,25 123:14,15,24 124:8,13, 17 125:11 126:6 132:21 133:1,8,15 134:4,13,21, 23,24</p> <p><b>evacuations</b> 44:14 45:3,25</p> <p><b>evaluate</b> 34:11 111:19 112:13 113:13 114:7</p> <p><b>evaluating</b> 114:11,18 129:21</p>	<p><b>evaluation</b> 35:13 86:15 87:25 92:3 129:16, 19 130:5,25 131:16 133:24</p> <p><b>event</b> 36:8 39:4 45:12 51:11 55:21 69:12 104:15 137:11 147:9 151:13</p> <p><b>events</b> 23:3 38:5,6 45:8 69:2 125:15,16</p> <p><b>eventually</b> 25:5</p> <p><b>Everett</b> 3:9 59:8</p> <p><b>exact</b> 16:16 18:1 25:2 69:22 98:12 99:18</p> <p><b>examination</b> 4:3 6:11 79:23 119:17 156:12,18, 21</p> <p><b>examine</b> 129:24 156:9</p> <p><b>examining</b> 17:15,16 114:1</p> <p><b>exceptions</b> 156:21</p> <p><b>excerpts</b> 92:20</p> <p><b>excessive</b> 59:14 65:13</p> <p><b>exchange</b> 85:7 90:19</p> <p><b>Excuse</b> 32:1 90:6</p> <p><b>executive</b> 9:3 16:23 18:10 79:12 81:15,17 94:14 95:14 119:25 123:4,17 128:3 131:11 142:24 148:17 150:10 153:14</p> <p><b>executive-level</b> 154:12,20</p> <p><b>exhausted</b> 43:1 58:19</p> <p><b>exhibit</b> 4:10,11 5:1,2,14 39:13,17 47:24 48:2 53:25 59:24 63:13,16 70:10,13 74:21 78:7,10, 25 81:5,8 85:6 90:19 92:20 94:3 102:1,5 105:14,20,25 106:1,4 136:5 142:20,21 146:20 150:22,25 152:23</p> <p><b>EXHIBITS</b> 5:13</p> <p><b>exist</b> 117:25</p>	<p><b>existed</b> 17:15,16 29:23 38:23 53:22 58:18,25 79:13,15,22,23 100:25 114:6</p> <p><b>existing</b> 86:19 90:24</p> <p><b>exists</b> 45:15</p> <p><b>expended</b> 138:2</p> <p><b>experience</b> 82:16 121:13 122:1,4 123:23 124:2,7,16 128:3</p> <p><b>experiences</b> 13:2 21:14 22:12</p> <p><b>experiencing</b> 26:21 33:4 55:13</p> <p><b>expert</b> 38:2 84:16 148:25 150:9 152:7</p> <p><b>expertise</b> 88:23 114:14 132:7 150:12</p> <p><b>experts</b> 83:16,23 84:9 89:8</p> <p><b>explain</b> 34:20 150:1</p> <p><b>explained</b> 150:4</p> <p><b>explaining</b> 150:13</p> <p><b>explore</b> 93:25</p> <p><b>exposure</b> 15:21 25:6 103:8</p> <p><b>extensive</b> 39:2,8 129:2</p> <p><b>extensively</b> 22:23 70:21 130:20</p> <p><b>extent</b> 35:23 122:20</p> <hr/> <p style="text-align: center;"><b>F</b></p> <hr/> <p><b>facilitate</b> 89:8</p> <p><b>facilitated</b> 88:21 89:11</p> <p><b>facility</b> 17:16 18:1</p> <p><b>fact</b> 15:2 40:14 42:23 43:2 78:13,21 79:7 95:22 116:23 132:10 135:6 138:2 143:21 148:9 149:5 151:5 154:19</p> <p><b>facts</b> 75:13 77:5,21 101:5 146:15</p>
--	--	---	---



<p><b>failure</b> 40:20 147:9</p> <p><b>fair</b> 19:13 20:8,12 61:2 84:7 88:12 91:23 92:4 121:10,23 135:8 149:2</p> <p><b>fairly</b> 121:14 122:4,25</p> <p><b>fall</b> 24:22,23,25 27:3,12, 16 40:22 42:15 49:12 50:12 55:9 56:3 58:5,6 68:25 70:4 76:10 106:20 138:21</p> <p><b>falling</b> 21:13 126:24</p> <p><b>familiar</b> 11:5 13:12 19:17 50:15 96:6 98:21 103:6,22 110:15 113:8 114:19 117:1 118:2,22 141:3,4,5 149:10</p> <p><b>fast</b> 47:6</p> <p><b>fault</b> 96:19</p> <p><b>Fe</b> 28:8 56:19</p> <p><b>Feasibility</b> 146:22</p> <p><b>features</b> 120:22</p> <p><b>February</b> 92:23</p> <p><b>federal</b> 14:7 15:4,24 16:4 23:19 24:3 36:9,12 111:9,11 120:6,7</p> <p><b>feedback</b> 47:13,14</p> <p><b>feel</b> 52:5,15,16 53:3,11 66:25 68:16,22 136:1</p> <p><b>feet</b> 50:25 51:2,15 58:11</p> <p><b>felt</b> 23:16 69:7,15 139:6 141:5 142:4,7,10</p> <p><b>FEMA</b> 12:11,17,24 13:2, 15 25:25 38:8 82:5 83:15,23 84:8 115:17</p> <p><b>FEMA'S</b> 38:10 84:11</p> <p><b>field</b> 18:1 109:4 123:13</p> <p><b>fight</b> 42:15 49:12 50:12 68:25 69:10,17</p> <p><b>file</b> 36:20 37:10</p> <p><b>filed</b> 7:2</p> <p><b>files</b> 35:21 36:14,15</p> <p><b>filled</b> 9:13,16</p>	<p><b>final</b> 4:19 70:14 99:24 146:22</p> <p><b>finalized</b> 100:5</p> <p><b>finance</b> 18:23</p> <p><b>financially</b> 156:16</p> <p><b>find</b> 33:22 57:5 107:18 136:11</p> <p><b>finding</b> 88:22</p> <p><b>fine</b> 32:18 38:20 69:7</p> <p><b>finish</b> 119:3</p> <p><b>fire</b> 34:4,17 35:16 40:23 69:1</p> <p><b>fired</b> 9:1</p> <p><b>firm</b> 157:2</p> <p><b>five-minute</b> 43:13</p> <p><b>five-year</b> 23:7</p> <p><b>flight</b> 76:10</p> <p><b>flood</b> 20:25 24:22,23- 25:1,12 27:4,12,16 31:6 39:8 40:22 42:15 45:12 47:4 49:12 50:12,19 53:15,16,18,19 58:5,6 62:14 68:25 69:10,12,17 76:10 92:21 125:15 133:3,23 134:5,16 139:5, 15 140:19 141:14</p> <p><b>flood-prone</b> 47:3</p> <p><b>flooding</b> 25:3,5 27:18, 20 31:7 33:20,24 39:5 42:6,9,12,17 44:15 46:4, 10,19 51:1 52:20,21 58:10 62:2,4,11,19 67:7, 15,18,22 68:8,20 69:19, 24 70:1,8 83:15 133:9 134:24 140:20 141:9,13</p> <p><b>floodplain</b> 147:8</p> <p><b>floods</b> 16:1,2 22:5 38:3, 9 40:24,25 45:8 52:24 69:6 113:7 133:17,23 134:13 140:9 142:9,10</p> <p><b>floodwaters</b> 120:24</p> <p><b>focal</b> 50:24 51:14,16 62:13 99:9 140:25</p> <p><b>focus</b> 12:15 52:23 60:10 62:6 80:23 113:15,</p>	<p>18 118:6 135:16,19</p> <p><b>focused</b> 18:15 52:20 69:23 98:22 100:12 117:10</p> <p><b>focusing</b> 17:14 23:14 45:2 135:14</p> <p><b>follow</b> 91:4,10,17 92:10,15 93:24</p> <p><b>follow-on</b> 119:21</p> <p><b>follow-up</b> 85:9 86:8</p> <p><b>forecast</b> 120:25</p> <p><b>forecasts</b> 127:11</p> <p><b>foregoing</b> 156:6,21</p> <p><b>FOREST</b> 3:16</p> <p><b>form</b> 13:21 15:5 19:22 24:19 49:3 51:7,13,20 52:1,17 57:2,4 66:8,14 67:25 68:4,10 72:4 73:10 82:12 84:23 86:23 87:6, 14,21 88:6,18 89:3 92:12 109:2 111:24 112:23 114:24 115:8 118:1 121:16 122:6,12 123:22 124:10,19 125:14,24 126:12 130:7 131:4,20 132:2,15 138:10 139:13, 21 140:6 141:11 142:6 143:25 146:9 148:13,24 149:7 150:8 153:23 154:17</p> <p><b>formal</b> 130:6</p> <p><b>formally</b> 17:6</p> <p><b>format</b> 156:7,22</p> <p><b>formed</b> 19:1 64:23 73:21 76:15</p> <p><b>forward</b> 23:2 29:23 31:6,21 46:19 53:14 69:2,12 79:21,24 113:14 116:9,10</p> <p><b>forwarding</b> 81:12,21</p> <p><b>forwards</b> 67:8</p> <p><b>foundation</b> 49:4 52:18 82:13 126:13</p> <p><b>four-</b> 23:7</p> <p><b>four-year</b> 25:13,20</p>	<p><b>fourth</b> 99:24</p> <p><b>frame</b> 7:5 23:4 28:15 57:22 58:22</p> <p><b>frequent</b> 122:1</p> <p><b>frequently</b> 83:4,7,8 86:1</p> <p><b>front</b> 151:20</p> <p><b>full</b> 6:13 150:17 156:20</p> <p><b>full-time</b> 24:12</p> <p><b>fully</b> 60:19 124:21</p> <p><b>function</b> 19:20 111:14</p> <p><b>functions</b> 9:14 20:2</p> <p><b>funded</b> 73:20 116:5,14</p> <p><b>funding</b> 14:21 18:16 89:8 116:1,16 153:15</p> <p><b>funds</b> 13:25</p> <p><b>future</b> 28:2 95:18,23 112:22 113:3 147:4</p> <hr/> <p style="text-align: center;"><b>G</b></p> <hr/> <p><b>Gary</b> 5:15,16,17</p> <p><b>gather</b> 28:10</p> <p><b>gave</b> 55:3 122:10</p> <p><b>general</b> 38:1 61:19 82:19 106:7 124:21 126:25 137:6</p> <p><b>generally</b> 47:11 121:13,25 122:24 123:23 125:1 126:7 127:21</p> <p><b>generic</b> 29:7 38:4 60:21 73:11,12 127:18 129:4,5</p> <p><b>GENSTER</b> 3:6</p> <p><b>geographic</b> 72:5 120:20</p> <p><b>geological</b> 130:23</p> <p><b>geologist</b> 34:14 35:9 89:23 129:20 130:15</p> <p><b>geologists</b> 37:14</p> <p><b>geometrically</b> 30:22</p>
--	---	--	---





<p><b>geomorphological</b> 148:6,10,22 149:4</p> <p><b>geomorphologist</b> 129:20</p> <p><b>George</b> 5:18</p> <p><b>geotech</b> 34:16 35:1,24, 25 130:1,2</p> <p><b>geotech-related</b> 90:2</p> <p><b>geotechnical</b> 34:15 83:15,17,22 84:9,16,22 86:15 87:25 88:5,14 89:8,12,19 92:2 129:15, 18,19,20,22 130:5,24 131:16 132:7 148:6,10, 22 149:4 153:1,16</p> <p><b>geotechs</b> 129:25 130:1</p> <p><b>give</b> 29:14 34:13 45:10, 22 85:4 105:19 120:20 124:17</p> <p><b>giving</b> 132:21 133:24</p> <p><b>Glance</b> 39:14</p> <p><b>glass</b> 32:6</p> <p><b>globally</b> 126:5</p> <p><b>goal</b> 72:21 73:17 97:5,8, 10,22</p> <p><b>goals</b> 19:14 20:13 72:19 73:1,3 74:8,10 93:7 95:22 97:22 100:13 116:5</p> <p><b>Gold</b> 46:24</p> <p><b>good</b> 69:7 119:19</p> <p><b>goods</b> 33:13</p> <p><b>government</b> 14:7 24:3 80:3 102:20 112:16</p> <p><b>governments</b> 95:17</p> <p><b>graduated</b> 9:25</p> <p><b>GRAHAM</b> 3:17</p> <p><b>GRANDY</b> 3:16</p> <p><b>grant</b> 23:19,20,21,22</p> <p><b>grant-funded</b> 18:15</p> <p><b>grants</b> 18:16,17</p> <p><b>great</b> 66:22 67:10 138:13,25 140:8 141:6</p>	<p><b>greater</b> 80:3 118:11</p> <p><b>grew</b> 88:8</p> <p><b>ground</b> 8:2 132:19</p> <p><b>group</b> 3:13 119:22 122:3</p> <p><b>guard</b> 47:5</p> <p><b>guess</b> 61:9 105:1 109:7 123:16 133:21 151:24</p> <p><b>guidance</b> 4:24 81:10 83:17 94:14 96:9 97:11</p> <p><b>guide</b> 74:1 79:21 135:10,11</p> <p><b>guidelines</b> 156:23</p> <p><b>guiding</b> 72:18 96:24</p> <hr/> <p style="text-align: center;"><b>H</b></p> <hr/> <p><b>h&amp;h</b> 148:5</p> <p><b>Haakenson</b> 5:15,16,17</p> <p><b>HALEY</b> 3:12</p> <p><b>Haley@ christielawgroup.com</b> 3:14</p> <p><b>half</b> 10:18 33:2 149:15</p> <p><b>hand</b> 136:14 157:5</p> <p><b>handing</b> 39:12 48:1 53:24 63:15 70:12 78:9 81:7 92:19 94:2 105:13 106:3</p> <p><b>handle</b> 99:5</p> <p><b>handled</b> 14:24</p> <p><b>hands</b> 141:24</p> <p><b>happen</b> 12:21 15:11 117:22</p> <p><b>happened</b> 9:2 27:14 133:5 145:7 150:16</p> <p><b>happening</b> 26:14 28:24 36:10 55:24 59:9 60:11,23 153:25</p> <p><b>happy</b> 119:2</p> <p><b>hard</b> 31:10 36:14,15 122:16</p>	<p><b>HARRIGAN</b> 3:4</p> <p><b>haunts</b> 66:24 68:14</p> <p><b>Haven</b> 29:22 46:3,8 53:7,11,20 57:12,17,23 58:3,13,17,25 60:14,25 61:21,25 62:18 66:19 93:4,20 104:18,21 105:4 132:22 133:2,8,16 134:5, 22 141:19 145:8 146:16 147:5 148:4 149:16 154:14,20</p> <p><b>hazard</b> 5:4 19:18 20:1 21:5,6 22:19 23:6,17 24:13 25:24 34:22 70:18 71:11,13,14,18 92:21 94:4 95:18 96:11,15 97:15 101:1 102:16 104:23 106:15 107:23 108:2,6,14 115:16,23,25 116:4,13 135:16 143:21</p> <p><b>hazard-related</b> 72:22 73:2,8 74:11 97:6,23</p> <p><b>hazard-specific</b> 75:11 77:3,19 80:24 81:3 101:3</p> <p><b>hazards</b> 4:18 5:6 21:19,20 23:24 26:3 38:1,22 70:14 71:10 72:4,10 75:10 77:2,18 80:16,17 97:1,18 98:4, 18,23 100:16 116:8,18 118:9 135:7,9,13,14,15, 16,18,23 136:2 143:7</p> <p><b>Hazel</b> 25:12 27:1,6,10 37:10,11 39:6 40:19 41:20 42:2,24 49:1 50:16 57:12,24 58:3 59:19 60:17,25 87:25 88:14 92:8 93:1 104:19 105:5, 17,21 106:5,20 108:15 146:7 151:1 152:6 153:16</p> <p><b>head</b> 8:7 15:8,12 40:8 69:23 89:16 109:2,3,5,7</p> <p><b>heading</b> 39:17,18</p> <p><b>health</b> 30:17,18 97:2</p> <p><b>heavily</b> 17:14</p> <p><b>heed</b> 127:21 133:9</p> <p><b>heeded</b> 34:10</p>	<p><b>heightened</b> 55:17 56:16,22 57:17 59:15 60:22 115:18,21 116:11 117:11 126:25 127:4 129:3</p> <p><b>helpful</b> 39:15</p> <p><b>helping</b> 111:8</p> <p><b>helps</b> 74:1</p> <p><b>Herald</b> 59:8</p> <p><b>hereunto</b> 157:5</p> <p><b>Hey</b> 149:24</p> <p><b>high</b> 9:24,25 64:7,18 65:12 76:23 77:1,16 78:1,4 81:11 104:25 105:3,6,11 122:25 136:24</p> <p><b>high-risk</b> 103:9,13,19</p> <p><b>higher</b> 26:1 113:15</p> <p><b>highly</b> 55:21</p> <p><b>highway</b> 27:18</p> <p><b>hindsight</b> 112:6</p> <p><b>hired</b> 23:12,19 24:4,5,6 98:5,11 142:24 143:9</p> <p><b>hires</b> 18:4</p> <p><b>hiring</b> 24:15</p> <p><b>Historical</b> 124:2</p> <p><b>history</b> 17:20 28:18</p> <p><b>hit</b> 137:10</p> <p><b>Hits</b> 4:16 136:9</p> <p><b>hitting</b> 67:18</p> <p><b>HIVA</b> 71:15 72:13</p> <p><b>home</b> 6:16,17</p> <p><b>Homeland</b> 11:3,14,17 18:16 21:17</p> <p><b>homeowners</b> 54:11 59:25 60:14</p> <p><b>homes</b> 14:16 34:7 86:19 90:24 123:20 125:22 126:10</p> <p><b>hour</b> 119:4</p> <p><b>House</b> 12:6,10</p>
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<p><b>houses</b> 34:23</p> <p><b>human</b> 13:18 20:6,8,13, 18 33:16,19 34:5 110:14 135:17 147:6,7</p> <p><b>hundred</b> 47:21</p> <p><b>hyper</b> 60:10</p> <p><b>hypothetical</b> 131:21</p> <hr/> <p style="text-align: center;"><b>I</b></p> <hr/> <p><b>I.D.</b> 123:8</p> <p><b>Idaho</b> 12:11</p> <p><b>idea</b> 64:13</p> <p><b>identification</b> 47:25 63:14 70:11 71:14,18 78:8 81:6 105:9 106:2 142:22 150:23</p> <p><b>identified</b> 74:24 105:3, 6 108:2,5,10 135:13</p> <p><b>identify</b> 102:23 103:12 104:25 105:16 135:9</p> <p><b>identifying</b> 105:21 135:7</p> <p><b>Ill</b> 5:20,21</p> <p><b>imagery</b> 149:14</p> <p><b>immediately</b> 70:23 110:8</p> <p><b>imminent</b> 45:10</p> <p><b>impact</b> 98:18 135:16</p> <p><b>impacted</b> 44:11</p> <p><b>impacting</b> 52:24 139:15 140:9</p> <p><b>impacts</b> 27:18,20 42:17 52:21 53:16 62:4, 14 67:17 97:18 98:3 139:5 141:12</p> <p><b>impending</b> 29:13 45:8, 11</p> <p><b>implement</b> 93:3,5,19 112:20 113:12 114:5</p> <p><b>implemented</b> 124:20</p> <p><b>implementing</b> 104:10</p>	<p><b>importance</b> 81:10</p> <p><b>important</b> 8:3,6,10,13 75:13 77:5,21 101:5 122:2 131:2,19</p> <p><b>imprecise</b> 151:10</p> <p><b>impression</b> 79:4 123:4,6,18 139:3 142:3,7</p> <p><b>inaccurate</b> 49:17 68:7</p> <p><b>inaccurately</b> 50:1</p> <p><b>inadequate</b> 23:16</p> <p><b>incidences</b> 103:3</p> <p><b>incidents</b> 100:14</p> <p><b>include</b> 51:12,25 75:10 77:3,18 78:2 101:2 154:2</p> <p><b>included</b> 39:4 46:7,11 51:5,17 59:8 84:2 134:12 140:4</p> <p><b>includes</b> 48:7 128:21 150:25</p> <p><b>including</b> 20:18 28:7 31:2,17 33:9 39:1 80:17 100:16 125:21 127:11 137:12 156:20</p> <p><b>incorporated</b> 100:7, 15 115:15,19 117:18</p> <p><b>incorrect</b> 49:20 50:2 137:16</p> <p><b>increase</b> 55:23 103:24</p> <p><b>increased</b> 141:14 147:8</p> <p><b>increasing</b> 125:2</p> <p><b>independent</b> 120:9</p> <p><b>Index</b> 4:10 5:1 26:11,12 28:13,14 30:1,11 31:17 32:10,20 34:6 35:20 36:15,20 43:21 45:19 46:16,25 55:20 57:20 59:9 60:11,23 89:12 121:10,19 122:11 126:17 129:14,15,23 130:19 131:13 132:3</p> <p><b>indicating</b> 93:3</p> <p><b>indication</b> 68:7</p> <p><b>individual</b> 12:24,25</p>	<p>18:16,22 35:4,7 38:8,9 69:18,20 111:15 130:10, 14</p> <p><b>individuals</b> 13:17 14:16 17:18 18:15 26:19, 20 28:20,22 38:25 39:2 42:16 47:10,11 55:16 58:8 89:7,21 112:2 136:3</p> <p><b>induces</b> 147:10</p> <p><b>industry</b> 11:23</p> <p><b>infancy</b> 17:8 79:19 88:8</p> <p><b>inferred</b> 20:10 73:11</p> <p><b>information</b> 28:3,10 49:10 55:14 57:18 59:4 60:7 62:21,25 69:6 72:5 75:11 76:6 77:3,4,7,9,19, 20 78:3 89:11,14 91:25 92:5 93:17,23,24 98:25 99:6 101:3 127:10 130:13 131:6,18,25 132:11,13</p> <p><b>informational</b> 75:10 77:18 101:2</p> <p><b>informed</b> 145:11 147:19,23</p> <p><b>infrastructures</b> 146:2</p> <p><b>infrequently</b> 83:7,8</p> <p><b>ing</b> 103:25</p> <p><b>initial</b> 114:14</p> <p><b>initially</b> 29:2</p> <p><b>initials</b> 105:22</p> <p><b>initiation</b> 27:21</p> <p><b>initiative</b> 113:9</p> <p><b>initiatives</b> 74:17 75:9 100:24</p> <p><b>injury</b> 72:22 73:2,8 74:11 97:6,23</p> <p><b>inquiries</b> 123:13</p> <p><b>inside</b> 37:2 55:10 113:20 153:25</p> <p><b>instabilities</b> 86:18 90:23</p> <p><b>installed</b> 50:16</p>	<p><b>instances</b> 103:18</p> <p><b>Institute</b> 71:9 103:25 120:8</p> <p><b>instituted</b> 104:7</p> <p><b>institutional</b> 38:25</p> <p><b>instructions</b> 8:15</p> <p><b>intending</b> 20:22</p> <p><b>intense</b> 117:17</p> <p><b>intention</b> 128:15</p> <p><b>interact</b> 95:11</p> <p><b>interacted</b> 153:6</p> <p><b>interaction</b> 36:24 68:24 69:24 70:3,5 82:4, 15,17</p> <p><b>interactions</b> 68:25 85:22 86:1</p> <p><b>interested</b> 22:7,8 135:22 156:16</p> <p><b>interim</b> 9:19</p> <p><b>interlocal</b> 15:17</p> <p><b>International</b> 11:18</p> <p><b>interpret</b> 152:21</p> <p><b>Interstate</b> 13:3 16:2,3</p> <p><b>intervals</b> 99:17</p> <p><b>interview</b> 13:1 55:12 57:7</p> <p><b>interviews</b> 26:5 55:4, 10 56:2,5 57:1,2,11,22</p> <p><b>intimately</b> 13:12 141:3, 4</p> <p><b>introduced</b> 14:9 136:6</p> <p><b>investigation</b> 153:2, 16</p> <p><b>involve</b> 78:2 129:19</p> <p><b>involved</b> 59:5 85:7 95:1,6,9 129:14</p> <p><b>involvement</b> 7:11 13:8 16:4 77:10 94:12 106:21 109:8,20 110:18 111:5</p> <p><b>Iraq</b> 24:10</p>
--	---	---	---



<p><b>isolate</b> 33:25  <b>isolated</b> 33:13  <b>issue</b> 55:7 56:13 106:25  117:23 118:16,23 138:8  <b>issued</b> 99:12  <b>issues</b> 35:23 60:9 90:2  140:19  <b>Item</b> 76:12,20 86:15  <b>items</b> 50:22 86:12  <b>iteration</b> 99:24</p>	<p style="text-align: center;"><b>K</b></p> <hr/> <p><b>Kelso</b> 13:3,6 15:21,25  21:14 22:13,14  <b>key</b> 18:4  <b>kind</b> 47:20 64:8 120:21  128:18 130:5 132:21  <b>kinds</b> 125:4,10 127:14  134:3  <b>King</b> 8:1 156:3  <b>KIRO</b> 55:6 57:10  <b>knew</b> 21:14 39:2 64:7  87:1 89:22 90:1  <b>knowing</b> 22:8 28:5  <b>knowledge</b> 9:22 19:2  22:11,18 27:1,9 38:25  42:15 57:15 59:22 76:2  82:14,16 97:21 106:21  110:12 111:17 112:12,  17,20 113:1 117:15  118:21 124:2 130:2  134:11,20 135:1 152:4  <b>KOMO</b> 54:1,4 55:6  57:10 59:3  <b>Kymer</b> 4:21 79:18</p>	<p>58:4,14,18,22,25 59:10,  16 60:17,25 62:6,10,20  65:25 66:6,10 69:16  70:1,6 81:3,10 83:16,24  84:16,22 87:24 88:1,14  92:1,8 93:1 96:11,15  99:2 100:2,6,9,17,18  102:15,24 103:7,10,13,  20,23 104:19,22 105:2,5,  17,21 106:5,15 107:23,  25 108:2,6,10,14,15,25  109:2,9,16,25 110:17,19  111:1,6,16,18 112:4,10,  19 113:1,13 114:4,7,11,  17,18,22 115:4,5,23,25  116:11,18,19,25 117:4,  13,16,21,24 118:8,17  121:20 127:5,12,16  128:6,18,23 129:3,10,21,  24 130:25 132:4,11,22  135:15 137:7 145:2,19  146:7 147:6,9 148:4  149:17,20 150:2,7,14,19  151:1,2 152:5,6,13,14,18  153:2,16 154:3,8,10,13,  16,21  <b>landslide,'</b> 64:18  <b>landslide--</b> 66:3  <b>Landslide--did</b>  152:12</p>	<p><b>lawsuit</b> 7:8  <b>lawyer</b> 44:25  <b>lead</b> 75:16 78:1 82:17  <b>leaders</b> 80:3  <b>leading</b> 25:19 26:16  <b>lean</b> 38:24  <b>learn</b> 28:3  <b>learned</b> 113:21  <b>leave</b> 9:2 15:11,13  26:22 33:6 44:7 45:16  123:19 124:9  <b>leaving</b> 125:13 126:10  <b>led</b> 41:13 56:12 59:14  65:24  <b>Lee</b> 55:5 56:3 57:8 86:6  87:8  <b>left</b> 9:10 12:9 42:17  44:2,9,12 58:9 69:18  80:11 112:2 121:21,23  122:11,16 125:21  <b>left-hand</b> 53:25  <b>legal</b> 8:17,19  <b>legislation</b> 14:9  <b>legislative</b> 9:4  <b>lessons</b> 113:21  <b>level</b> 125:11 127:4  <b>levels</b> 122:18</p>
<p style="text-align: center;"><b>J</b></p> <hr/> <p><b>January</b> 8:24 17:6  69:11 79:11,17 84:19  85:7,12,13 90:19 119:25  <b>Jason</b> 9:15 23:13 24:4  94:22 102:13  <b>Jeff</b> 37:15 89:23,25  <b>Jgenster@snoco.</b>  <b>org</b> 3:9  <b>Joan</b> 86:6 87:8  <b>job</b> 9:14 35:17 66:22  67:10 82:20 98:23 135:9,  10 138:13,25 140:8  141:6  <b>John</b> 4:21,23 6:2,7,15  40:8 48:18 54:8 64:19  86:7 87:10,11,12 90:16  95:8 119:20 158:17  159:23  <b>Jones</b> 18:17 37:15  89:23,25  <b>JOSEPH</b> 3:6  <b>Journal</b> 4:13 48:3  <b>Jr</b> 3:25 6:15  <b>July</b> 16:16 17:8,10,24  27:23 39:9 76:7 91:12  143:1 147:17  <b>jumping</b> 37:6  <b>June</b> 76:7</p>	<p style="text-align: center;"><b>L</b></p> <hr/> <p><b>laid</b> 149:24  <b>LAKE</b> 3:16  <b>land</b> 128:22,24 129:10  137:12  <b>landline</b> 29:12  <b>landslide</b> 4:23 5:3  13:3,6,9,20 14:6 15:21  16:1 20:22 21:4,11,15,24  22:1,10,13,16,18,25 23:8  24:17 25:7,9,12,22 26:2,  10,14,20 27:2,7,10,15  28:11,14,17 32:9 33:1,4,  21 34:12 35:13 36:20  37:7,10,11,16,21 38:16  39:6 40:19 41:3,20 42:2,  24 48:5,20 49:1 53:22  54:11,18 55:1,2,8,17,20  56:9,13,16 57:12,17,24</p>	<p><b>landslides</b> 21:5 22:11  23:6 26:6 27:10 30:2,3,7  38:3,11 56:22 60:22  65:12 66:16 67:15,21  68:9,20 83:9 84:4,9  96:21 98:4,20 102:3  104:25 113:16 114:2  115:12,13,18 117:11,18  118:14 127:1 128:21  134:8,12 135:7 136:25  137:6 142:11 144:16  145:1,7,19  <b>laptop</b> 29:10  <b>large</b> 101:21  <b>larger</b> 59:10 100:12  151:20  <b>late</b> 18:2 28:19 85:7,11  <b>launching</b> 111:14  <b>law</b> 3:3,12,13,17 8:14  <b>laws</b> 7:16</p>	<p><b>LEYH</b> 3:3,4 13:21 19:22  24:19 32:4 41:25 44:23  49:3,8 51:7,13,20 52:1,  17 59:21 61:6 63:24  66:8,14 67:25 68:4,10  71:11 73:10 74:19,22  75:1 82:12 84:23 85:3,10  86:23 87:6,14,21 88:6,18  89:3 92:12 107:1,6,17,20  111:21,24 112:23 114:24  115:8 118:1 119:6,11  121:16 122:6,12 123:22  124:10,19 125:14,24  126:12 130:7 131:4,20  132:2,15 136:7 137:21,  23 138:10 139:13,21,25  140:6 141:11 142:6  146:9 148:13,24 149:7  150:8 153:23 154:17,25</p>



<p><b>License</b> 157:11</p> <p><b>Lidar</b> 5:9 96:6,8,10,14, 20 149:13,14,20,22 150:2,7,14,20,25 151:11, 19,25 152:5,13,18</p> <p><b>Lidar--it</b> 152:9</p> <p><b>life</b> 13:18 19:9 20:6,9,13, 18 33:16,19 72:22 73:3, 4,9 74:11,13 95:19,23 97:6,24 110:14</p> <p><b>lifestyle</b> 142:8,13,17</p> <p><b>likelihood</b> 112:21 113:2</p> <p><b>limiting</b> 154:10</p> <p><b>lines</b> 30:21 39:24 96:19 153:3</p> <p><b>list</b> 82:23</p> <p><b>listed</b> 48:6 103:8</p> <p><b>listen</b> 134:18 139:17</p> <p><b>literally</b> 38:12</p> <p><b>litigant</b> 7:2</p> <p><b>live</b> 14:14 47:14</p> <p><b>lived</b> 6:19,20 13:19</p> <p><b>lives</b> 147:6</p> <p><b>living</b> 61:3 142:8</p> <p><b>LLP</b> 3:4,17</p> <p><b>local</b> 54:9,17,18 82:20 95:16</p> <p><b>located</b> 17:24,25 103:9, 13,19 105:17</p> <p><b>locations</b> 118:15</p> <p><b>log</b> 50:16 106:19,21 139:11 140:4,22</p> <p><b>long</b> 6:19 18:14 24:21 74:9</p> <p><b>long-term</b> 91:15 92:4 111:14 135:18</p> <p><b>longer</b> 14:13 34:9,23 77:16 86:11</p> <p><b>looked</b> 69:20,21 150:5</p> <p><b>loss</b> 20:18 72:22 73:3,9 74:11 95:19,23 97:6,23</p>	<p><b>losses</b> 20:17</p> <p><b>lost</b> 14:16</p> <p><b>lot</b> 31:1 126:24</p> <p><b>lower</b> 46:23 48:14</p> <p><b>lunch</b> 119:4,7</p> <p><b>Lynnwood</b> 84:2</p> <hr/> <p style="text-align: center;"><b>M</b></p> <hr/> <p><b>M/s</b> 3:8</p> <p><b>made</b> 5:4 14:17 27:3 29:5 32:11,20 40:16,17, 21 48:23 49:22,23,24 51:24 52:8 53:1,9 54:16 56:7 57:21 60:4,12 61:14 62:5 63:2 64:11,14 65:2, 8,17,18 67:13 79:5,20 80:6,8 86:22 87:5,13,20 89:4 91:8,19 93:20 101:20 106:4 113:6,9,19 115:22 137:11 145:5... 156:12,21</p> <p><b>magazine</b> 136:8 141:6</p> <p><b>magnitude</b> 66:9,12</p> <p><b>maintain</b> 75:9 77:17 101:1</p> <p><b>maintained</b> 35:21 36:19,21 95:18</p> <p><b>make</b> 27:6 37:20 38:14 40:14,18 41:13 52:5,14, 16 53:3,11 54:14 62:19 63:1,11 65:1,16 67:9,12 68:14 84:8 128:11 129:7 132:19 135:25 140:3 152:16 159:5</p> <p><b>makes</b> 113:4</p> <p><b>makeshift</b> 151:18</p> <p><b>making</b> 41:11,16 42:21 43:8 65:9 68:11,17</p> <p><b>management</b> 4:20 9:9,11 10:25 12:13 15:15,22 16:5,8,19 17:4, 12 18:6 19:1,8,15 20:21 21:16,17,22 22:9 30:19 37:9 40:9 48:19 54:21 56:12 57:15 64:20 71:8, 10 72:6 73:8,13,15,22</p>	<p>74:8 75:18,19,20 76:1,3, 14,16 77:8,25 78:11 79:7,14,15 80:2 82:3,8, 18,21,22 83:1,5 84:14 85:24 88:16 89:1,18 91:7,24 92:22 93:11,17 94:10 95:8 96:10 98:2 99:8,14,20 103:2,21 109:11 113:11 114:16 120:7,8 123:18 124:3 125:18 128:4 131:12 135:11 142:25 143:1 144:5 146:6,14,15 147:17,24 148:18 149:6 150:11</p> <p><b>manager</b> 11:18 32:15 94:14,22 102:13 135:12</p> <p><b>Managers</b> 11:19</p> <p><b>managing</b> 37:2 144:7</p> <p><b>manipulate</b> 102:16</p> <p><b>manner</b> 115:5 156:13</p> <p><b>mantra</b> 19:8</p> <p><b>map</b> 5:3 105:10,14,16 106:12,14 107:5,22,25 108:3,5,9,21 151:19</p> <p><b>mapped</b> 116:25</p> <p><b>mapping</b> 72:5 116:12, 17</p> <p><b>maps</b> 108:13 149:22</p> <p><b>March</b> 4:19 6:4 25:19 26:17 27:2,10 28:3 37:7, 13,22 38:17 39:14 40:20 41:3,20,24 42:2,24 48:5, 11 49:19 52:15 53:21 54:1 55:2 58:3,12,16,18, 22 59:1 61:4 63:17 65:22,24 66:3 70:14 88:12 105:2 108:25 109:17 111:1,4,16 112:10 113:1,12 114:4, 17,21 115:4 116:24 117:3,12,13,22,25 118:16 128:17 147:18 151:12,13,16 154:21</p> <p><b>mark</b> 16:23 18:10 53:24 142:19 150:21</p> <p><b>marked</b> 4:11 5:2 39:12 47:24 48:2 63:13,16 70:10,13 78:7,10 81:5,8</p>	<p>85:6 92:20 94:3 105:13, 24 106:1,4 107:24 142:21 146:20 150:22</p> <p><b>markings</b> 5:4</p> <p><b>marshal</b> 34:17 35:16</p> <p><b>massive</b> 64:7</p> <p><b>master's</b> 10:24</p> <p><b>material</b> 56:17</p> <p><b>mathematician</b> 44:25</p> <p><b>matter</b> 115:22 148:9,21 157:2</p> <p><b>meaning</b> 38:2 49:15 140:9</p> <p><b>means</b> 34:25 60:21 109:3 120:15 129:18</p> <p><b>measures</b> 103:4 139:18 140:16,18 142:4 148:5,11,20,23</p> <p><b>mechanisms</b> 15:6 116:16 125:25</p> <p><b>media</b> 90:7</p> <p><b>medical</b> 34:3</p> <p><b>meet</b> 58:2,7</p> <p><b>meeting</b> 5:7 28:21 35:18 98:24 143:14,17, 22 153:25 154:6</p> <p><b>meetings</b> 26:19 86:3 98:25 99:2 130:21 143:22 153:8</p> <p><b>meets</b> 93:6</p> <p><b>members</b> 43:22</p> <p><b>memorized</b> 85:3</p> <p><b>memory</b> 84:3</p> <p><b>mention</b> 57:11 87:4,19</p> <p><b>mentioned</b> 27:19 39:3 120:25 121:3 127:3 129:13</p> <p><b>message</b> 29:14,21 30:22,23 33:3 46:11 47:15 56:9 57:18 59:9 60:19 64:17,18 81:20 83:9,13 86:10 124:24,25 125:22 133:17 136:24</p>
--	--	---	--



<p><b>messages</b> 30:25 34:10 46:9 59:12 65:5 82:25 83:6 112:2 125:17,20 127:21,22</p> <p><b>messaging</b> 45:7 46:8 60:8 126:6 133:7</p> <p><b>met</b> 26:19 34:4 79:17 85:18 119:19 131:3 132:4</p> <p><b>methodology</b> 71:4</p> <p><b>MEYERS</b> 3:16</p> <p><b>Michelson</b> 4:4 6:12 13:24 19:25 24:20 32:3, 5,8 42:1 43:12,20 44:24 45:1 48:1 49:5,14 51:8, 16,21 52:3 53:1 59:23 61:7 63:15 64:2 66:11,18 68:1,6,13 73:14 74:24 75:3,5 78:9 81:7 82:14 84:25 85:5,12,14 87:1,8, 16,23 88:10,24 89:10 90:8,18 92:14 105:24 106:3 108:4 112:9,25 114:25 115:9 118:4,24 135:6 136:18</p> <p><b>middle</b> 27:24 48:18 151:23</p> <p><b>migration</b> 62:15 141:9, 14</p> <p><b>mile</b> 149:15</p> <p><b>military</b> 10:25 16:7,11 82:18</p> <p><b>Miller</b> 3:17 5:20,21</p> <p><b>million-plus</b> 49:13</p> <p><b>millions</b> 48:21,25 49:10 50:5 51:4,24 137:12,16,20 138:1,4</p> <p><b>mine</b> 85:4 118:23</p> <p><b>minimum</b> 55:3</p> <p><b>minute</b> 90:7 106:23</p> <p><b>minutes</b> 5:7 119:10,11</p> <p><b>mischaracterization</b> <b>s</b> 19:24</p> <p><b>mischaracterizes</b> 84:24 86:24 140:7 146:10</p>	<p><b>miscommunicated</b> 124:15</p> <p><b>mission</b> 18:25 19:3,6,7 73:16 80:2</p> <p><b>misspoke</b> 19:5</p> <p><b>mistake</b> 49:9</p> <p><b>mitigate</b> 20:17 24:18 25:9,22 38:16 73:20,24 74:4 97:18 98:3,18 103:7 111:19 112:13 114:7 116:7</p> <p><b>mitigating</b> 66:23 67:11 74:2 114:22 135:7 138:13,19 139:1,5 140:8 141:7,12</p> <p><b>mitigation</b> 4:18 5:6 19:18 20:1 21:6 22:20 23:6,13,15,17,20,23 24:13 25:24 26:1 27:19 37:21 42:18 49:16 50:1 52:20 62:3 70:14,19 71:11,12,13 72:7,18 73:23 74:3,17 75:8,12 77:5,11,21 78:2 80:24 94:4 95:18 97:9,15 100:23 101:4 102:2,11 103:4,16 114:25 115:2,5, 12,16,24,25 116:4,13,14 135:10 139:3,9,18 140:16,18 142:4 143:8, 21 148:5,11,19,23</p> <p><b>mobile</b> 29:12</p> <p><b>MOBURG</b> 3:21 159:1</p> <p><b>moment</b> 12:16 127:14 134:2</p> <p><b>Monday</b> 40:10</p> <p><b>money</b> 73:23 88:22 116:6</p> <p><b>moneys</b> 74:3</p> <p><b>monitor</b> 109:16</p> <p><b>monitored</b> 91:15</p> <p><b>monitoring</b> 86:11 92:3 110:7 153:2 154:3</p> <p><b>Monterey</b> 11:2,16</p> <p><b>month</b> 25:2 143:9</p> <p><b>months</b> 21:1 39:9 110:16,21,23,24 153:19,</p>	<p>20</p> <p><b>MOORE</b> 3:12</p> <p><b>morning</b> 120:19 121:8 138:20 140:3 141:16,21</p> <p><b>motions</b> 156:21</p> <p><b>Mount</b> 26:11 28:13,14 30:1,11 32:20 34:6 35:20 36:15,19 43:21 45:19 46:16 57:20 59:9 89:12</p> <p><b>move</b> 14:1 48:17 139:16 140:12,13</p> <p><b>moved</b> 129:6</p> <p><b>movement</b> 86:18 90:23 91:15 92:4 109:16, 24,25 110:14</p> <p><b>moving</b> 131:14</p> <p><b>mudslide</b> 4:13,16 64:7 83:10,16,24 136:10 137:10</p> <p><b>mudslides</b> 84:10</p> <p><b>multiple</b> 26:4,16,17,18 28:23 29:5 31:5 32:10,22 46:5 53:14 69:2 99:9</p> <p><b>multiyear</b> 23:18</p> <p><b>Mystateusa</b> 30:15,16</p> <hr/> <p style="text-align: center;"><b>N</b></p> <hr/> <p><b>named</b> 7:3 23:13 156:7</p> <p><b>NASH</b> 3:17</p> <p><b>Nashville</b> 10:1 12:23</p> <p><b>nation</b> 113:16 115:18 124:4</p> <p><b>national</b> 15:18 26:7 54:22 55:15 56:14 59:13 65:13 127:8,9,23 129:2 141:6</p> <p><b>nationally</b> 23:21</p> <p><b>natural</b> 3:10 4:18 5:6 19:18 20:1,16 21:6 22:19 23:5 26:9 54:21 56:15 69:19 70:14,18 72:21 73:2,8 74:10 75:9 77:2, 18 94:4 97:1,5,17,23 98:3,4,18 101:1 108:1</p>	<p>115:17 116:3 127:24 129:1 141:25 143:7,21</p> <p><b>nature</b> 114:2 115:14</p> <p><b>Naval</b> 11:2,16</p> <p><b>Navy</b> 10:14</p> <p><b>needed</b> 9:6 34:18 69:7, 8 83:18 90:2 131:1</p> <p><b>neighborhood</b> 25:2 31:2,4 45:14 46:8 67:7 105:8 140:11</p> <p><b>neighborhoods</b> 45:25 141:15</p> <p><b>Nelson</b> 86:7</p> <p><b>newly</b> 15:15</p> <p><b>news</b> 40:10 49:19 54:1, 5 56:7 59:3</p> <p><b>newspaper</b> 43:5</p> <p><b>NOAA</b> 26:9 54:22 56:14 59:13 65:14 127:8,9,23 129:1</p> <p><b>nod</b> 8:7</p> <p><b>nominally</b> 143:4</p> <p><b>nonprofits</b> 33:9 44:3</p> <p><b>noon</b> 119:6</p> <p><b>north</b> 3:13 106:10 108:16 139:12</p> <p><b>Northeast</b> 6:17</p> <p><b>Northern</b> 28:7 56:19 126:21</p> <p><b>Northwest</b> 11:25</p> <p><b>noted</b> 156:13</p> <p><b>notes</b> 157:2</p> <p><b>notice</b> 47:21 53:21 121:6,14,22 122:3,20,25 124:8,18 132:21 133:2, 24 134:4,21,24 157:3</p> <p><b>notices</b> 45:20 121:15 122:5 125:11 126:6,9 133:9,10,16,22,23 134:3 135:2</p> <p><b>notices--we're</b> 125:10</p> <p><b>notification</b> 29:6,7,9 30:13 31:11 35:23 36:3</p>
---	---	---	--



<p>43:22 45:11 104:8,15 120:21 122:13 123:10,14 128:5,18,23,25 129:9 132:18 134:13</p> <p><b>notifications</b> 26:18,22 29:6 31:1,8,16,22 32:10, 19 33:12,14 45:9 46:6, 15,18 47:5 53:19 120:16 123:24 125:5 127:14,17</p> <p><b>notified</b> 13:4 28:19 87:24 92:7 109:22</p> <p><b>notify</b> 45:13 55:23 133:17,19</p> <p><b>notifying</b> 35:18 60:20</p> <p><b>November</b> 147:2</p> <p><b>now--achieved</b> 125:11</p> <p><b>nowhere.'</b> 40:12</p> <p><b>number</b> 33:7,8 45:23 46:2 48:14</p> <p><b>numbers</b> 30:12 124:11, 16</p> <p><b>numerical</b> 136:15</p> <p><b>numerous</b> 113:25</p> <hr/> <p style="text-align: center;"><b>O</b></p> <hr/> <p><b>oath</b> 6:10 8:13</p> <p><b>oaths</b> 156:4</p> <p><b>Object</b> 13:21 19:22 24:19 49:3 51:7,13,20 52:1,17 66:8,14 67:25 68:4,10 73:10 82:12 84:23 86:23 87:6,14,21 88:6,18 89:3 92:12 111:24 112:23 114:24 115:8 118:1 121:16 122:6,12 123:22 124:10, 19 125:14,24 126:12 130:7 131:4,20 132:2,15 138:10 139:13,21 140:6 141:11 142:6 146:9 148:13,24 149:7 150:8 153:23 154:17</p> <p><b>objection</b> 139:25</p> <p><b>objections</b> 156:12,21</p>	<p><b>objective</b> 21:19 76:8 97:16</p> <p><b>objectives</b> 72:19 97:16 100:13 116:4</p> <p><b>observing</b> 106:19</p> <p><b>obtain</b> 35:12 133:20</p> <p><b>obtained</b> 23:19 38:14</p> <p><b>obtaining</b> 14:21 23:22 89:19</p> <p><b>obvious</b> 116:11</p> <p><b>occasion</b> 7:19</p> <p><b>Occasionally</b> 144:3</p> <p><b>occasions</b> 26:16,23 28:23 30:2 31:5 32:25 63:4 122:1</p> <p><b>occupational</b> 11:20</p> <p><b>occupied</b> 34:23</p> <p><b>occur</b> 29:16 45:12 66:7 90:2 109:25 116:12 --- 124:24</p> <p><b>occurred</b> 20:16 25:4,5 42:14 43:24 48:4 51:11 52:25 60:8 62:7 69:11 73:25 92:9 96:22 110:24 112:6 113:17 115:19 117:14 121:10 439:19 142:4 146:7 153:19</p> <p><b>occurring</b> 24:23 35:20 46:10 56:21 67:8 126:20 154:6</p> <p><b>Oceanographic</b> 26:8</p> <p><b>offer</b> 83:22</p> <p><b>officer</b> 62:21,25</p> <p><b>officers</b> 81:17</p> <p><b>offices</b> 81:15</p> <p><b>official</b> 64:9,14 157:5</p> <p><b>on--were</b> 45:2</p> <p><b>onboard</b> 79:17</p> <p><b>one-way</b> 69:3,5 130:11</p> <p><b>online</b> 11:7,8,10,14 38:10</p> <p><b>operated</b> 20:11</p>	<p><b>operating</b> 144:4</p> <p><b>operation</b> 18:4</p> <p><b>Operations</b> 16:9 17:17 36:25 37:3 55:11 86:4 109:12 113:20</p> <p><b>opinion</b> 42:4</p> <p><b>opportunity</b> 156:9</p> <p><b>opposed</b> 79:21</p> <p><b>order</b> 32:11 97:1 130:1 137:13 141:5</p> <p><b>Oregon</b> 12:11,23,24</p> <p><b>organization</b> 21:16 22:4</p> <p><b>organizational</b> 76:8</p> <p><b>organizations</b> 82:21 124:4</p> <p><b>original</b> 27:15 84:2</p> <p><b>originally</b> 24:5</p> <p><b>Oso</b> 5:9 25:1 37:7 42:16 48:5 55:2 65:24 84:22 105:2 108:25 109:9 110:17 111:5,16 112:10, 19 113:7 114:4,11 116:19 118:17 149:17 150:16 151:2,19 152:11, 14</p> <p><b>outcome</b> 156:16</p> <p><b>outreach</b> 26:5,10 30:25 55:14 98:5,10,17,23 99:10 100:15 117:8,19 118:7 127:3,6,7</p> <p><b>outright</b> 45:24</p> <p><b>outstanding</b> 120:11</p> <p><b>overbroad</b> 139:22</p> <p><b>overlap</b> 8:3</p> <p><b>Owen</b> 86:7 87:16,19</p> <p><b>owners</b> 13:25 15:3</p> <hr/> <p style="text-align: center;"><b>P</b></p> <hr/> <p><b>p.m.</b> 119:13,16 155:3</p> <p><b>Pacific</b> 11:25</p>	<p><b>pages</b> 156:6</p> <p><b>Paine</b> 18:1</p> <p><b>paragraph</b> 39:16,22,25 40:2,4,7 54:8 61:10 63:22 64:3,16 67:4,16 71:7 90:21 91:13 95:16 147:3</p> <p><b>paragraphs</b> 63:21</p> <p><b>parameters</b> 111:10</p> <p><b>pardon</b> 69:4 98:3 106:15</p> <p><b>park</b> 14:11</p> <p><b>part</b> 14:20 19:20 21:15 24:16 25:25 27:4 33:2,23 47:17 49:10 54:16 58:10 73:14,16 79:11 80:22 101:17 104:6 109:24 127:5 129:5 142:9 151:12 152:10 153:18 156:13</p> <p><b>partnership</b> 95:16</p> <p><b>partnerships</b> 96:25</p> <p><b>parts</b> 44:10,14 101:15</p> <p><b>party</b> 157:4</p> <p><b>pass</b> 91:18 131:7</p> <p><b>passed</b> 130:13</p> <p><b>passes</b> 108:19</p> <p><b>passing</b> 22:6</p> <p><b>past</b> 6:25 17:15 22:6 27:10 28:1 79:22,23 147:4</p> <p><b>pathway</b> 79:24</p> <p><b>pathways</b> 33:10</p> <p><b>pay</b> 130:2</p> <p><b>pen</b> 105:19,22</p> <p><b>penalty</b> 158:4</p> <p><b>Pennington</b> 4:21,23 6:3,7,15 40:8,11 43:20 48:1,19 54:8 61:12 64:19 66:23 70:12 78:9 90:16, 18 92:19 94:2 119:19 137:10 140:17 158:17 159:23</p>
--	---	--	---





<p><b>people</b> 13:19 18:4 34:8 44:5,6,8 45:11 47:14 90:3 112:5 119:4 121:19 122:14 123:19,23 124:8, 12,16,23 125:12,21 149:3</p> <p><b>perceived</b> 125:5,22 126:11,25</p> <p><b>percent</b> 73:24 116:3</p> <p><b>percentage</b> 73:24 122:16</p> <p><b>percentages</b> 122:14 124:23</p> <p><b>performance</b> 4:21 78:11,16,25 79:3,6,13</p> <p><b>performed</b> 71:19 83:23 84:22 88:14 92:2 131:17 148:22</p> <p><b>period</b> 16:3,12 18:13 23:8 24:1,14,25 25:13, 18,20 39:3 45:1 72:15 84:13 88:11 93:11 94:9 99:12 103:20 105:2 110:6 122:17 124:13,22 126:1 129:2</p> <p><b>periods</b> 124:12</p> <p><b>perjury</b> 158:4</p> <p><b>persistence</b> 147:9</p> <p><b>person</b> 35:12 81:24 130:15 145:10</p> <p><b>personal</b> 7:22 33:15 135:22</p> <p><b>personally</b> 26:15,21 55:3 89:25</p> <p><b>perspective</b> 40:7 135:21</p> <p><b>phase</b> 71:4 99:24</p> <p><b>Phillips</b> 4:6 74:20 119:2,9,18,20 121:18 122:7,18 123:25 124:14 125:3 126:4,15 130:8 131:8,23 132:9,17 133:12,21 136:8,11 137:24,25 138:12 139:16,23 140:2,12 141:16 142:12,19,23 146:12 148:15 149:2,10 150:10,24 154:1,19,23</p>	<p><b>philosophy</b> 21:18,21</p> <p><b>phone</b> 12:22 29:12 30:11 47:12 112:1,2 123:7,8</p> <p><b>phrase</b> 20:4 29:7,9 32:16 69:22 120:14,15 121:5,6</p> <p><b>physical</b> 36:6</p> <p><b>ping</b> 29:13</p> <p><b>pink</b> 106:9 108:15</p> <p><b>place</b> 6:18 101:22</p> <p><b>placing</b> 101:18</p> <p><b>plaintiffs</b> 119:22</p> <p><b>plan</b> 4:18 5:6 19:18,21 20:1,4,9 21:6 22:20,22 23:2,6,17,23,25 24:2,13, 15 25:24 26:1,2 32:25 44:4 70:14,19,22 71:3 73:15,19 74:9 77:9,11 81:3 92:22,23 93:8,13,20 94:4,8,13,16 95:3,4,12, 18,23 96:1,4 97:11,15 98:14,22 99:5,7,15,19,25 100:1,6,9,10,11,12,19, 21,23 101:13,15,18,20, 21 103:14 104:6,7,23,24 105:3 115:16,20 116:4, 10,13 132:5 143:8,21 144:10</p> <p><b>Plan's</b> 20:1</p> <p><b>Planning</b> 4:14,18 71:10,13 94:4</p> <p><b>plans</b> 80:25 99:9,11,13</p> <p><b>PLLC</b> 3:13</p> <p><b>point</b> 10:8 14:19 15:23 17:2 21:2,11 22:11 33:25 34:8 49:25 50:24 51:14, 17 56:21,23 59:16 60:10 62:13 67:20 70:7 77:11 100:4 101:16,20 109:21 113:18 127:4 133:3 140:25 143:3 151:23 154:10</p> <p><b>pointed</b> 108:1</p> <p><b>points</b> 91:3,9,17,20 99:9</p>	<p><b>policies</b> 17:15 38:24</p> <p><b>policy</b> 157:2</p> <p><b>polygon</b> 30:20</p> <p><b>portion</b> 6:2 75:4 96:4</p> <p><b>Portland</b> 12:23,24</p> <p><b>posed</b> 34:12</p> <p><b>poses</b> 33:4 147:6</p> <p><b>position</b> 9:5,7 12:7,12 13:1 15:11,14,19 16:18 24:7,8,11 119:25 142:5 147:23</p> <p><b>possibly</b> 45:16</p> <p><b>post</b> 49:16 51:10</p> <p><b>postgraduate</b> 11:1,2, 16</p> <p><b>potential</b> 20:17 27:20 28:2 31:6 33:16,19,20 34:12 36:9 39:8 42:18 45:15 51:1 52:21 53:15 60:1 61:4 62:3 66:16 107:25 108:6,10 118:14 123:14 127:12 133:18 137:13 147:10 150:15 152:13 153:1</p> <p><b>potential--</b> 60:15</p> <p><b>potential.'</b> 54:12</p> <p><b>potentially</b> 79:24 88:20 141:14</p> <p><b>power</b> 132:6</p> <p><b>practical</b> 115:22</p> <p><b>practice</b> 92:10,14</p> <p><b>Pre-disaster</b> 23:20</p> <p><b>pre-position</b> 69:1</p> <p><b>precipitation</b> 127:11</p> <p><b>predicting</b> 150:15</p> <p><b>predictor</b> 152:5,14</p> <p><b>Predominantly</b> 108:18</p> <p><b>preparation</b> 94:13 95:11 103:24 156:22</p> <p><b>prepare</b> 20:25 21:19 34:21 46:10 134:23</p>	<p><b>prepared</b> 45:15 72:11 94:8 102:11 105:10 156:22</p> <p><b>preparedness</b> 72:6 80:15 97:17</p> <p><b>preparing</b> 22:5 38:5</p> <p><b>present</b> 58:23</p> <p><b>preservation</b> 73:3</p> <p><b>preserve</b> 74:13</p> <p><b>President</b> 13:14</p> <p><b>presidential</b> 36:9</p> <p><b>press</b> 41:2 42:8,9,11 110:20</p> <p><b>pretty</b> 56:23 65:2 70:22</p> <p><b>prevent</b> 72:21 73:8 74:10,12 137:13 140:19</p> <p><b>preventing</b> 73:2</p> <p><b>previous</b> 13:4 18:9</p> <p><b>previously</b> 38:23 39:12 53:24 85:6 92:19 94:3 105:13</p> <p><b>primarily</b> 86:13 96:17 123:11 127:23</p> <p><b>primary</b> 19:13 20:2,9 23:15 35:17 52:23 76:8</p> <p><b>principle</b> 72:19 96:25</p> <p><b>principles</b> 73:12</p> <p><b>prior</b> 15:16 25:3 26:17 27:2,10 28:3 37:13,22 38:17 40:19 41:20,23 42:2,24 52:15 53:20 55:2 58:3,12,18 59:1 61:4 71:21 88:12 98:13,15 105:2 111:18 112:14 114:6 117:25 128:17 148:4,23 151:2 154:21</p> <p><b>priorities</b> 76:12</p> <p><b>prioritization</b> 76:21 117:21,24</p> <p><b>prioritize</b> 117:15</p> <p><b>prioritizing</b> 118:11</p> <p><b>priority</b> 20:23,24 21:4 76:23 77:1,16 78:5</p>
---	---	---	--



<p><b>private</b> 75:12 77:4,20 98:24 101:4 147:7</p> <p><b>privilege</b> 107:2</p> <p><b>privileged</b> 106:25</p> <p><b>privy</b> 17:7</p> <p><b>proactively</b> 55:7 56:8 124:24</p> <p><b>procedures</b> 17:16 38:24 114:5</p> <p><b>proceed</b> 6:6</p> <p><b>process</b> 15:18 17:18 23:12,17,18,25 28:21 36:11 70:22 73:22 79:19 104:9</p> <p><b>procurement</b> 88:21</p> <p><b>produced</b> 149:23</p> <p><b>production</b> 106:12</p> <p><b>professionals</b> 130:24</p> <p><b>program</b> 30:14 102:13 120:14,18 124:20 135:12</p> <p><b>progress</b> 5:6 143:6 144:2</p> <p><b>project</b> 49:13,14,15 51:2 58:11 88:25 93:4,5, 20 94:14,22 106:22</p> <p><b>projects</b> 89:9</p> <p><b>prominently</b> 101:20</p> <p><b>Prompts</b> 4:13</p> <p><b>prone</b> 28:6,8</p> <p><b>pronounce</b> 18:19</p> <p><b>propane</b> 34:2</p> <p><b>properties</b> 103:9,13,19</p> <p><b>property</b> 15:2 19:9 73:4 74:13 75:12 77:4,20 95:19,24 101:4 123:19 147:7</p> <p><b>proposition</b> 148:16</p> <p><b>Prosecuting</b> 3:7</p> <p><b>protect</b> 20:13 61:12,24 62:18 63:8 74:12 97:1</p> <p><b>protection</b> 19:9 20:2,3, 5,6,8 73:4 80:4</p>	<p><b>proverbial</b> 14:17</p> <p><b>provide</b> 110:13 121:5</p> <p><b>provided</b> 44:3 77:9 133:1 137:14</p> <p><b>providing</b> 120:16</p> <p><b>prudence</b> 153:15</p> <p><b>prudent</b> 154:3</p> <p><b>public</b> 7:10,16,17 19:14 20:2,3,5 26:5,6 30:17 32:23 54:10,18 55:1,14, 23 56:25 57:18 59:4 60:7 62:21,25 86:12 88:15 90:1 93:6 95:5 97:17 98:2,5,9,19,20,22,24 99:1,10 100:15 114:13, 16 117:8,19 118:6 124:21 153:6</p> <p><b>publicize</b> 56:18</p> <p><b>publicized</b> 55:21 56:17</p> <p><b>publicizing</b> 55:4</p> <p><b>published</b> 56:4</p> <p><b>publishing</b> 101:13,17</p> <p><b>Puget</b> 59:16</p> <p><b>pulled</b> 24:25 116:4</p> <p><b>purchased</b> 30:16</p> <p><b>purpose</b> 14:12,14,15 36:12 98:9 109:23</p> <p><b>purposes</b> 14:10 20:9 23:14,22 36:7 73:7 96:18 139:4</p> <p><b>pursuant</b> 156:4,22</p> <p><b>pursue</b> 118:16</p> <p><b>pursued</b> 89:11 103:4</p> <p><b>push</b> 56:12,15</p> <p><b>pushed</b> 55:7 64:17 76:6 136:23</p> <p><b>pushing</b> 56:9 59:9</p> <p><b>put</b> 21:2 45:7 74:7 88:10 101:20 105:21 110:7 113:10 126:2 142:4 151:22</p> <p><b>putting</b> 91:14</p>	<p><b>Q</b></p> <hr/> <p><b>qualifications</b> 156:12</p> <p><b>question</b> 8:5,11 25:8 28:14 39:10 43:7 44:19 45:17 46:14 51:3,18,22 56:24,25 60:24 64:25 65:3 67:19 71:23 77:12, 13 92:13 100:8 105:4 107:3,7,18,21 108:7 110:25 111:21 112:24,25 117:1,20 121:17 122:8 128:14 133:11 134:2,6,7, 9,18 137:21,22,23 139:17 140:14 148:14,19 149:1 151:11 153:5,13</p> <p><b>questions</b> 28:2 39:15, 23 41:2,5 63:20 70:24 86:8 118:25 119:21 123:13 129:6 131:21 135:5 136:19 149:13 152:23 153:3 154:24 155:1 156:20</p> <p><b>quote</b> 41:8 42:5 59:25 62:2 66:22 137:17 138:25</p> <p><b>quoted</b> 40:15 136:19 137:19 138:7</p> <p><b>quotes</b> 65:18</p> <p><b>quoting</b> 136:23</p> <hr/> <p><b>R</b></p> <hr/> <p><b>R-o-s-e</b> 18:24</p> <p><b>radar</b> 21:12</p> <p><b>radio</b> 39:1</p> <p><b>rail</b> 126:21</p> <p><b>Railroad</b> 56:20</p> <p><b>railway</b> 33:10</p> <p><b>rain</b> 59:14 126:24</p> <p><b>rainfall</b> 65:13</p> <p><b>raise</b> 33:15 111:17 112:12,17 149:5</p> <p><b>rarely</b> 45:9 121:9</p> <p><b>rate</b> 122:25</p>	<p><b>Rating</b> 77:24</p> <p><b>RCW</b> 156:4</p> <p><b>reach</b> 118:8</p> <p><b>reached</b> 28:23 132:3 134:14</p> <p><b>react</b> 20:16</p> <p><b>read</b> 39:23 43:6 63:24 107:6,10,17,19 111:21, 23 133:12,14 156:9 158:5</p> <p><b>reading</b> 48:4</p> <p><b>real</b> 116:17</p> <p><b>realize</b> 8:13</p> <p><b>Reardon</b> 79:12</p> <p><b>reason</b> 8:11 133:6 159:6,8</p> <p><b>reasons</b> 121:1</p> <p><b>recall</b> 7:9,15,20 12:25 15:1,4 17:14 18:14 25:2 27:22 28:16 30:3,7,9 32:20,24 33:3 35:8,11,15 36:5 37:12,18 38:15 43:1,10 44:8 45:22 46:5, 15,17 48:10 50:8 53:23 54:6 56:1,7 57:3,13 58:15,19,20 59:2 63:12 65:9,21 68:11,17 71:21, 24 72:1 77:23 78:6 79:3, 9 84:18 85:2,19 87:7,9, 15,22 91:11,22 93:15 98:12 99:17 100:1,3,20 101:19 105:8,9 106:17 109:22 110:2 112:1,15, 18 114:8 118:19 127:20, 24 128:9,20,22 129:4,12 130:9,14,17 132:24 143:17,18 145:9 146:11 147:19 153:3,18,24 154:5,18,19</p> <p><b>receive</b> 10:15 15:4 56:11 83:6</p> <p><b>received</b> 10:19,22,24 11:4,13 12:22 47:14 56:9 69:6 93:23 125:17,20 126:9 127:17 128:5,25 133:8 157:3</p> <p><b>receiving</b> 128:22 129:9</p>
---	---	---	--





<p><b>recent</b> 39:4</p> <p><b>recess</b> 43:17 90:13 107:14 119:14</p> <p><b>recognize</b> 131:9 151:2</p> <p><b>recollection</b> 46:1 54:25 72:9 121:9 129:8 153:12,14,21</p> <p><b>recommend</b> 45:9 144:25 145:18</p> <p><b>recommendation</b> 80:14 86:21 87:5,13,20 93:14,19 116:20,22</p> <p><b>recommendations</b> 45:18 78:22 79:20 80:23 148:3</p> <p><b>recommended</b> 45:20, 24 84:21 88:13 93:3 124:13</p> <p><b>recommending</b> 46:15 87:25</p> <p><b>reconvene</b> 119:5</p> <p><b>record</b> 6:1,14 43:16,19 90:12,15 107:10,13,16, 19 111:23 119:13,16 132:20 133:14 140:3 155:4 156:10</p> <p><b>recorded</b> 6:3</p> <p><b>records</b> 7:10,16,17 46:13</p> <p><b>recovery</b> 72:7 111:9, 12,14</p> <p><b>red</b> 106:9 107:25 108:16,22</p> <p><b>red-tagged</b> 34:20,22</p> <p><b>reduce</b> 95:18,23 96:25 97:5,23 102:15 103:8 112:21 113:2</p> <p><b>reduced</b> 156:7</p> <p><b>reference</b> 29:5 51:5,24 52:10 68:20 93:1 137:5</p> <p><b>referenced</b> 5:13 49:25 100:20</p> <p><b>referred</b> 53:6 94:23</p> <p><b>referring</b> 50:23 51:4,10 52:11,12 53:7 54:19,20</p>	<p>61:18,20,21 62:9,10 80:19 100:11 104:6 105:10,14 106:8 107:4 110:4 137:16,19 139:14 140:17 151:15</p> <p><b>refresh</b> 72:9</p> <p><b>reg-tagged</b> 34:18</p> <p><b>regard</b> 37:24</p> <p><b>region</b> 12:11,17 15:8,12 66:17</p> <p><b>regional</b> 12:10,16 13:2</p> <p><b>relate</b> 63:20</p> <p><b>related</b> 52:24 67:18 115:14</p> <p><b>relates</b> 60:24 69:10 83:9</p> <p><b>relating</b> 36:15 44:15 46:4 81:3 85:8 104:18</p> <p><b>relation</b> 110:19 111:5</p> <p><b>relative</b> 156:15</p> <p><b>release</b> 99:5</p> <p><b>releases</b> 98:25</p> <p><b>releasing</b> 7:17</p> <p><b>relevant</b> 80:25</p> <p><b>remain</b> 73:1</p> <p><b>remained</b> 17:19 97:5, 10 114:13</p> <p><b>remaining</b> 90:7</p> <p><b>remember</b> 19:10 37:23 38:18,19 136:18 141:20</p> <p><b>removal</b> 4:24 81:10</p> <p><b>repeat</b> 8:12 92:13 112:24 133:11</p> <p><b>repeated</b> 23:3</p> <p><b>repeatedly</b> 52:25 55:16 134:15</p> <p><b>rephrase</b> 8:12</p> <p><b>replace</b> 9:21</p> <p><b>report</b> 5:6 16:21,22 143:7 144:1 146:22</p> <p><b>reporter</b> 3:20 6:5,9 8:8 107:10,19 111:23 133:14</p>	<p>156:4 157:10 158:25 159:25</p> <p><b>REPORTERS</b> 159:1</p> <p><b>represent</b> 119:22 147:5 150:24</p> <p><b>representation</b> 72:4, 10</p> <p><b>representative</b> 13:10 14:2,5,8,18 22:12</p> <p><b>representatives</b> 12:6, 10 153:7</p> <p><b>represented</b> 8:17,19</p> <p><b>request</b> 33:5 123:19</p> <p><b>requesting</b> 32:17</p> <p><b>resembles</b> 147:4</p> <p><b>reside</b> 74:14 77:7</p> <p><b>resided</b> 13:11</p> <p><b>residents</b> 29:21 31:23 34:12 47:21 57:16 58:7, 13,24 60:14 61:21,25 62:18 64:4,6 66:19 111:20 112:14 117:4 121:14 122:4,21 126:8 133:7 141:18 142:3</p> <p><b>Resources</b> 3:10 26:9 54:22 56:15 108:1 127:25 129:1</p> <p><b>respect</b> 68:7 96:11 120:12 127:1,4,15 129:13 131:13 132:18,22 133:2,9 134:5,8 135:23 137:15 138:8 148:4 150:15</p> <p><b>respectful</b> 44:7</p> <p><b>respectfully</b> 26:22 32:16 33:3,5 43:22 123:19</p> <p><b>respond</b> 47:11 76:9 124:24</p> <p><b>responded</b> 47:10,15, 22 78:23 91:20 122:15 125:12 135:5,15</p> <p><b>responders</b> 113:23</p> <p><b>responding</b> 41:5</p>	<p><b>responds</b> 91:3</p> <p><b>response</b> 4:21 38:4 39:10 72:6 78:11,22,25 79:25 80:21,22 103:25 109:2,10,11 110:5,9 111:8 113:20,22 122:21, 25 151:13,15 152:11 154:2,9</p> <p><b>responsibilities</b> 9:16</p> <p><b>responsibility</b> 19:24 21:13,15 28:10 35:17 73:19 76:14 88:4 89:6 103:16 131:6 132:8</p> <p><b>responsible</b> 109:1</p> <p><b>responsive</b> 122:5,9</p> <p><b>responsiveness</b> 122:19 135:2</p> <p><b>rest</b> 80:18</p> <p><b>restoration</b> 93:7 146:21</p> <p><b>result</b> 146:17</p> <p><b>resulting</b> 95:19</p> <p><b>results</b> 144:1</p> <p><b>retaining</b> 140:19 141:25</p> <p><b>retention</b> 69:19</p> <p><b>Rethink</b> 4:13</p> <p><b>retract</b> 53:3</p> <p><b>reverse</b> 26:17,21 29:5, 6,7,8,9,11,21 30:12 32:10,11,19,22 33:11,14 35:22 36:2 43:21 45:7 46:6,15 47:5 104:8,15 120:16 121:5,14,22 122:3,13,19,24 123:12 124:17 132:21 133:1,23 134:14,21</p> <p><b>reversed</b> 14:7</p> <p><b>reversing</b> 19:11</p> <p><b>revetment</b> 50:16 106:19,22 139:11 140:4, 22,25</p> <p><b>review</b> 23:1 78:24 83:16 84:9,16 156:10</p>
--	---	---	--



<p><b>reviewed</b> 22:21,23 43:5 70:21 95:3,4 149:14</p> <p><b>reviewing</b> 23:5 46:13 70:18</p> <p><b>right-hand</b> 48:15 103:9</p> <p><b>right-hand--</b> 151:6</p> <p><b>risk</b> 13:18 20:22 21:4 26:5 29:14 33:5,16,19 34:12 35:13 38:1 42:6 53:19,22 56:9,13 57:17, 25 58:14,18,25 59:10,16, 19 60:21,22 62:10,11 64:8,18 65:12 69:16 70:2 71:4 77:5,21 81:3 92:1 96:3 97:17 98:19,20 103:7 104:23,25 105:3,6, 11 111:19,20 112:13,14 118:11 126:25 128:19 129:3,10 134:22 136:2, 24 144:13 145:1,6,15,18, 22 147:6 154:13</p> <p><b>risks</b> 20:21 21:7,11,15, 24 22:1,10,16,18,25 23:8 24:17,18 25:9,10,22,23 26:2 28:11 37:10,16,21, 22 38:16,17,22 55:8 56:16 58:4 62:20 65:16, 23,24 66:6,13,15 70:6 75:13 96:12,16 99:2 100:2,6,9,17,18 101:5 102:16 103:23 113:13,16 114:7,11,18,22 115:6 116:11 117:5,16,21,24 118:8 127:5,12,16 128:6, 23 129:3,5 132:23 133:3, 23 134:5,16 135:13 137:3,6 146:6,16 150:20 154:12,16</p> <p><b>river</b> 26:12 33:23 42:20 46:7,23 47:1 50:21 57:20 92:21 105:5 106:11,16 107:24 108:8,17,20,22, 23 139:10,11,12 140:5, 10,21,23,24 141:2,9 146:21</p> <p><b>roads</b> 146:1</p> <p><b>roasting</b> 12:1</p> <p><b>Robert</b> 15:6</p> <p><b>Rockefeller</b> 3:8</p>	<p><b>role</b> 9:18 82:7,11 83:4 85:23 89:16 91:23 93:10, 16 94:12 106:21 109:8, 20 110:18 111:5,7 132:8 149:8</p> <p><b>roll</b> 151:24</p> <p><b>Rose</b> 18:24</p> <p><b>ROTC</b> 10:14</p> <p><b>roughly</b> 25:19 44:18 45:5</p> <p><b>routinely</b> 154:7</p> <p><b>Rowan</b> 149:20 150:2,7, 13,25 152:4,13,17</p> <p><b>Rowe</b> 5:18</p> <p><b>Rowen</b> 149:11,15 151:12 152:1</p> <p><b>RPR</b> 3:21 157:10 158:24 159:25</p> <p><b>rules</b> 8:2</p> <p><b>run</b> 86:16 88:2 96:22 151:19</p> <p><b>run-out</b> 92:3 118:13,14 152:5,14</p> <hr/> <p style="text-align: center;"><b>S</b></p> <hr/> <p><b>S-a-l-m-o-n</b> 98:9</p> <p><b>S-o-i-n-e</b> 17:1</p> <p><b>S-t-o-l-l</b> 55:5</p> <p><b>safe</b> 39:18 40:1,3,10,18 41:7,17,20 42:2,4,13,24 52:5,15,16 53:3,11 68:16,23 69:15 136:1 142:5</p> <p><b>safe.'</b> 66:25</p> <p><b>safer</b> 142:10</p> <p><b>safety</b> 19:14 20:2,3,5 33:15 34:5 52:23 86:12 88:15 93:7 97:2 123:20 135:17,23</p> <p><b>Salmon</b> 98:8</p> <p><b>sand</b> 69:1,8 133:20</p> <p><b>sandbags</b> 69:2 133:20</p>	<p><b>Santa</b> 28:7 56:19</p> <p><b>sat</b> 10:12</p> <p><b>Sauk</b> 47:1</p> <p><b>save</b> 158:6</p> <p><b>SC</b> 144:19 145:18</p> <p><b>scale</b> 102:21</p> <p><b>scenario</b> 131:9</p> <p><b>scheduled</b> 79:10</p> <p><b>scholarship</b> 10:14</p> <p><b>school</b> 9:24,25 11:2,16</p> <p><b>science</b> 10:22 72:3</p> <p><b>screen</b> 122:14</p> <p><b>seal</b> 157:5</p> <p><b>sealing</b> 156:24</p> <p><b>searching</b> 9:20</p> <p><b>season</b> 20:25 24:23</p> <p><b>SEATON</b> 3:21,25 159:1</p> <p><b>Seattle</b> 3:5,14,18,22 39:13 159:3</p> <p><b>secure</b> 13:25</p> <p><b>Security</b> 11:3,14,17 18:16 21:17</p> <p><b>seeking</b> 36:12 111:9</p> <p><b>segmented</b> 33:2</p> <p><b>selected</b> 15:19</p> <p><b>send</b> 29:20 30:24 53:21 62:16 68:1,5,6 104:4 122:2,13 127:10 133:22</p> <p><b>sending</b> 53:18 81:16</p> <p><b>sense</b> 14:17 123:16</p> <p><b>sentence</b> 138:7</p> <p><b>sentences</b> 79:25</p> <p><b>September</b> 12:9 94:5</p> <p><b>serve</b> 16:11</p> <p><b>service</b> 11:25 26:7 54:23 55:16 56:14 59:6, 13 65:13 127:8,9,23 129:2</p> <p><b>services</b> 33:12 44:3</p>	<p><b>set</b> 23:21 29:17 30:10 47:17 77:2 104:18 109:15 157:5</p> <p><b>setting</b> 17:11 76:22</p> <p><b>severe</b> 83:15 125:16</p> <p><b>shape</b> 109:2</p> <p><b>shaped</b> 30:22</p> <p><b>shared</b> 86:13</p> <p><b>Sharepoint</b> 37:1</p> <p><b>Sheet</b> 158:8 159:5,6</p> <p><b>shelters</b> 126:2</p> <p><b>SHL</b> 147:4</p> <p><b>shook</b> 69:23</p> <p><b>shore</b> 49:1</p> <p><b>shoring</b> 48:21 50:5,14, 23 51:4,25 140:4</p> <p><b>short</b> 101:8 119:7</p> <p><b>short-term</b> 75:23</p> <p><b>show</b> 122:14 146:19</p> <p><b>showed</b> 105:11</p> <p><b>SHOWING</b> 159:6</p> <p><b>shown</b> 95:1 104:22 151:11</p> <p><b>shows</b> 76:12 97:15 106:14</p> <p><b>shutting</b> 56:20</p> <p><b>sic</b> 26:8</p> <p><b>sic]</b> 86:14</p> <p><b>side</b> 42:19 103:9 106:10,16 107:23 108:8, 17,20,23 139:10,12 140:10,18</p> <p><b>sign</b> 156:10 159:6</p> <p><b>signature</b> 78:18 159:6</p> <p><b>signed</b> 115:17</p> <p><b>significance</b> 149:20 150:2,7,13,15 152:4,13, 17</p> <p><b>significant</b> 13:5 23:25 124:11,16 147:6</p>
--	---	---	---



<p><b>similar</b> 44:14 46:9 100:25 112:21</p> <p><b>simply</b> 8:7 126:9 148:21 151:25</p> <p><b>simultaneously</b> 10:14</p> <p><b>sir</b> 6:23 10:7 39:7 47:19 101:25 140:24 147:3 149:11</p> <p><b>siren</b> 104:8,9,11,14,17</p> <p><b>site</b> 26:15 41:12 55:12 83:24 84:17 148:7,11</p> <p><b>sites</b> 26:12 57:20 83:10, 17</p> <p><b>situation</b> 35:6</p> <p><b>Sixth</b> 3:22 159:2</p> <p><b>Skykomish</b> 33:23 46:22</p> <p><b>slide</b> 5:9 27:18,21,25 28:6,25 29:3,4 34:6 35:25 39:3 40:12 41:6 42:18,25 43:21 44:9 48:11 49:2 52:16,21 53:16 54:12 55:13 58:16 60:1,15 61:4 62:4 67:17 69:20 84:20 86:16,17 88:12 90:22 91:14,15 92:3,4 93:4,19 109:17 110:9,11,13 112:14 113:12 116:25 117:23 126:17 129:16 130:12 131:13 139:5,20 141:8, 13 146:17 148:12,20 149:11,15,16 151:5,12 152:1 153:3,17 154:7</p> <p><b>slides</b> 28:1,2,8 56:21 67:3,6,11 86:16 88:2 138:13,19 139:1,15 140:9 141:7</p> <p><b>slides,'</b> 66:23</p> <p><b>sliding</b> 126:20</p> <p><b>slope</b> 102:17</p> <p><b>slopes</b> 102:21,24 103:5</p> <p><b>slow-moving</b> 26:13 28:25 29:3,4 32:9 33:4 126:17 132:4</p>	<p><b>slowly</b> 131:14</p> <p><b>small</b> 12:1 24:24 28:18 64:6 142:11</p> <p><b>smaller</b> 66:23 67:11 137:9 138:13,19 139:1, 14 140:9 141:7</p> <p><b>SNOCOM</b> 123:10</p> <p><b>Snohomish</b> 3:2,7 4:18 5:3,6,9 7:2,7 8:20,22 12:14 15:14 16:14,23 18:13 22:1,10,15,16,19, 25 23:9 24:2 25:22 30:18 35:19 37:16 38:16 40:8 46:21,23,24 48:19 55:1, 8,22 57:19 64:19 70:13 71:8,14,20 74:14 77:25 79:6,14 80:1,16,25 81:18 83:5,21 84:14,17,20 95:16 102:23 112:11 114:18,23 115:15,23 116:18,24 117:3,24 120:12 124:7,8,21 126:21 127:15,19 128:6, 19,24 129:10 135:22 143:7,21 144:19 146:23 153:14</p> <p><b>SNOPAC</b> 123:10,11</p> <p><b>software</b> 30:20 37:1</p> <p><b>Soine</b> 16:23 17:1 18:10</p> <p><b>sort</b> 19:6 21:12 29:1 36:18 37:19 56:24 71:18 72:10 76:11 79:8 96:21 104:4,17 117:23</p> <p><b>sought</b> 12:20 89:9</p> <p><b>Sound</b> 59:16</p> <p><b>sounds</b> 152:9</p> <p><b>south</b> 42:19 84:6 106:16 107:23 108:8,20 139:10 140:10,18</p> <p><b>speak</b> 54:4</p> <p><b>speaking</b> 44:18 121:25 122:24</p> <p><b>spearhead</b> 14:9,21</p> <p><b>specific</b> 21:20 36:8 38:2 39:16 45:14,25 46:18 60:10 65:18 84:5 98:9 100:14 101:14 105:8 112:10 116:17</p>	<p>118:18 120:20 127:19 128:5,17,18 129:6,9,10</p> <p><b>specifically</b> 23:23 24:16 55:19 57:16,19 58:1 59:18 60:22 62:14 73:25 100:19 114:8 118:12 129:12 152:24</p> <p><b>specifics</b> 35:15 100:3</p> <p><b>spending</b> 51:24</p> <p><b>spent</b> 48:21 49:1,13 50:5 51:4</p> <p><b>sponsor</b> 75:9 77:17 101:1</p> <p><b>spring</b> 55:9,10,17,18,20 56:3 59:5 60:8</p> <p><b>squarely</b> 50:25</p> <p><b>SR</b> 116:21</p> <p><b>SS</b> 156:2</p> <p><b>stability</b> 129:22</p> <p><b>stabilization</b> 93:4,5,19</p> <p><b>stabilize</b> 102:21 103:4</p> <p><b>stabilized</b> 102:24</p> <p><b>stabilizing</b> 102:17</p> <p><b>staff</b> 94:25</p> <p><b>Stafford</b> 15:5,6 16:5 36:9</p> <p><b>stages</b> 72:6</p> <p><b>stakeholders</b> 24:1</p> <p><b>standard</b> 19:8</p> <p><b>standards</b> 78:1</p> <p><b>standing</b> 141:18</p> <p><b>standpoint</b> 97:9</p> <p><b>stands</b> 40:7 77:24 147:5</p> <p><b>start</b> 16:14 28:16 33:24 116:23</p> <p><b>started</b> 11:24 16:18 17:2,23 21:25 70:19 117:2,7</p> <p><b>starting</b> 9:23 148:16</p> <p><b>starts</b> 64:4 95:15</p>	<p><b>state</b> 3:10 6:13 12:5,10 13:10 14:2,5,8,11,18 18:16 19:11 22:12 52:4 59:12 64:9,13 65:15 72:2 73:21 80:1 81:21 82:7,25 83:6 86:10 93:5 108:13 109:14 116:1,7,15 124:7 127:18 156:2,4 157:10</p> <p><b>state's</b> 54:21 82:17</p> <p><b>stated</b> 73:3</p> <p><b>statement</b> 19:6 38:13 40:17,19,21 41:11,13,16 42:12,14,21,22 43:4,8,9 48:13,23 49:9,17,19,24 50:5 52:8 53:2,4,9 54:14, 16 60:4,6,12 61:14 62:6, 17,24 63:2,7,11 64:11, 14,22,24 65:1,2,5,6,8,9, 10,16,17,19 67:10,12,13, 24 68:2,14,17,23 73:12 80:8,11,15,18 90:25 91:8,19 147:15</p> <p><b>statements</b> 40:15,16 62:12 70:24 86:9</p> <p><b>states</b> 40:7 48:18 54:8 61:11 64:6,17 136:22 147:2</p> <p><b>statewide</b> 73:25</p> <p><b>stating</b> 128:11,13</p> <p><b>statute</b> 109:13</p> <p><b>statutory</b> 32:14</p> <p><b>steadily</b> 147:8</p> <p><b>Steelhead</b> 29:22 31:2, 3 46:3,8 53:7,11,20 57:12,17,23 58:2,13,17, 24 60:14,25 61:21,25 62:18 66:19 85:9 86:8 93:4,20 104:18,21 105:4 132:22 133:2,8,16 134:5, 22 141:19 145:2,8,20 146:16 147:5 148:4 149:16 154:14,15,20</p> <p><b>steering</b> 5:7 103:17 135:12 143:22,23,25 144:4,7,22,23,25 145:6</p> <p><b>Stenographic</b> 157:2</p> <p><b>stenographically</b> 156:7</p>
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<p><b>step</b> 26:25 35:3</p> <p><b>stepped</b> 119:24</p> <p><b>steps</b> 13:24 17:12 20:17 34:11 112:20 113:2</p> <p><b>Steve</b> 84:20 85:8,20,22 86:7 87:1 90:3 91:2 95:5 153:11</p> <p><b>Stillaguamish</b> 46:7, 22 50:3 92:21 106:10,16 107:24 133:19 134:15 145:2,19 146:21</p> <p><b>Stoll</b> 55:5 56:3 57:8</p> <p><b>stories</b> 56:6,7</p> <p><b>Storms</b> 83:15</p> <p><b>Stormwater</b> 75:18</p> <p><b>strategic</b> 38:4 74:3 98:22 99:4,7,9,15,19,25 100:1,11,12,13,21 135:18</p> <p><b>strategies</b> 73:20 116:5</p> <p><b>strategy</b> 60:7,19 74:1 116:7</p> <p><b>Stratford</b> 9:25</p> <p><b>Street</b> 4:13 17:25 48:3</p> <p><b>strike</b> 139:16 140:13,14 148:1 153:13</p> <p><b>string</b> 4:23</p> <p><b>strongly</b> 80:23</p> <p><b>structure</b> 22:4 76:8</p> <p><b>studied</b> 123:3</p> <p><b>study</b> 34:15 83:18,22 84:22 88:5,14 89:12,19 92:2 96:11,15 130:2,6</p> <p><b>sub-file</b> 36:18</p> <p><b>subject</b> 4:23 134:19</p> <p><b>submitted</b> 80:22 89:13,14</p> <p><b>subscribed</b> 30:24</p> <p><b>subsequent</b> 40:22 68:25</p> <p><b>subsequently</b> 12:6 99:16</p>	<p><b>substantial</b> 56:23</p> <p><b>succinct</b> 73:5</p> <p><b>sued</b> 7:14,15</p> <p><b>sufficient</b> 125:9</p> <p><b>sufficiently</b> 122:2 141:5</p> <p><b>suggest</b> 42:22 43:8 111:17</p> <p><b>suggested</b> 43:4 45:3 84:21 88:13</p> <p><b>suggesting</b> 43:23 92:2</p> <p><b>suggestion</b> 44:7</p> <p><b>suggestions</b> 44:14</p> <p><b>suit</b> 7:2</p> <p><b>Suite</b> 3:4,13,18,22 159:2</p> <p><b>Sultan</b> 46:25 104:13,14</p> <p><b>summary</b> 95:14</p> <p><b>supplies</b> 34:3</p> <p><b>support</b> 75:17 77:17 113:23</p> <p><b>supporting</b> 16:8</p> <p><b>supposed</b> 38:2 75:16</p> <p><b>Surface</b> 75:19,20 76:14,16 77:8,24 95:8 114:13,16</p> <p><b>surrounded</b> 113:22</p> <p><b>survived</b> 58:25</p> <p><b>suspects</b> 46:21</p> <p><b>swear</b> 6:5</p> <p><b>SWM</b> 75:17 77:17</p> <p><b>sworn</b> 6:8 156:18</p> <p><b>SXO</b> 4:23 81:9,13</p> <p><b>system</b> 29:13 30:2,24 34:24 36:3,18 37:9 38:10 47:17,20 72:5 76:22 77:24 103:25 104:3,8,15, 17 110:12 132:19 140:25 141:25</p> <p><b>systems</b> 34:2 104:9 126:3</p>	<p><b>T</b></p> <hr/> <p><b>table</b> 74:23,25 97:15 102:10 151:20</p> <p><b>tag</b> 34:24</p> <p><b>takes</b> 73:23 80:2</p> <p><b>taking</b> 19:11 55:23 156:13</p> <p><b>talk</b> 41:15 104:11 138:18</p> <p><b>talked</b> 32:10 33:12 59:13 70:17 86:11 102:11 126:15 148:19 152:25</p> <p><b>talking</b> 17:18 27:17 62:19 67:3,6,14,15,16,21 76:21 90:20 110:2,3 112:4 124:6 125:10 139:8,18</p> <p><b>talks</b> 71:3 72:18 74:16 76:22 96:1 102:2,15 144:16</p> <p><b>Tamara</b> 18:17</p> <p><b>Tammy</b> 18:17</p> <p><b>targeted</b> 116:5</p> <p><b>targets</b> 91:14</p> <p><b>task</b> 23:15</p> <p><b>Tech</b> 105:10</p> <p><b>technical</b> 88:23 101:22 109:4 114:14 148:25 149:3 150:9,12 152:7,18, 20</p> <p><b>technically</b> 18:8 96:7</p> <p><b>technology</b> 72:3 113:21</p> <p><b>ten</b> 6:20</p> <p><b>tenets</b> 84:11</p> <p><b>Tennessee</b> 10:1</p> <p><b>tenure</b> 147:16</p> <p><b>term</b> 86:11 101:8 109:4</p> <p><b>terminate</b> 8:23</p> <p><b>terminated</b> 8:24 9:1 15:12</p>	<p><b>termination</b> 120:12 153:21</p> <p><b>terms</b> 12:7 15:20 27:1 28:1 32:19 36:14 37:20 50:4 69:16 98:17 103:23 108:13,25 114:10,22 115:23 116:25 118:10,13 129:4 136:2</p> <p><b>testified</b> 6:9 7:21 64:24 65:7 138:3,19 141:16 142:23</p> <p><b>testify</b> 156:18</p> <p><b>testifying</b> 8:14</p> <p><b>testimony</b> 65:4 70:17 120:19 121:8,13 124:18 128:2 132:18,25 137:15 142:16 156:6,20</p> <p><b>Tetra</b> 105:10</p> <p><b>text</b> 30:23</p> <p><b>that--</b> 21:7</p> <p><b>them,'</b> 61:12</p> <p><b>thereof</b> 156:16</p> <p><b>thereto</b> 157:4</p> <p><b>thing</b> 31:11 63:24 88:3 96:22 154:3</p> <p><b>things</b> 35:19 110:3 113:5,25 116:12 136:19 139:8</p> <p><b>thinking</b> 37:15 86:12 136:1</p> <p><b>Thomsen</b> 84:20 85:8, 20,22 86:7 87:2 90:3 91:2,8,16,19 95:6 153:10,11</p> <p><b>thought</b> 75:1 85:12 131:2</p> <p><b>thousand</b> 24:6,12 37:13</p> <p><b>threaten</b> 110:14</p> <p><b>threshold</b> 26:2</p> <p><b>thresholds</b> 78:2</p> <p><b>Timber</b> 12:3</p> <p><b>time</b> 6:4 7:5 9:7 10:9 15:23 16:3,12,24 17:2,</p>
---	--	--	--



<p>17,19 18:14 19:2 20:24 21:3,11 23:3,4,8 24:1,14, 25 25:12,14,18,20 27:13 28:15 37:2 39:3 43:16,19 45:2 50:25 51:22 55:13 57:22 58:21 59:11 60:10, 12,23 62:5 63:16 66:2,17 67:21 70:7 75:22 82:4 84:13 88:9,11 90:12,16 93:11 94:9 99:12 101:16 103:20 105:1 107:13,16 118:25 119:13,16 122:17 124:12,23 125:2,4 129:3, 14 136:8 143:22 147:16 149:21,23 151:11,25 152:10 155:3 156:12,21</p> <p><b>time--that's</b> 45:2</p> <p><b>times</b> 30:4 32:21 39:13 121:3 126:1 133:18</p> <p><b>Timl@calfoharrigan.com</b> 3:5</p> <p><b>TIMOTHY</b> 3:3</p> <p><b>title</b> 156:24</p> <p><b>today</b> 8:18 31:11 37:23 152:4</p> <p><b>toe</b> 102:18</p> <p><b>told</b> 49:12 130:12,23 131:9,13 138:23 142:13</p> <p><b>Toll</b> 4:16 136:9</p> <p><b>tool</b> 96:14 150:20</p> <p><b>top</b> 66:21 91:2,16 151:19</p> <p><b>Topic</b> 75:5,9</p> <p><b>tour</b> 25:1,12 27:4,12,16 40:22 50:12,13,20 58:5,6 138:21 141:17</p> <p><b>tours</b> 24:23</p> <p><b>town</b> 12:3 26:18 64:6</p> <p><b>Tracy</b> 5:19</p> <p><b>trademarked</b> 29:8</p> <p><b>traditional</b> 37:5</p> <p><b>training</b> 15:20,22 37:25 38:6,10 99:2 135:6</p> <p><b>trainings</b> 98:25</p>	<p><b>transcribed</b> 156:10,20</p> <p><b>transcript</b> 156:20,22 157:2</p> <p><b>transition</b> 111:9</p> <p><b>transitioning</b> 111:15</p> <p><b>trees</b> 96:21</p> <p><b>trial</b> 7:21</p> <p><b>tribal</b> 82:21</p> <p><b>tribe</b> 50:1,3 86:14</p> <p><b>trigger</b> 33:8</p> <p><b>true</b> 41:23,25 136:3,4 156:20 158:5</p> <p><b>truth</b> 156:18</p> <p><b>Tulalip</b> 50:1</p> <p><b>turn</b> 70:25 74:15 76:11 94:17 95:14 96:24 97:14 100:22 102:1 123:12 136:5 147:1 148:2</p> <p><b>turned</b> 13:13,15</p> <p><b>tutelage</b> 125:9</p> <p><b>twenty</b> 55:19</p> <p><b>two-way</b> 130:11</p> <p><b>two-week</b> 110:6</p> <p><b>two-year</b> 99:17</p> <p><b>two-year-plus</b> 72:15</p> <p><b>type</b> 30:22 31:11 66:6, 10 88:3,25 91:25 92:5,8, 15 93:17,24 96:22</p> <p><b>typed</b> 156:7</p> <p><b>types</b> 38:5 75:11 77:19 101:2</p> <hr/> <p style="text-align: center;"><b>U</b></p> <hr/> <p><b>Uh-huh</b> 8:9 39:19 40:5 44:22 63:23 86:20 94:19 111:2</p> <p><b>unclear</b> 130:3 133:22</p> <p><b>uncommon</b> 112:7</p> <p><b>underneath</b> 15:5 51:2 76:9 82:18 141:1</p>	<p><b>undersigned</b> 156:3</p> <p><b>understand</b> 7:12 8:10, 11,15 9:13 23:23 24:9 25:11 27:2 36:20 38:13, 23 50:14 58:21 60:24 61:1 64:25 65:7 69:25 70:1 73:6 77:12 81:16 82:6 109:23 124:22 126:16 128:2 131:10 133:22 148:14 150:6,12</p> <p><b>understanding</b> 7:14 16:6 17:5 28:5 29:2 34:24 48:2 59:1 60:18 124:3 125:25 126:5,7 150:14,17,18 152:12</p> <p><b>understood</b> 13:19 35:9 60:19 62:5 120:18 121:8,12 132:13,17,25 137:25</p> <p><b>unforeseen</b> 40:11</p> <p><b>university</b> 10:13,24 11:1,7 71:9,19 72:11</p> <p><b>Unofficial</b> 4:15 136:9</p> <p><b>update</b> 23:16,25 24:15 71:13 72:2 94:4,8 96:1,3 97:15</p> <p><b>updated</b> 100:4</p> <p><b>updates</b> 99:21</p> <p><b>updating</b> 23:22 70:22 99:24 100:6,9</p> <p><b>upper</b> 53:25 86:18 90:23</p> <p><b>usual</b> 46:21</p> <p><b>utilized</b> 31:1 96:18</p> <p><b>utilizing</b> 37:2</p> <hr/> <p style="text-align: center;"><b>V</b></p> <hr/> <p><b>vague</b> 114:24</p> <p><b>valid</b> 91:3,9,17,20 92:11</p> <p><b>validate</b> 38:11</p> <p><b>Valley</b> 46:22,23 134:15</p> <p><b>van</b> 151:16</p> <p><b>Vanderbilt</b> 10:13</p>	<p><b>vans</b> 151:17</p> <p><b>Vaughn</b> 84:20 85:8,17, 18 86:6 91:3,9,16 152:25</p> <p><b>vegetation</b> 69:19 141:25</p> <p><b>verbalize</b> 8:6 67:20</p> <p><b>versa</b> 127:10</p> <p><b>version</b> 23:16 151:21</p> <p><b>vetting</b> 15:18</p> <p><b>vice</b> 127:9</p> <p><b>vicinity</b> 121:20</p> <p><b>view</b> 114:2</p> <p><b>viewed</b> 25:25 124:25</p> <p><b>vigilant</b> 54:10,17</p> <p><b>virtually</b> 36:6</p> <p><b>visible</b> 156:25</p> <p><b>vision</b> 19:3,7</p> <p><b>visit</b> 27:3 40:22 41:12</p> <p><b>visiting</b> 28:22</p> <p><b>visits</b> 27:6</p> <p><b>visual</b> 72:4,10</p> <p><b>voice</b> 30:23</p> <p><b>Volume</b> 4:18 5:19,20, 21 70:14 94:4</p> <p><b>voluminous</b> 101:21</p> <p><b>voluntarily</b> 15:13</p> <p><b>Voss</b> 81:24 82:24</p> <p><b>vulnerability</b> 71:15,18 75:13 77:6,22 97:1 101:5 145:25</p> <hr/> <p style="text-align: center;"><b>W</b></p> <hr/> <p><b>WA</b> 159:3</p> <p><b>waived</b> 156:11</p> <p><b>Walk</b> 11:22</p> <p><b>wall</b> 4:13 48:3 50:15 51:5,12,17,25 69:19 106:19 140:19</p> <p><b>Waltmunson</b> 4:21</p>
--	--	--	---



<p>79:18</p> <p><b>wanted</b> 29:20 93:18 132:14 146:13 148:1</p> <p><b>warn</b> 57:16 103:25 111:19 112:14</p> <p><b>warned</b> 110:1</p> <p><b>warning</b> 30:25 54:10, 17 55:17 101:4 104:9,11, 14,17 110:12,13 117:4 120:23</p> <p><b>warnings</b> 54:25 75:12 77:4,20 104:5</p> <p><b>Washington</b> 3:5,9,10, 14,18,22 4:16 6:18 8:1 12:12 13:3 15:25 16:6 22:13 59:17 64:9,13 71:19 72:11 73:21 81:21 82:7,25 83:6 109:13 116:1,7,15 136:10 156:2, 3,5,22 157:10</p> <p><b>Washington's</b> 71:9</p> <p><b>water</b> 32:2 34:2 75:19, 20 76:14,16 77:8,25 95:8 114:14,16</p> <p><b>WATKINS</b> 3:21 159:1</p> <p><b>ways</b> 97:18 98:2 101:22 102:15</p> <p><b>weather</b> 26:7 54:22 55:15 56:14 59:6,13 65:13 125:16 127:8,9,23 129:2</p> <p><b>website</b> 75:10 77:3,18 101:2,13,14,18,21,23</p> <p><b>websites</b> 76:5</p> <p><b>Wednesday</b> 48:5</p> <p><b>weekly</b> 86:3</p> <p><b>weeks</b> 110:5</p> <p><b>welfare</b> 97:2</p> <p><b>well-produced</b> 108:21</p> <p><b>west</b> 149:15</p> <p><b>westbound</b> 47:1</p> <p><b>Western</b> 59:17</p> <p><b>Westlake</b> 3:13</p>	<p><b>WHEREOF</b> 157:5</p> <p><b>wildfires</b> 38:3</p> <p><b>winter</b> 27:14 125:16</p> <p><b>witnessed</b> 29:3</p> <p><b>wolf</b> 125:6</p> <p><b>Woodland</b> 16:1</p> <p><b>word</b> 14:17 20:4 64:4 127:7 138:5</p> <p><b>words</b> 7:12 14:6 20:15 31:9 79:4 80:6 88:22 141:8</p> <p><b>work</b> 11:21 15:13 50:2 52:22 78:21 89:7 95:5 104:12 120:6,9 129:24 132:10</p> <p><b>worked</b> 82:3 130:18</p> <p><b>workers</b> 110:1,10</p> <p><b>working</b> 17:11 24:12 143:3</p> <p><b>Works</b> 90:1 114:13,16 153:6</p> <p><b>worse</b> 131:15,16</p> <p><b>wrap</b> 134:19</p> <p><b>wrapped</b> 37:20</p> <p><b>writing</b> 31:9 35:2 114:5</p> <p><b>written</b> 57:2,4 75:24</p> <p><b>wrong</b> 43:4,9</p> <hr/> <p style="text-align: center;"><b>X</b></p> <hr/> <p><b>X111</b> 94:17</p> <hr/> <p style="text-align: center;"><b>Y</b></p> <hr/> <p><b>year</b> 10:2,12 18:3 55:18 64:17 91:12 136:23</p> <p><b>years</b> 6:20 7:1,4 10:17, 18 13:4 24:25 25:21 44:20,23,24 72:14 99:18 157:3</p> <p><b>yellow</b> 107:24 108:5,9</p> <p><b>yellow-tagged</b> 34:19, 20,21</p>	<hr/> <p style="text-align: center;"><b>Z</b></p> <hr/> <p><b>Zusha</b> 48:7,11</p>
--	---	---





[U.S. NEWS](#)

# Mudslide Prompts Rethink on Counties' Disaster Planning

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By  
**ZUSHA ELINSON** And  
**JOHN R. EMSHWILLER**

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Search workers wade through water on the edge of the mudslide that occurred near Oso, Wash., Saturday. At least 90 names remain on the list of those considered missing. *Associated Press*

ARLINGTON, Wash.—The ever-present risk of landslides in the hilly northwest corner of this state has been tucked into geological reports and plotted on maps long before last weekend's massive slide destroyed a small rural enclave, leaving at least 25 people dead or presumed dead.

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But officials, planners and the public in Snohomish and surrounding counties, where smaller slides are routine, have focused much of their disaster planning on other hazards, such as flooding. For many, landslides have been seen simply as an inherent element of the landscape.

"Landslides tend to be an underappreciated natural hazard in terms of the harm they can cause," said David Montgomery, a geology professor at the University of Washington.

But as the effort to locate perhaps dozens more missing people in the slide area continued Thursday, the attitude toward such natural disasters has shifted. Geologists in the area say they are getting a surge of calls from worried homeowners. Homebuilding-industry experts say they expect a thorough review of rules on construction near potentially hazardous slide areas. Gov. Jay Inslee has said that once the emergency is over, the state will determine whether warnings about the dangers were missed.

On Thursday, as searchers continued probing the mile-wide slide area in Oso, county officials said they expect the number killed to rise "substantially." At least 90 names remain on the list of those considered missing, and the status of 35 other people isn't yet certain, officials said. One of the bodies most recently found was of a motorist inside a car, whose vehicle was swept 200 feet off State Highway 530 by the force of the slide, according to county officials.

#### **Related**

##### **Washington Mudslide Fatalities Expected to Rise 'Substantially'**

In Washington state, preparation for such events is left up to local governments, which identify the risks and try to prevent accidents through zoning and disaster planning. The infrequency of catastrophic slides means there is less preparation for them than for other natural disasters, said Robert Isaman, planning section chief at the state's Emergency Management Division.

"I think that they're prepared as they can be prepared for something that doesn't happen that frequently," he said. "If you have a hazard you face every year, there is going to be more planning activity associated with that."

Since 1990, as part of its efforts to protect people from flooding, Washington's King County has spent over \$65 million to purchase more than 225 parcels of land covering about 490 acres. Most parcels had homes or mobile homes on them.

While some of the flood-prone properties were also in slide areas, "generally we are not looking at acquisitions for just landslide risk," said Steve Bleifuhs, manager of the county's river and floodplain management program. Flooding, he said, tends to be a much more common problem. Since 1990, King County has been the site of more than a dozen federal flood disaster declarations, he said.

A hazard-mitigation plan for Snohomish County, done in 2010, identified hazardous landslide areas, including where Saturday's slide occurred. But the plan also noted that "there are no records in the County of fatalities attributed" to slides.

The county has seen some notable earth movements before, including a January 1997 slide involving up to 200,000 cubic yards of earth that "passed over the railroad tracks and knocked a freight train into Puget Sound," according to the report. The report didn't mention anything about injuries from the incident.

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In the Steelhead Haven enclave now covered in mud and debris, there was a good deal of preparation to prevent flooding. Permits for building near the shores of the Stillaguamish River show that builders had to take several measures to protect homes from flooding, such as elevating them.

"The county's direction up to now is to deal with river flooding as opposed to geologic hazards," said Pat Stevenson, environmental manager for the Stillaguamish Tribe, which helps manage the river.

"When you look at permits that come in, generally the permits are addressing water hazards, not 'Are you across from a major landslide?' " he said.

Snohomish County officials didn't respond to requests for comment on whether enough emphasis was placed on planning for landslides. In a briefing Wednesday, John Pennington, Snohomish County's emergency management director, said that after a landslide in 2006, the county spent millions shoring up the area, including reinforcing the channel of the Stillaguamish River to keep it in its banks.

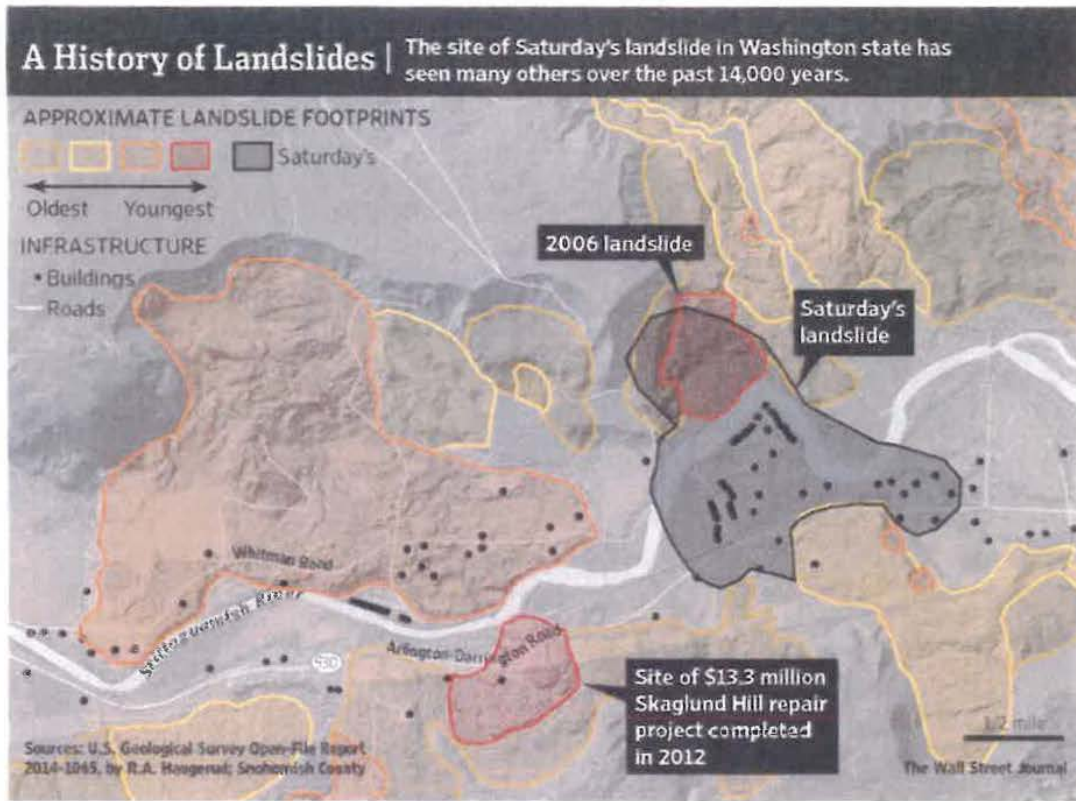
"We did everything we could in the community to make them feel safe," said Mr. Pennington. "Sometimes big events just happen."

The slide will likely spur the county to review its rules for building near hazards, said Mike Pattison, of the Master Builders Association of King and Snohomish Counties. "I suspect there will be a whole new round of identifying dangerous areas," he said.

Mark Watkinson, director of nearby Skagit County's emergency management department, said, "Everyone is going to be digging through and trying to find" any overlooked reports that "might have been done 5 or 10 or 30 years ago" on landslide risks in their area.

"We are talking about how we are going to revisit and take another look to see if there is something more we can do to protect life," he said.

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--Jim Carlton contributed to this article.

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U.S. DISASTERS

## Unofficial Death Toll Hits 24 in Washington Mudslide

Laura Stampler @LauraStampler Sam Frizell @Sam\_Frizell March 25, 2014

The rescue effort continues for survivors of a devastating mudslide that occurred over the weekend in Snohomish County, Wash., a "high risk" area for this kind of disaster, and officials believe at least 24 people died

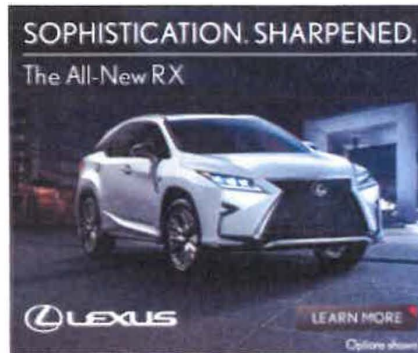
Updated: March 26, 2014, 9:40 p.m. E.T.

Rescue teams expanded their search in Snohomish County, Wash., on Tuesday in a desperate attempt to find survivors of the catastrophic mudslide that left an estimated 24 dead amid ruined houses and countryside.

The Washington Army National Guard and Federal Emergency Management Agency joined local officials in the search on Tuesday, using specially trained dogs and sonar technology to scour the vast affected area, [reports](#) the *Seattle Times*. Two more bodies were discovered on Tuesday, bringing the official death toll to 16, while an additional eight were located but not recovered.

Residents of the small town devastated by a massive mudslide knew there was a "high risk" of this kind of disaster in the area, according to a Washington State official.

"This entire year we have pushed message after message that there's a high risk of landslides," said John Pennington, director of Snohomish County emergency management. "The dangers and the risks are known." A smaller mudslide hit the area in 2006, and Pennington said adjustments had since been made



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after the event, including millions of dollars in land development in order to prevent a potential disaster.

“We did a great job of mitigating the effect of smaller slides,” Pennington said. “It haunts me because we did everything we could have done, and the community did feel safe.”

That marks a change of stance from [Monday](#), when Pennington stated, “This was a completely unforeseen slide. This came out of nowhere.” The *Seattle Times* reported late on Monday that a U.S. Army Corps of Engineers report had warned as long ago as 1999 of the “potential for a large catastrophic failure” on the hill that collapsed at the weekend.

Over 90 people are still reported missing after the devastating mudslide, which took place over the weekend after a long period of heavy rain. A smaller mudslide hit the area in 2006, although Pennington said adjustments had since been made.

Rescue workers are still [scouring through the wreckage, 55 miles \(89 km\) northeast of Seattle, to find survivors](#). Firefighters have reported difficulties with the terrain that are slowing the process. “It’s like quicksand out there,” local fire chief Travis Hots said. “Some of my guys could only go 50 ft. in five minutes.”

Pennington says he believes in miracles and is reserving hope. [President Obama asked Americans](#) to send prayers Washington’s way.

[[USA Today](#)]



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## HOPE AND FEAR AFTER DEADLY MUDSLIDE



Joshua Trujillo—seattletpi.com/AP

Volunteer Ralph Jones, left, and Tim Perciful of the Mountainview, Black Diamond Fire Department, help keep Klarissa Calviste and her daughter Kielie Braaten, left, and Brooke Odenius and her daughter Bexli dry as they observe a state-wide moment of silence for victims of the Oso mudslide at the Darrington Fire Dept., March 29, 2014.

1 of 18





# Snohomish County Natural Hazards Mitigation Plan

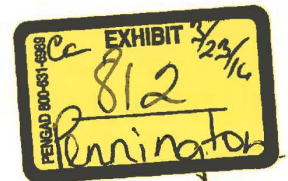
## Volume 1— Planning Area-Wide Elements

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SNOHOMISH COUNTY  
NATURAL HAZARDS MITIGATION PLAN  
VOLUME 1—PLANNING AREA-WIDE ELEMENTS  
FINAL

MARCH 2005

*Prepared for:*  
Snohomish County  
Surface Water Management  
2731 Wetmore Avenue, Suite 300  
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*Prepared by:*



**TETRA TECH/KCM**

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**Snohomish County  
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TABLE OF CONTENTS**

<i>Title</i>	<i>Page No.</i>
<b>EXECUTIVE SUMMARY</b>	
<b>Executive Summary.....</b>	<b>ES-1</b>
Introduction.....	ES-1
Plan Purpose.....	ES-1
The Coalition.....	ES-1
Plan Development Methodology.....	ES-2
Phase 1—Organize Resources.....	ES-2
Phase 2—Assess the Risk.....	ES-2
Phase 3—Develop the Mitigation Plan.....	ES-3
Phase 4—Implement, Evaluate and Revise the Plan .....	ES-3
Mitigation Guiding Principle, Goals and Objectives.....	ES-3
Mitigation Initiatives.....	ES-4
Conclusion.....	ES-6
<b>PART 1—BACKGROUND INFORMATION</b>	
<b>Background Information.....</b>	<b>1</b>
Acknowledgments.....	1
Project Manager.....	1
Department of Public Works.....	1
Surface Water Management Division.....	1
Snohomish County Department of Emergency Management.....	1
Contributing Staff.....	1
Special Acknowledgments.....	1
How to Use This Plan.....	3
Definition of Terms and Acronyms.....	3
<b>PART 2—THE PLANNING PROCESS</b>	
<b>Chapter 1. Introduction to the Planning Process.....</b>	<b>1-1</b>
1.1 Why prepare this plan?.....	1-1
1.1.1 The Big Picture.....	1-1
1.1.2 Local Concerns.....	1-1
1.2 Why Prepare a Multi-Jurisdictional Plan?.....	1-2
<b>Chapter 2. Planning Partners and Planning Area.....</b>	<b>2-1</b>
2.1 City/County Planning Partners.....	2-1
2.2 Special Purpose District Partners .....	2-1

<b>Chapter 3. Plan Development Methodology.....</b>	<b>3-1</b>
3.1 Planning Resource Organization.....	3-1
3.2 The Steering Committee.....	3-1
3.3 Coordination with Other Agencies.....	3-3
3.4 Plan Development Chronology/Milestones.....	3-3
<b>Chapter 4. Public Involvement Strategy.....</b>	<b>4-1</b>
4.1 Strategy.....	4-1
4.1.1 Steering Committee .....	4-1
4.1.2 Questionnaire.....	4-1
4.1.3 Multimedia Approach.....	4-1
4.1.4 Stakeholders.....	4-4
4.2 The Results of Public Involvement .....	4-5
4.2.1 Getting the Word Out.....	4-5
4.2.2 Public Meetings .....	4-5
4.2.2 Natural Hazards Preparedness Questionnaire.....	4-5
<b>Chapter 5. Guiding Principle, Goals and Objectives.....</b>	<b>5-1</b>
5.1 Background .....	5-1
5.2 Guiding Principle .....	5-1
5.3 Goals.....	5-1
5.4 Objectives.....	5-2
<b>Chapter 6. Plan Adoption.....</b>	<b>6-1</b>
<b>Chapter 7. Plan Maintenance.....</b>	<b>7-1</b>
7.1 SCNHMP Steering Committee.....	7-1
7.2 SCNHMP Annual Progress Report.....	7-1
7.3 SCNHMP Update.....	7-1
7.4 Continuing Public Involvement.....	7-2
7.5 Incorporation into Other Planning Mechanisms.....	7-2
<b>PART 3—RISK ASSESSMENT</b>	
<b>Chapter 8. Introduction to Risk Assessment.....</b>	<b>8-1</b>
<b>Chapter 9. Snohomish County Profile.....</b>	<b>9-1</b>
9.1 Historical Overview .....	9-1
9.1.1 Native Americans.....	9-1
9.1.2 Early European-American Settlements.....	9-1
9.1.3 Industrial Growth.....	9-1
9.1.4 Population and Economic Expansion .....	9-1
9.2 Geographical setting.....	9-1
9.2.1 Lakes, Rivers and Streams.....	9-2
9.2.2 Mountains and Volcanoes.....	9-5
9.2.3 Soils and Geology.....	9-5
9.2.4 Climate.....	9-6
9.3 Demographics.....	9-6
9.3.1 Why Consider Demographics in Hazard Mitigation Plans?.....	9-6
9.3.2 Snohomish County Population Characteristics.....	9-6



---

9.3.3 Income.....	9-7
9.3.4 Age Distribution.....	9-7
9.3.5 Race, Ethnicity and Language .....	9-8
9.3.6 Disabled Populations.....	9-9
9.4 Economy.....	9-10
9.4.1 Development Trends.....	9-10
9.4.2 Industry.....	9-11
9.4.3 Occupation.....	9-11
9.5 Laws and Ordinances .....	9-12
9.5.1 Federal.....	9-12
9.5.2 State.....	9-13
9.5.3 County.....	9-13
<b>Chapter 10. Risk Assessment Methodology and General Concepts.....</b>	<b>10-1</b>
10.1 Methodology .....	10-1
10.2 Presidential-Declared Disasters.....	10-2
10.3 Critical Facilities .....	10-3
10.4 Future Trends in Development.....	10-4
<b>Chapter 11. Avalanche.....</b>	<b>11-1</b>
11.1 Avalanche Defined.....	11-1
11.2 General Background.....	11-1
11.3 Hazard Profile.....	11-1
11.3.1 Past Events.....	11-1
11.3.2 Location.....	11-2
11.3.3 Frequency.....	11-2
11.3.4 Severity.....	11-3
11.3.5 Warning Time.....	11-3
11.4 Exposure.....	11-3
11.4.1 Population.....	11-4
11.4.2 Property.....	11-4
11.4.3 Environment.....	11-4
11.5 Vulnerability.....	11-4
11.6 Future Trends in Development.....	11-5
11.7 Scenario.....	11-5
11.8 Issues.....	11-5
<b>Chapter 12. Dam Failure.....</b>	<b>12-1</b>
12.1 Dam Failure Defined.....	12-1
12.2 General Background.....	12-1
12.3 Hazard Profile.....	12-2
12.3.1 Past Events.....	12-2
12.3.2 Location.....	12-2
12.3.3 Frequency.....	12-2
12.3.4 Severity.....	12-3
12.3.5 Warning Time.....	12-3
12.4 Secondary Hazards.....	12-3
12.5 Exposure.....	12-3
12.5.1 Population.....	12-3
12.5.2 Property.....	12-3
12.5.3 Environment.....	12-3

---

12.6 Vulnerability.....	12-4
12.7 Future Trends in Development.....	12-4
12.8 Scenario.....	12-4
12.9 Issues.....	12-7
<b>Chapter 13. Earthquake.....</b>	<b>13-1</b>
13.1 Earthquake Defined.....	13-1
13.2 General Background.....	13-1
13.3 Hazard Profile.....	13-3
13.3.1 Past Events.....	13-3
13.3.2 Location.....	13-5
13.3.3 Frequency.....	13-11
13.3.4 Severity.....	13-12
13.3.5 Warning Time.....	13-12
13.4 Secondary Hazards.....	13-12
13.5 Exposure.....	13-12
13.5.1 Population.....	13-13
13.5.2 Property.....	13-13
13.5.3 Hazardous Materials .....	13-20
13.5.4 Infrastructure.....	13-20
13.5.5 Environment.....	13-21
13.5.6 Predicting Ground Motion.....	13-21
13.6 Vulnerability.....	13-21
13.6.1 Population.....	13-21
13.6.2 Property.....	13-22
13.7 Future Trends in Development.....	13-26
13.8 Scenario.....	13-28
13.9 Issues.....	13-28
<b>Chapter 14. Flood.....</b>	<b>14-1</b>
14.1 Flood Defined.....	14-1
14.2 General Background.....	14-1
14.3 Hazard Profile.....	14-1
14.3.1 Past Events.....	14-1
14.3.2 Types of Flooding.....	14-15
14.3.3 Frequency.....	14-16
14.3.4 Severity.....	14-16
14.3.5 Warning Time.....	14-17
14.3.6 Secondary Hazards.....	14-17
14.4 Exposure.....	14-17
14.4.1 Population.....	14-17
14.4.2 Property.....	14-18
14.4.3 Critical Facilities and Infrastructure .....	14-24
14.5 Vulnerability.....	14-29
14.5.1 Population.....	14-29
14.5.2 Property/Infrastructure and the Environment.....	14-30
14.6 Future Trends .....	14-37
14.6.1 Future Trends in Development in 100-Year Floodplain.....	14-37
14.6.2 Future Trends in Development in Floodway .....	14-37
14.7 Scenario.....	14-38
14.8 Issues.....	14-38

---

<b>Chapter 15. Landslides and Other Mass Movements.....</b>	<b>15-1</b>
15.1 Landslide and Mass Movement Defined.....	15-1
15.2 General Background.....	15-1
15.3 Hazard Profile.....	15-3
15.3.1 Past Events.....	15-3
15.3.2 Location.....	15-4
15.3.3 Frequency.....	15-4
15.3.4 Severity.....	15-4
15.3.5 Warning Time.....	15-7
15.4 Secondary Hazards.....	15-7
15.5 Exposure.....	15-7
15.5.1 Population.....	15-7
15.5.2 Property.....	15-7
15.5.3 Critical Facilities.....	15-11
15.5.4 Infrastructure.....	15-12
15.5.5 Environment.....	15-13
15.6 Vulnerability.....	15-13
15.6.1 Population.....	15-13
15.6.2 Property.....	15-13
15.7 Future Trends in Development.....	15-14
15.8 Scenario.....	15-14
15.9 Issues.....	15-15
<b>Chapter 16. Severe Weather.....</b>	<b>16-1</b>
16.1 Severe Weather Defined.....	16-1
16.2 General Background.....	16-1
16.3 Hazard Profile.....	16-3
16.3.1 Past Events.....	16-3
16.3.2 Location.....	16-5
16.3.3 Frequency.....	16-5
16.3.4 Severity.....	16-6
16.3.5 Warning Time.....	16-7
16.4 Secondary Hazards.....	16-7
16.5 Exposure.....	16-7
16.5.1 Population.....	16-7
16.5.2 Property.....	16-7
16.5.3 Critical Facilities and Infrastructure.....	16-7
16.5.4 Environment.....	16-7
16.6 Vulnerability.....	16-8
16.6.1 Population.....	16-10
16.6.2 Property.....	16-11
16.6.3 Critical Facilities and Infrastructure.....	16-11
16.6.4 Environment.....	16-12
16.7 Future Trends in Development.....	16-12
16.8 Scenario.....	16-12
16.9 Issues.....	16-12
<b>Chapter 17. Tsunami/Seiche.....</b>	<b>17-1</b>
17.1 Tsunami and Seiche Defined.....	17-1
17.2 General Background.....	17-1
17.3 Hazard Profile.....	17-1

---

17.3.1 Past Events..... 17-1  
17.3.2 Location..... 17-2  
17.3.3 Frequency..... 17-5  
17.3.4 Severity..... 17-5  
17.3.5 Warning Time..... 17-5  
17.4 Secondary Hazards..... 17-5  
17.5 Exposure..... 17-6  
17.5.1 Population..... 17-6  
17.5.2 Property..... 17-7  
17.5.3 Critical Facilities/Infrastructure..... 17-7  
17.5.4 Environment..... 17-7  
17.6 Vulnerability..... 17-7  
17.6.1 Population..... 17-7  
17.6.2 Property..... 17-7  
17.6.3 Critical Facilities/Infrastructure..... 17-8  
17.6.4 Environment..... 17-8  
17.7 Future Trends in Development..... 17-8  
17.8 Scenario..... 17-8  
17.9 Issues..... 17-8

**Chapter 18. Volcano.....18-1**  
18.1 Volcano Defined..... 18-1  
18.2 General Background..... 18-1  
18.3 Hazard Profile..... 18-1  
18.3.1 Past Events..... 18-1  
18.3.2 Location..... 18-2  
18.3.3 Frequency..... 18-3  
18.3.4 Severity..... 18-4  
18.3.5 Warning Time..... 18-4  
18.4 Secondary Hazards..... 18-4  
18.5 Exposure..... 18-4  
18.5.1 Population..... 18-4  
18.5.2 Property..... 18-4  
18.5.3 Critical Facilities/Infrastructure..... 18-7  
18.5.4 Environment..... 18-8  
18.6 Vulnerability..... 18-8  
18.6.1 Population..... 18-8  
18.6.2 Property..... 18-8  
18.6.3 Critical Facilities/Infrastructure..... 18-8  
18.6.4 Environment..... 18-9  
18.7 Future Trends in Development..... 18-9  
18.8 Scenario..... 18-9  
18.9 Issues..... 18-9

**Chapter 19. Wildland Fire.....19-1**  
19.1 Wildland Fire Defined..... 19-1  
19.2 General Background..... 19-1  
19.3 Hazard Profile..... 19-3  
19.3.1 Past Events..... 19-3  
19.3.2 Location..... 19-3  
19.3.3 Frequency..... 19-3

---

19.3.4 Severity.....	19-3
19.3.5 Warning Time.....	19-3
19.4 Secondary Hazards.....	19-4
19.5 Exposure.....	19-7
19.5.1 Population.....	19-7
19.5.2 Property (Public/Private).....	19-7
19.5.3 Critical Facilities.....	19-7
19.5.4 Tier II Facilities.....	19-7
19.5.5 Infrastructure.....	19-7
19.5.6 Environment.....	19-8
19.6 Vulnerability.....	19-8
19.6.1 Population.....	19-8
19.6.2 Property.....	19-9
19.6.3 Critical Facilities.....	19-10
19.6.4 Infrastructure.....	19-10
19.7 Future Trends in Development.....	19-10
19.8 Scenario.....	19-11
19.9 Issues.....	19-12
<b>Chapter 20. Planning Area Risk Ranking.....</b>	<b>20-1</b>
20.1 Hazard Risk Rating .....	20-1
20.2 Probability of Occurrence.....	20-1
20.3 Impact.....	20-2
20.4 Risk Ranking.....	20-2
 <b>PART 4—MITIGATION STRATEGY</b>	
<b>Chapter 21. Mitigation Alternatives .....</b>	<b>21-1</b>
21.1 Initial Review of Mitigation Alternatives.....	21-1
21.2 The Mitigation Catalog.....	21-1
21.3 Selected Countywide Mitigation Initiatives.....	21-1
<b>References.....</b>	<b>R - 1</b>

**APPENDICES**

- A. Acronyms and Definitions
- B. Questionnaire Results
- C. Public Meeting, Steering Committee Meeting, Planning Partner Meeting Documentation
- D. Basin Plans
- E. Mitigation Catalog
- F. Resolutions



Snohomish County Natural Hazards Mitigation Plan  
Volume 1—Planning Area-Wide Elements

## **EXECUTIVE SUMMARY**

## EXECUTIVE SUMMARY

### INTRODUCTION

The Disaster Mitigation Act (DMA; Public Law 106-390) is the latest federal legislation enacted to encourage and promote proactive, pre-disaster planning as a condition of receiving financial assistance under the Robert T. Stafford Act. The DMA emphasizes planning for disasters before they occur. It established a pre-disaster hazard mitigation program and new requirements for the national post-disaster hazard mitigation grant program (HMGP).

The DMA encourages state and local authorities to work together on pre-disaster planning, and it promotes sustainability as a strategy for disaster resistance. “*Sustainable hazard mitigation*” includes the sound management of natural resources, local economic and social resiliency, and the recognition that hazards and mitigation must be understood in the largest possible social and economic context. The enhanced planning network called for by the DMA helps local governments articulate accurate needs for mitigation, resulting in faster allocation of funding and more cost-effective risk reduction projects.

A coalition partnership made up of Snohomish County, 12 cities and 30 special purpose districts worked together to create this Snohomish County Natural Hazard Mitigation Plan (SCNHMP) to fulfill the DMA requirements for all participating partners. This effort was funded by a Pre-Disaster Mitigation Program (PDM) planning grant from the Washington State Emergency Management Division.

### PLAN PURPOSE

The SCNHMP serves the following purposes:

- To achieve DMA eligibility for Snohomish County and all Coalition Partners.
- To be the mitigation element of the Snohomish County Hazard Identification and Vulnerability Analysis.
- To serve as a coordinating document for existing flood hazard reduction plans.
- To provide Community Rating System (CRS) eligibility for Snohomish County and other CRS participating communities within the planning area.

### THE COALITION

A coalition of local jurisdictions participating in preparation of the SCNHMP, including the cities and special purpose districts listed in Table ES-1 and ES-2. The Snohomish County Department of Emergency Management, of which all participating cities and the County are members, also participated as a coalition partner.

Arlington	Index	Monroe	Stanwood
Darrington	Lake Stevens	Mukilteo	Sultan
Gold Bar	Marysville	Snohomish	Snohomish County
Granite Falls			

**TABLE ES-2.  
SPECIAL PURPOSE DISTRICT PARTNERS**

Snohomish Co. Fire District #1	Alderwood Water/Wastewater District
Snohomish Co. Fire District #3	Cross Valley Water District
Snohomish Co. Fire District #4	Highland Water District
Snohomish Co. Fire District #5	Mukilteo Water District
Snohomish Co. Fire District #7	Silver Lake Water District
Snohomish Co. Fire District #14	Darrington School District
Snohomish Co. Fire District #17	Monroe School District # 103
Snohomish Co. Fire District #18	Northshore Parks and Recreation District
Snohomish Co. Fire District #19	Sultan School District #311
Snohomish Co. Fire District #21	Olympus Terrace Sewer District
Snohomish Co. Fire District #24	Snohomish County Dike District #2
Snohomish Co. Fire District #25	Marshland Flood Control District
Snohomish Co. Fire District #26	Stillaguamish Flood Control District
Snohomish Co. Fire District #27	French Slough Flood Control District
Snohomish Co. Fire District #28	Snohomish County Health District

**PLAN DEVELOPMENT METHODOLOGY**

The development of the SCNHMP was carried out over four principle phases:

- Phase 1—Organize resources and involve the public
- Phase 2—Assess the risk
- Phase 3—Develop the mitigation plan
- Phase 4—Implement, evaluate and revise the plan.

**Phase 1—Organize Resources**

Under this phase, the Coalition Partnership was formed and a 13-member steering committee was assembled to oversee the development of the plan, consisting of Coalition Partners and other stakeholders in the planning area. An application for a Pre-Disaster Mitigation Program planning grant to fund the countywide effort was submitted. This grant was awarded and was sufficient to fund the entire effort for all planning partners (excluding the required cost sharing portion). A multimedia public involvement strategy, centered on a hazard preparedness questionnaire, was also implemented under this phase. This strategy proved to be highly effective in gauging the public’s perception of risk and vulnerability to natural hazards and their support of mitigation alternatives.

**Phase 2—Assess the Risk**

This phase involved coordination with another emergency management project being undertaken within the County. The Snohomish County Department of Emergency Management had contracted with the University of Washington’s Institute for Hazard Mitigation and Planning to update the Snohomish County Hazard Identification and Vulnerability Analysis (HIVA). This update would use the best available science and technology to create a visual representation of hazards in the form of geographic information



system (GIS) mapping to be used in all stages of emergency management (preparedness, response, recovery and mitigation). Phase 2 occurred simultaneously with Phase 1, with the two efforts using information generated by one another to create the best possible regionally applicable risk assessment. Using information garnered from the public involvement strategy and the Coalition Partnership, a catalog of mitigation alternatives was created. This catalog would be a key tool to be used under Phase 3.

### **Phase 3—Develop the Mitigation Plan**

Under this phase, the Steering Committee assembled the key information from Phases 1 and 2 into a planning document to meet the requirements of the DMA and CRS programs. The first task was to develop a guiding principle for this plan and a set of goals and objectives. Once these planning elements were established, templates were made with instructions for their completion to guide each Coalition Partner in the development of their jurisdiction-specific annexes to the SCNHMP. Each partner was required to do the following:

- Rank the relative risk according to the exposure to their jurisdiction.
- Identify their capabilities.
- Identify mitigation initiatives using the mitigation catalog.
- Prioritize these initiatives, emphasizing benefits vs. costs when appropriate.

The SCNHMP would be produced in two volumes: Volume 1 including all information that applies to the entire planning area; and Volume 2 including the jurisdiction-specific information.

### **Phase 4—Implement, Evaluate and Revise the Plan**

Once the SCNHMP was assembled under Phase 3, the Steering Committee developed a plan-maintenance strategy for incorporation into the plan itself. This strategy centers on keeping the Steering Committee intact to review the progress of the SCNHMP annually. It was decided that this body will remain at 13 volunteer seats and will adhere to the ground rules established at its inception. The Steering Committee will meet annually at a time to be determined. This body will also oversee the plan's update, to be initiated within five years from adoption and be completed no later than eight years from adoption. Guidelines for incorporating the information and strategies in the SCNHMP into other planning mechanisms within the planning area were also established. The final element of this phase was to present the draft plan to the public for comment and for each Coalition Partner to adopt the plan once pre-adoption approval has been given by Washington's Emergency Management Division and the Federal Emergency Management Agency (FEMA).

## **MITIGATION GUIDING PRINCIPLE, GOALS AND OBJECTIVES**

The following guided the Steering Committee and the Coalition Partnership in selecting the initiatives contained in this plan:

- **Guiding Principle**—Through partnerships, reduce the vulnerability to natural hazards in order to protect the health, safety, welfare and economy of the community.
- **Goals**
  - G-1—Prevent natural hazard-related injury and loss of life.
  - G-2—Reduce property damage.
  - G-3—Promote a sustainable economy.

- G-4—Maintain, enhance and restore the natural environment’s capacity to absorb and reduce the impacts of natural hazard events.
- G-5—Increase public awareness and readiness for disasters
- **Objectives**
  - O-1—Eliminate or minimize disruption of local government operations caused by natural hazards.
  - O-2—Increase resilience of infrastructure.
  - O-3—Consider the impacts of natural hazards on future land uses in Snohomish County.
  - O-4—Reduce natural hazard-related risks and vulnerability to potentially isolated populations in Snohomish County.
  - O-5—Sustain reliable local emergency operations and facilities during and after a disaster.
  - O-6—Seek projects that minimize or mitigate their impact on the environment.
  - O-7—Consider open space land uses within identified high-hazard risk zones.
  - O-8—Improve systems that provide warning and emergency communications.
  - O-9—Enhance understanding of natural hazards and the risk they pose.
  - O-10—Educate the public on the risk from and preparedness for natural hazards and ways to mitigate their impacts.
  - O-11—Seek mitigation projects that provide the highest degree of natural hazard protection at the least cost.
  - O-12—Minimize the impacts of natural hazards on current and future land uses by providing incentives for hazard mitigation.
  - O-13—Support agricultural preservation within the context of floodplain management.
  - O-14—Retrofit, purchase, or relocate structures in high hazard areas, including those known to be repetitively damaged.

## **MITIGATION INITIATIVES**

The mitigation initiatives are the key element of the SCNHP. It is through the implementation of these initiatives that the Coalition Partnership can strive to become disaster-resistant through sustainable hazard mitigation. For the purposes of this document, mitigation initiatives are defined as activities designed to reduce or eliminate losses resulting from natural hazards.

Although one of the driving influences for preparing this plan was grant funding eligibility, this is not just a “how to get money from FEMA” plan. It was very important to the Coalition Partnership and the Steering Committee to look at initiatives that will work through all phases of emergency management. Some of the initiatives outlined in this plan and the mitigation catalog that guided their selection are not grant eligible—grant eligibility was not the focus of the selection. Rather, the focus was the initiatives’ effectiveness in achieving the goals of the plan and whether they are within each jurisdiction’s capabilities.

A series of countywide initiatives were identified by the Steering Committee and the Coalition partnership. These initiatives are summarized in Table ES-3. Jurisdiction-specific initiatives are listed in Volume 2 of this plan.

TABLE ES-3.  
COUNTYWIDE MITIGATION INITIATIVES

Initiative	Funding Source	Lead Agency	Timeline
1. Provide coordination and technical assistance in the application for grant funding that includes assistance in cost vs. benefit analysis for grant eligible projects	Existing programs for the two lead agencies	DEM and SWM jointly	Short term Ongoing
2. Provide countywide updates to the HIVA using best available science and technology as new hazard-specific data becomes available (e.g., avalanche, tsunami, landslide)	Possible DHS grant funding for future enhancements; DEM operational funds	DEM	Short Term
3. County to assume lead role in the update/re-study of floodplains as a Cooperating Technical Partner with FEMA for all Coalition Partners.	SWM funding, cost share through FEMA map modernization program	SWM	Short term Ongoing
4. Provide basin-specific floodplain information in the form of an informational brochure to all Coalition Partners annually for dissemination to county floodplain residents and identified repetitive loss areas. This outreach project will be designed according to the CRS criteria for outreach projects.	SWM funding	SWM	Short term (Annually) Ongoing
5. Sponsor and maintain a natural hazards informational website to include the following types of information: <ul style="list-style-type: none"> <li>• Hazard-specific information such as warning, private property mitigation alternatives, important facts on risk and vulnerability</li> <li>• Pre- and post-disaster information such as notices of grant funding availability</li> <li>• CRS creditable information</li> <li>• Links to Coalition Partners' pages, FEMA and EMD</li> <li>• SCNHMP information such as progress reports, mitigation success stories, update strategies, Steering Committee meetings.</li> </ul>	DEM operational budget	DEM with support from SWM	Short Term
6. Coordinating with all Coalition Partners, WRIA planning units and other stakeholders in the County, seek the acquisition of high-risk parcels that could provide significant open space benefits such as the attenuation of the impacts of natural hazards and beneficial environmental functions (e.g., enhancement of habitat for threatened or endangered species).	Grant funding: PDM, HMGP, FCAAP, REET, habitat related grants	Coalition Partner Cities, SWM, Snohomish County Parks Dept.	Long Term
7. The SCNHMP Steering Committee will remain as a viable body over time to monitor progress of the SCNHMP, provide technical assistance to Coalition Partners and oversee the update of the SCNHMP according to schedule. This body will continue to operate under the ground rules established at its inception.	No impact on existing funding	DEM to be lead coordinating agency with support from SWM, PDS and PIE	Short Term Ongoing
<p><b>Abbreviations:</b> CRS = Community Rating System (a FEMA program); DEM = Snohomish County Department of Emergency Management; EMD = Washington Emergency Management Division; FCAAP = Flood Control Assistance Account Program (a Washington Department of Ecology program); FEMA = Federal Emergency Management Agency; HIVA = Hazard Identification and Vulnerability Analysis; HMGP = Hazard Mitigation Grant Program (a FEMA program); PDS = Snohomish County Department of Planning and Development Services; PDM = Pre-Disaster Mitigation Program (a FEMA program); PIE = Snohomish County Public Involvement and Education program; REET = Real Estate Excise Tax; SCNHMP = Snohomish County Natural Hazards Mitigation Plan; SWM = Snohomish County Surface Water Management Division; WRIA = Water Resource Inventory Area</p>			

## **CONCLUSION**

Full implementation of the recommendations of this plan will take time and resources. The measure of the plan's success will be the coordination and pooling of resources within the Coalition Partnership. Keeping this coordination and communication intact will be key to the successful implementation of this plan. Teaming together to seek financial assistance at the state and federal level will be a priority to initiate projects that are dependant on alternative funding sources. This plan was built upon the effective leadership of a multi-disciplined Steering Committee and a process that relied heavily on public input and support. This plan will succeed for the same reasons.

## CHAPTER 15. LANDSLIDES AND OTHER MASS MOVEMENTS

### 15.1 LANDSLIDE AND MASS MOVEMENT DEFINED

The following definitions apply in the discussion of landslide and mass movement hazards:

- **Landslide**—A landslide is the sliding movement of masses of loosened rock and soil down a hillside or slope. Slope failures occur when the strength of the soils forming the slope is exceeded by the pressure, such as weight or saturation, acting upon them.
- **Mass movements**—A collective term for landslides, mudflows, debris flows, *sinkholes* and lahars.

### 15.2 GENERAL BACKGROUND

Land sliding (or more properly, mass movement, which includes the mudslides and debris flows more typical of the greater Puget Sound area) is caused by a combination of geological and climatological conditions. This includes steep topography, as well as the encroaching influence of urbanization. The geological conditions of western Washington are primarily a legacy of repeated glacial episodes of advance and retreat during the past 2 million years. The cool, rainy Pacific Northwest climate ensures that soil moisture levels remain high throughout most of the year, and in fact are often at or near saturation during the wetter winter months. The region's topography reflects glacial carving, as well as the differential erosion of weaker sediments in the 13,000 years since the last ice disappeared. One of the most active erosive processes during this period has been mass wasting. This is the action of landslides and mudslides. Finally, and probably of greatest significance, the vulnerable natural setting is being steadily invaded by human residential, agricultural, commercial and industrial development and the infrastructure that supports it.

A landslide is a mass of rock, earth or debris moving down a slope. Landslides may be minor or very large, and can move at slow to very high speeds. They can be initiated by storms, earthquakes, fires, volcanic eruptions, and by human modification of the land.

Mudslides or mudflows (or debris flows) are rivers of rock, earth, organic matter and other soil materials saturated with water. They develop in the soil overlying bedrock on sloping surfaces when water rapidly accumulates in the ground, such as during heavy rainfall or rapid snowmelt. Water pressure in the pore spaces of the material increases to the point that the internal strength of the soil is drastically weakened. The soil's reduced resistance can then easily be overcome by gravity, changing the earth into a flowing river of mud or "slurry."

A debris flow or mudflow can move rapidly down slopes or through channels, and can strike with little or no warning at avalanche speeds. The slurry can travel miles from its source, growing as it descends, picking up trees, boulders, cars, and anything else in its path. Although these slides behave as fluids, they pack many times the hydraulic force of water due to the mass of material included in them. Locally, they can be some of the most destructive events in nature. A sinkhole is a collapse depression in the ground with no visible outlet. Its drainage is subterranean; its size is typically measured in meters or tens of meters, and it is commonly vertical-sided or funnel-shaped. The term landslide refers to the downslope movement of masses of rock and soil.

Landslides are caused by one or a combination of the following factors: change in slope gradient, increased load on the land, shocks and vibrations, change in water content, groundwater movement, frost action, weathering of rocks, and removing or changing the type of vegetation covering slopes.

In general, landslide hazard areas occur where the land has certain characteristics, which contribute to the risk of the downhill movement of material. These characteristics include:

- A slope greater than 15 percent
- Landslide activity or movement occurred during the last 10,000 years
- Stream or wave activity, which has caused erosion, undercut a bank or cut into a bank to cause the surrounding land to be unstable
- The presence or potential for snow avalanches
- The presence of an alluvial fan, which indicates vulnerability to the flow of debris or sediments
- The presence of impermeable soils, such as silt or clay, which are mixed with granular soils such as sand and gravel.

Figures 15-1, 15-2, 15-3 and 15-4 show common types of slides that can occur in the Puget Sound region. Puget Sound's shoreline contains many large, deep-seated dormant landslides. Shallow slides are the most common and the most probable in Snohomish County. Occasionally large catastrophic slides occur on Puget Sound.



Figure 15-1. Deep Seated Slide



Figure 15-2. Shallow Slide

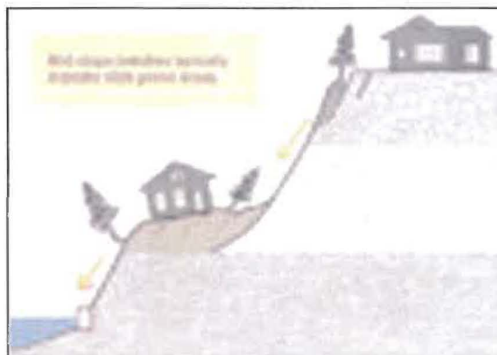


Figure 15-3. Bench Slide

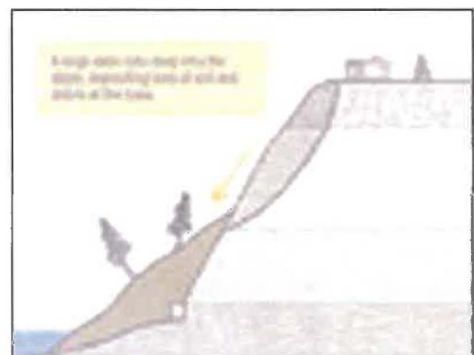


Figure 15-4. Large Slides



### 15.3 HAZARD PROFILE

#### 15.3.1 Past Events

There is little recorded information for Snohomish County regarding landslides. Although Snohomish County's records are less complete, during the winter storm of 1996-97, more than half of the County's \$60-70 million in reported damages occurred as a result of landslides, mudslides and debris flows. Drainage systems and catchment basins could not handle the volume of runoff, focusing the water's energy against vulnerable slopes and manmade structures. In some cases, saturated soils simply became overloaded with the weight of snow and rainwater and collapsed. Private homeowners, particularly in those areas where the natural drainage has been paved, diverted or otherwise modified by man, reported significant damage. This storm was the first well-documented storm.

Landslide and mudslide/debris flow activity during this storm caused widespread disruption of surface transportation, closing roads and in one case derailling mail cars from a freight train. Given the volume of hazardous substances shipped by road and rail through Snohomish County, it was fortunate that no serious chemical spills occurred as a result of these ground failure incidents. The costs of repairing road damage alone totaled tens of millions of dollars.

There are no records in the County of fatalities attributed to mass movement from this decade's storms. However, across the Pacific Northwest, a number of deaths have occurred as a result of slides, slope collapses and sinkholes.

A large slide occurred in the town of Woodway, just north of the Richmond Beach neighborhood, during the early morning of January 15, 1997. It cut 50 feet into the property above, passed over the railroad tracks and knocked a freight train into Puget Sound. Figure 15-5 is a picture of the Woodway slide.



Figure 15-5. 1997 Woodway Slide

### **15.3.2 Location**

Figure 15-6 shows the steep slope hazard areas in Snohomish County. A recent study of historic landslides in Seattle commissioned by Seattle Public Utilities identified four types of landslides in the region:

- High Bluff Peel-Off—Block falls of soil from high bluffs (primarily along the near-vertical cliffs of Puget Sound).
- Groundwater Blowout—Catastrophic groundwater soil bursts caused by the buildup of groundwater pressures along the contact of pervious/impervious soil units.
- Deep-Seated Landslides—Deep, rotational or translational sliding and slumping caused by groundwater pressures within a hillside.
- Shallow Colluvial (Skin) Slides—Shallow rapid sliding of the outer surface of a hillside slope sometimes also resulting in a debris flow.

The most common type of slide in the Puget Sound area is the shallow colluvial slide, occurring particularly in response to intense, short-duration storms. The largest and most destructive are deep-seated slides, although they are less common than other types. The preponderance of landslides occurs in January after the water table has risen during the wetter months of November and December. In addition to the coastal bluffs, land sliding is most prevalent around the slopes of the Puget Sound's steep, linear hills. Water is involved in nearly all cases; and, consistent with other studies in the region; human influence was identified in more than 80 percent of the reported slides.

In addition, the recognition of ancient dormant mass movement sites is important in the identification of those areas most susceptible to flows and slide because they can be reactivated by earthquakes or by exceptionally wet weather. Also, because they consist of broken materials and frequently involve disruption of ground water flow, these dormant sites are more vulnerable to construction-triggered sliding than adjacent undisturbed material.

### **15.3.3 Frequency**

Landslides are often triggered by other natural hazards such as earthquakes, heavy rain, floods or wildfires. The frequency of a landslide is related to the frequency of earthquakes, heavy rain, floods, and wildfires. In Snohomish County, landslides typically occur during and after major storms. Recent events occurred during the winter storm of 1996-97 and the October 2003 storm, which generated a few landslides, but not as many as expected, since the soil and bedrock in hilly areas were relatively dry.

Flows and slides are commonly categorized by the form of initial ground failure, but they may travel in a variety of forms along their paths. The velocity of movement may range from a slow creep of centimeters per year to many meters per second, depending on slope angle, material and water content.

### **15.3.4 Severity**

Landslides destroy property, infrastructure, transportation systems, and can take the lives of people. Slope failures in the United States result in an average of 25 lives lost per year and an annual cost to society of about \$1.5 billion. The 1996-97 storm caused about \$30 to 35 million in damage due to landslides, mudslides and debris flows. This was about half of all damage caused by the storm. The landslides caused by the storm also caused tens of millions of dollars of damage to road infrastructure.



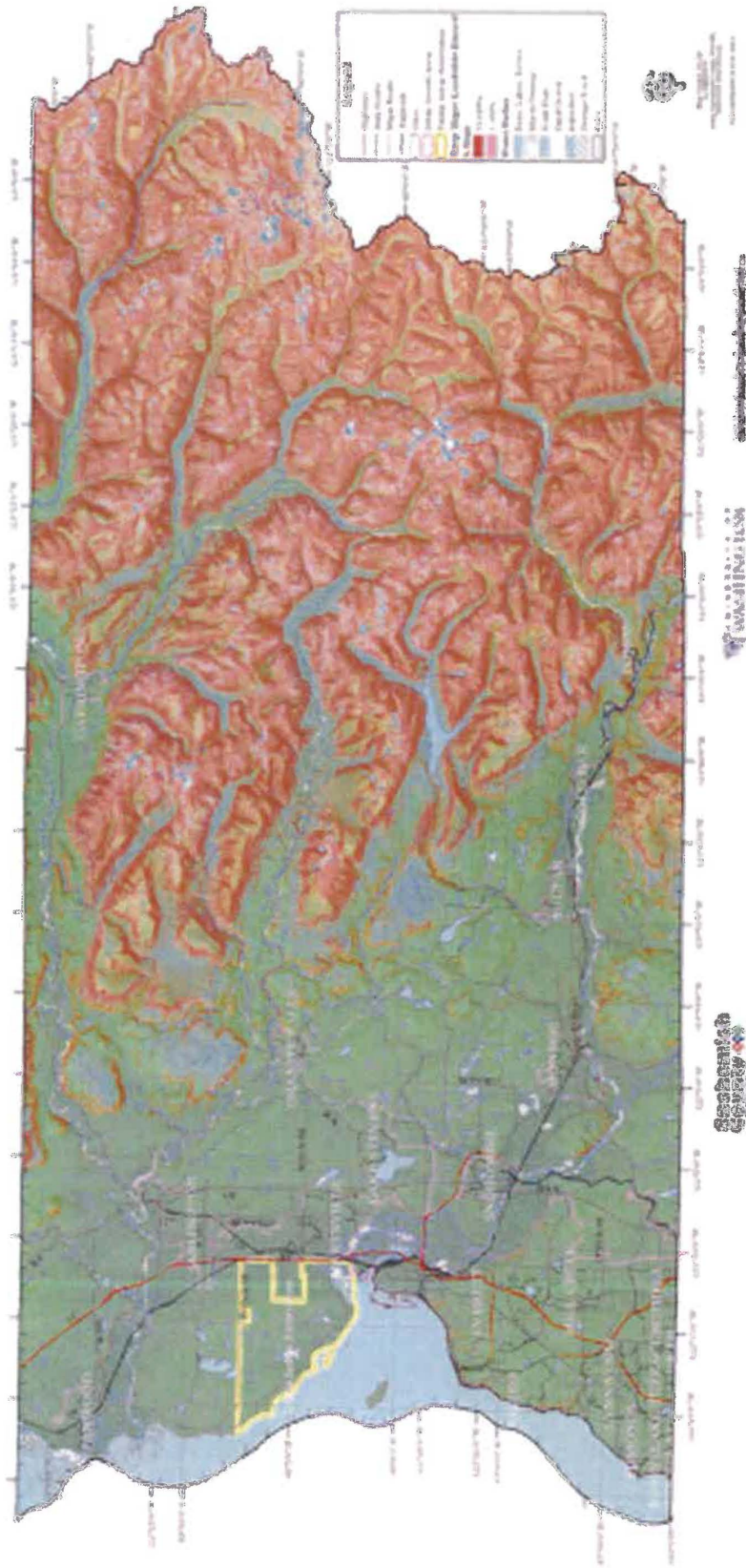


Figure 15-6. Steep Slope Hazard Areas

### 15.3.5 Warning Time

Mass movements can occur suddenly or slowly. Some methods used to monitor mass movements can provide an idea of type of movement and amount of time prior to failure. It is also possible to determine what areas are at risk during general time periods. Assessing the geology, vegetation, and amount of predicted precipitation for an area can help in these predictions.

### 15.4 SECONDARY HAZARDS

Landslides can cause several types of secondary effects, such as blocking access to roads, which can isolate residents and businesses and delay commercial, public and private transportation. This could result in economic losses for businesses. Other potential problems resulting from landslides are power and communication failures. Vegetation on slopes or slopes supporting poles can be knocked over resulting in possible losses to power and communication lines. This, in turn, creates communication and power isolation. Landslides also have the potential of destabilizing the foundation of structures, which may result in monetary loss for residents. They also can damage rivers or streams, potentially harming water quality, fisheries and spawning habitat.

### 15.5 EXPOSURE

Snohomish County Code (Section 30.91L.040) defines landslide hazard areas as “areas potentially subject to mass earth movement based on a combination of geologic, topographic, and hydrologic factors, with a vertical height of 10-feet or more.” These include the following:

- Areas of historical landslides as evidenced by landslide deposits, *avalanche tracks*, and areas susceptible to basal undercutting by streams, rivers or waves
- Areas with slopes steeper than 15 percent that intersect geologic contacts with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock, and that contain springs or groundwater seeps
- Areas located in a canyon or an active alluvial fan, susceptible to inundation by debris flows or catastrophic flooding.

No detailed map is currently available that shows potential landslide areas (Ecology Website, 2004a). Figure 15-6, which was used to identify areas exposed to landslides, was generated from a 10-meter resolution digital elevation model. It shows slopes of 33 percent or more. This map is used to identify potential exposure areas until a better map can be produced. The Washington Department of Natural Resources is in the process of creating a landslide hazard zone database that should be used in the future to identify landslide hazard areas.

#### 15.5.1 Population

To estimate the population size affected by landslide hazards, the Snohomish County Assessor’s data was used. The number of dwelling units abutting or within the steep slope areas shown in Figure 15-6 was multiplied by the average household size for Snohomish County (2.65 persons per dwelling unit). The estimated population exposed to this is approximately 28,500 people.

#### 15.5.2 Property

Property analyzed in mass movement areas consists of structures such as dwellings and critical facilities and infrastructure such as roads and pipelines.

**Parcels Exposed to Steep Slopes**

An analysis of parcels was done to determine the number and value in steep slope areas. Table 15-1 shows the parcels exposed to steep slopes in Snohomish County. There are 16,249 parcels exposed to landslides in Snohomish County, 14,030 of which are in unincorporated areas. Altogether about \$3.32 billion in property is exposed to landslides.

Jurisdiction	Number of Parcels	Total Area (acres)	Market Value		
			Land	Improvement	Total
Arlington	270	1,992	\$21,580,700	\$52,722,100	<b>\$74,302,800</b>
Darrington	5	90	\$292,900	\$211,500	<b>\$504,400</b>
Gold Bar	4	48	\$348,700	\$106,300	<b>\$455,000</b>
Granite Falls	41	263	\$3,423,300	\$3,002,600	<b>\$6,425,900</b>
Index	32	44	\$248,800	\$811,500	<b>\$1,060,300</b>
Lake Stevens	5	29	\$1,205,600	\$918,800	<b>\$2,124,400</b>
Marysville	78	187	\$6,524,800	\$8,254,200	<b>\$14,779,000</b>
Monroe	118	804	\$30,790,200	\$116,122,200	<b>\$146,912,400</b>
Mukilteo	1,430	10,799	\$168,245,800	\$199,760,800	<b>\$368,006,600</b>
Snohomish	134	190	\$11,395,100	\$20,886,900	<b>\$32,282,000</b>
Stanwood	27	102	\$2,343,900	\$2,379,500	<b>\$4,723,400</b>
Sultan	75	406	\$5,100,300	\$5,334,300	<b>\$10,434,600</b>
Unincorporated County	14,030	863,410	\$1,727,955,700	\$929,442,900	<b>\$2,657,398,600</b>
<b>Total</b>	<b>16,249</b>	<b>878,364</b>	<b>\$1,979,455,800</b>	<b>\$1,339,953,600</b>	<b>\$3,319,409,400</b>

**Structures on Steeps Slopes**

There are approximately 11,500 structures in Snohomish County located on the parcels exposed to steep slopes. Altogether these structures are worth about \$2.1 billion. Ninety-five percent of the structures exposed are dwellings. Table 15-2 shows the number and market improvement value by structure type. Table 15-3 shows the number and improvement value of structures exposed to steep slopes by jurisdiction. There are 6,700 vulnerable structures in unincorporated Snohomish County, worth about \$1.4 billion.

Type of Structure	Number of Structures	Market Improvement Value
Commercial	246	\$30,824,400
Dwelling	10,764	\$2,085,080,587
Other	432	\$31,497,300
<b>Total</b>	<b>11,442</b>	<b>\$2,147,402,287</b>

TABLE 15-3. STRUCTURES EXPOSED TO STEEP SLOPES, BY JURISDICTION		
Structure Type	Number of Structures	Market Improvement Value
<b>Arlington</b>		
Commercial	8	\$1,580,800
Dwelling	213	\$12,978,800
Other	5	\$720,800
<b>Total</b>	<b>226</b>	<b>\$15,280,400</b>
<b>Darrington</b>		
Commercial	0	\$0
Dwelling	1	\$0
Other	1	\$60,300
<b>Total</b>	<b>2</b>	<b>\$60,300</b>
<b>Gold Bar</b>		
Commercial	0	\$0
Dwelling	1	\$58,400
Other	0	\$0
<b>Total</b>	<b>1</b>	<b>\$58,400</b>
<b>Granite Falls</b>		
Commercial	2	\$0
Dwelling	15	\$188,893,000
Other	1	\$0
<b>Total</b>	<b>18</b>	<b>\$188,893,000</b>
<b>Index</b>		
Commercial	1	\$118,200
Dwelling	3	\$66,400
Other	0	\$0
<b>Total</b>	<b>4</b>	<b>\$184,600</b>
<b>Lake Stevens</b>		
Commercial	0	\$0
Dwelling	2	\$484,700
Other	1	\$201,600
<b>Total</b>	<b>3</b>	<b>\$686,300</b>
<b>Marysville</b>		
Commercial	1	\$71,300
Dwelling	58	\$7,914,800
Other	0	\$0
<b>Total</b>	<b>59</b>	<b>\$7,986,100</b>

TABLE 15-3 (continued). STRUCTURES EXPOSED TO STEEP SLOPES, BY JURISDICTION		
Structure Type	Number of Structures	Market Improvement Value
<b>Monroe</b>		
Commercial	14	\$2,198,000
Dwelling	51	\$6,976,100
Other	6	\$370,600
<b>Total</b>	<b>71</b>	<b>\$9,544,700</b>
<b>Mukilteo</b>		
Commercial	35	\$3,991,300
Dwelling	1129	\$144,087,100
Other	4	\$37,500
<b>Total</b>	<b>1168</b>	<b>\$148,115,900</b>
<b>Snohomish</b>		
Commercial	6	\$465,600
Dwelling	95	\$12,952,200
Other	4	\$302,000
<b>Total</b>	<b>105</b>	<b>\$13,719,800</b>
<b>Stanwood</b>		
Commercial	3	\$804,700
Dwelling	12	\$2,820,600
Other	0	\$0
<b>Total</b>	<b>15</b>	<b>\$3,625,300</b>
<b>Sultan</b>		
Commercial	5	\$97,000
Dwelling	30	\$3,575,900
Other	2	\$26,000
<b>Total</b>	<b>37</b>	<b>\$3,698,900</b>
<b>Unincorporated Snohomish County</b>		
Commercial	70	\$7,509,300
Dwelling	6281	\$1,388,339,900
Other	365	\$27,591,800
<b>Total</b>	<b>6716</b>	<b>\$1,423,441,000</b>

***Land Use Exposed to Steep Slopes***

Table 15-4 shows the general land use of parcels exposed to landslides. Lands used for forestry or parks are less vulnerable, while lands used for manufactured homes are highly vulnerable. The predominant land uses for parcels in cities are single-family, vacant and manufactured homes. These uses as well as timber are the predominant land uses for exposed parcels in unincorporated Snohomish County.

TABLE 15-4. GENERAL LAND USE OF PARCELS EXPOSED TO LANDSLIDES		
General Land Use	Cities in Snohomish County	Unincorporated Snohomish County
Agriculture	35	418
Civic/Government	9	2
Fishery	0	5
Forest	10	238
Hotel/Motel	3	0
Industrial/Manufacturing	17	7
Manufactured/Mobile Home	505	1,162
Marine Terminals/Marinas	0	2
Medical/Health	7	0
Mining	13	185
Multi-Family	22	4
Non-Residential Structure	23	161
Open Space	76	162
Other Housing/Group Quarters	1	5
Park/Playground	57	28
Parking	10	0
Plex Housing	44	39
Recreation/Entertainment	10	33
Reference Account	0	1
Resource Production/Extraction	0	1
Religious	3	6
Retail/Service	115	17
Retirement Home/Orphanage	1	0
Roads	11	31
School/Daycare	13	1
Single Family	4,112	4,904
Timber	26	1,150
Transportation	21	61
Utility	30	48
Vacant	951	4,834
Warehouse	10	1
Water	13	20
Wood Products	1	1
<b>Total</b>	<b>6,149</b>	<b>13,527</b>

### 15.5.3 Critical Facilities

Currently, a complete inventory of critical facilities in Snohomish County is not available. Analysis for critical facilities in steep slope areas was done by using the best available data that the county had available. This analysis was done by using the parcel information from the Snohomish County Assessor's database. This contains information on land use. The information that was extracted is incomplete but provides a background on what critical facilities are susceptible to events caused by mass movements.

Critical facilities have been identified as medical and health services including clinics, governmental functions including executive, legislative and judicial offices, and schools including pre-school, primary, and secondary schools. No critical facilities in steep slope regions were identified in the planning area.

Hazardous material releases can be a secondary effect of a mass movement, both from fixed facilities and transportation related releases. Transit corridors, specifically the BNSF railroad corridor, can be disrupted during a mass movement and release materials into the surrounding environment. Facilities holding hazardous materials are also of particular concern if they are located in landslide hazard areas. There are two businesses exposed to steep slopes that have Tier II hazardous materials. The location and addresses of these facilities can be found in the Snohomish County HIVA.

### **15.5.4 Infrastructure**

A significant amount of infrastructure (roads, bridges, railroads, and utilities) can be exposed to mass movements. Landslides have the potential to block egress and ingress on roads causing isolation for neighborhoods. Roadway blockages caused by landslides can also create traffic problems resulting in delays for both public and private transportation. This could result in economic losses for businesses. Other potential problems resulting from landslides are power and communication failures creating problems for vulnerable populations as well as businesses. The location of all critical infrastructure exposed to landslides and other mass movements have been mapped and identified in the Snohomish County HIVA.

#### ***Railroads***

The BNSF railroad corridor is exposed to landslides along much of its north-south and east-west routes and spurs. These areas include the tracks located along the Puget Sound bluffs from the King County line up to Everett. The Boeing Spur is located in a ravine and is extremely vulnerable. Other areas exposed to landslides include the bluffs north of Stanwood, the Bothell-Snohomish Branch and tracks located in the Cascade Mountains east of Gold Bar leading to Steven's Pass

#### ***Roads***

Many of the major roads in Snohomish County are exposed to mass movement hazards. Access to major roads is crucial to life-safety after a disaster event and can help to provide resilience during response and recovery operations

#### ***Bridges***

Landslides events can also significantly impact road bridges. Mass movements can knock out bridge abutments, or significantly weaken the soil supporting them making them hazardous for use. Using Washington State Bridge Data, GIS data analysis shows that there are 64 bridges that pass through or over landslide prone slopes.

#### ***Power Lines***

Power lines are generally elevated above steep slopes; nonetheless the towers supporting them can be subject to landslides. A landslide could trigger the soil underneath a tower to fail, causing it to collapse, and ripping down the lines. Analysis showed that Puget Sound Energy lines pass through steep slope areas.



### **15.5.5 Environment**

Environmental problems as a result of mass movements can be numerous. Landslides fall into streams and significantly impact surrounding fish and wildlife habitat

## **15.6 VULNERABILITY**

This section addresses vulnerability to mass movements. Vulnerabilities are discussed in terms of population, property, infrastructure and environment. In many cases vulnerability from mass movements are the same as exposure, as discussed above.

### **15.6.1 Population**

Due to the nature of census block group data, it is difficult to determine demographics of populations vulnerable to mass movements. In general, all 28,500 persons that are exposed to landslides hazards are also vulnerable. Due to Snohomish County's increasing population density and the fact that many man-made structures are built on "view property" atop or below bluffs and on steep slopes subject to mass movement, more lives are now endangered by this hazard than ever before.

### **15.6.2 Property**

The study completed for Seattle Public Utilities in 2000 showed that only about 1 percent of the land area of the region is actually vulnerable to landslides or other mass movements. This study also showed that 84 percent of the slides recorded had human related causes, indicating the willingness of people to ignore signs of potential disaster in order to possess the most desirable land. Consequently, there is greater potential for damage or destruction to private and public property than if stringent landslide policies were adopted.

Regardless of the lack of clear historical documentation of the mass movement threat in the County, the effects of slide and flow activity seen during the winter storms of February 1996 and December-January 1996-97 serve as proof that a significant vulnerability to such hazards now exists. Countywide, more than \$50 million in damages attributable to mass movement during those two storms affected private property and public infrastructure and facilities.

As the population continues to grow, more people are building and living on or otherwise modifying land areas with marginal stability. Steep coastal bluffs in the Puget Sound area were the sites of numerous debris flows and other types of landslides, yet many of the landslides occurring there cannot be seen from aerial reconnaissance. These failures are only clearly visible from fairly close quarters on the ground. This is an area of intense development pressure. An accurate picture of where landslides were triggered during previous storms is vital in making intelligent land use planning decisions. Consideration of existing landslide susceptibilities and potential hazards will reduce the risk to people and property both now and with future development. In the past, many mass movement losses may have gone unrecorded because insurance companies do not cover such damages. Transportation network damage has often been repaired under the general category of "maintenance."

### ***Infrastructure***

Several types of infrastructure are exposed to mass movements, including transportation, water and sewer and power infrastructure. Disruption of transportation routes results in loss of commerce. Highly susceptible areas of the county include the mountain passes and transportation infrastructure. As stated earlier, countywide, more than \$50 million in damages attributable to mass movement during the storms



of February 1996 and December-January 1996-97 affected not only private property and public facilities but also infrastructure. During the 1996-97 storms, a mudslide washed out the Burlington Northern—Santa Fe rail line between Everett and Seattle, closing down the major north-south freight route through the county for more than a week. When more landslide information becomes available it will be necessary to complete a more in-depth analysis of the infrastructure exposed to more accurately determine their vulnerability. At this time all infrastructure and transportation corridors mentioned in “Exposure” of this section are considered vulnerable until more information becomes available.

**Critical Facilities**

As indicated previously, there are two Tier II facilities exposed to steep slope areas. A more in-depth analysis of the mitigation measures taken by these facilities to prevent damages from mass movements should be done to determine if they could withstand impacts of a mass movement.

**15.7 FUTURE TRENDS IN DEVELOPMENT**

Potential buildable parcels were designated in incorporated and unincorporated Snohomish County. This information was compared to the available steep slope data to determine buildable parcels at risk to mass movements. The data indicates housing capacity and employment capacity for each buildable parcel

There are 3,008 buildable parcels exposed to steep slopes in Snohomish County that can support additional housing (see Table 15-5). Of these, the parcels in urban growth areas have potential for an additional 12,837 housing units. In unincorporated Snohomish County, about 17,677 housing units could be accommodated. Table 15-6 shows the potential additional employment capacity of parcels exposed to steep slopes. Parcels in urban growth areas can accommodate 37,018 jobs and parcels in unincorporated Snohomish County can accommodate 1,455 jobs.

TABLE 15-5. ADDITIONAL HOUSING CAPACITY ON PARCELS EXPOSED TO STEEP SLOPES		
	Number of Parcels for Housing	Number of Additional Housing Units
UGA	2,285	12,837
Unincorporated Snohomish County	723	17,677
<b>Total</b>	<b>3,008</b>	<b>30,514</b>

TABLE 15-6. ADDITIONAL EMPLOYMENT CAPACITY ON PARCELS EXPOSED TO STEEP SLOPES		
	Number of Parcels for Employment	Number of Additional Jobs
UGA	452	37,018
Unincorporated Snohomish County	23	1,455
<b>Total</b>	<b>475</b>	<b>38,473</b>

**15.8 SCENARIO**

A mass movement event is most likely to occur during the late winter when the water table is high. A short intense storm could saturate the soil to move, causing landslides. Mass movements could affect

bridges that pass over landslide prone ravines, and knock out rail service through the county. Most mass movements would most likely be isolated events, affecting specific areas.

Mass movements are becoming more of a concern as development moves outside of city centers and into areas less developed in terms of infrastructure. Major mass movements in Snohomish County occur as a result of soil conditions that have been affected by severe storms, groundwater or human development activities. After heavy rains from November to December, soils become saturated with water. As water seeps downward through upper soils that may consist of permeable sands and gravels and accumulates on impermeable silt, it will subsequently cause weakness and destabilization in the slope. In addition, as rains continue, the groundwater table rises adding to the weakening of the slope. Gravity, poor drainage, a rising groundwater table and poor soil exacerbate hazardous conditions.

The worst-case scenario for mass movement hazards in Snohomish County would generally correspond with a severe storm that had heavy rain and caused flooding events. It is probable that private and public property including infrastructure in will be affected.

Road obstructions caused by mass movements would most likely occur and create isolation problems for residents and businesses in the more sparsely developed areas. It is also likely that property owners exposed to steep slopes may suffer damages to either the property or the structure itself. In addition to this, landslides carrying vegetation such as shrubs and trees may also cause a break in power or communication lines cutting off power and communication access to residents.

Continued heavy rains and flooding will complicate this problem further. As resources within Snohomish County attend to problems with flooding, it is possible they may be unavailable to assist with landslides occurring all over Snohomish County. This will worsen the problem of isolation for residents and disrupt commerce.

It is likely that mass movements will occur anywhere in the county that have been affected by historic landslides and areas that have potential steep slopes but a most likely landslide event would occur in either the Everett, Mukilteo and Edmonds. This is based on historical events and steep slopes with a potential for instability.

## **15.9 ISSUES**

Areas of concern are shown on Figure 15-7 as yellow boxes. This figure highlights the following:

- Existing homes in mass movement prone areas. This is specifically occurring on the coast of the Puget Sound with the Cities of Everett and Mukilteo being affected significantly.
- Future development in mass movement prone areas. These areas include the foothills of the Cascades, and steep slope areas above the river floodplains of the North and South Forks Stillaguamish River and the Skykomish River.

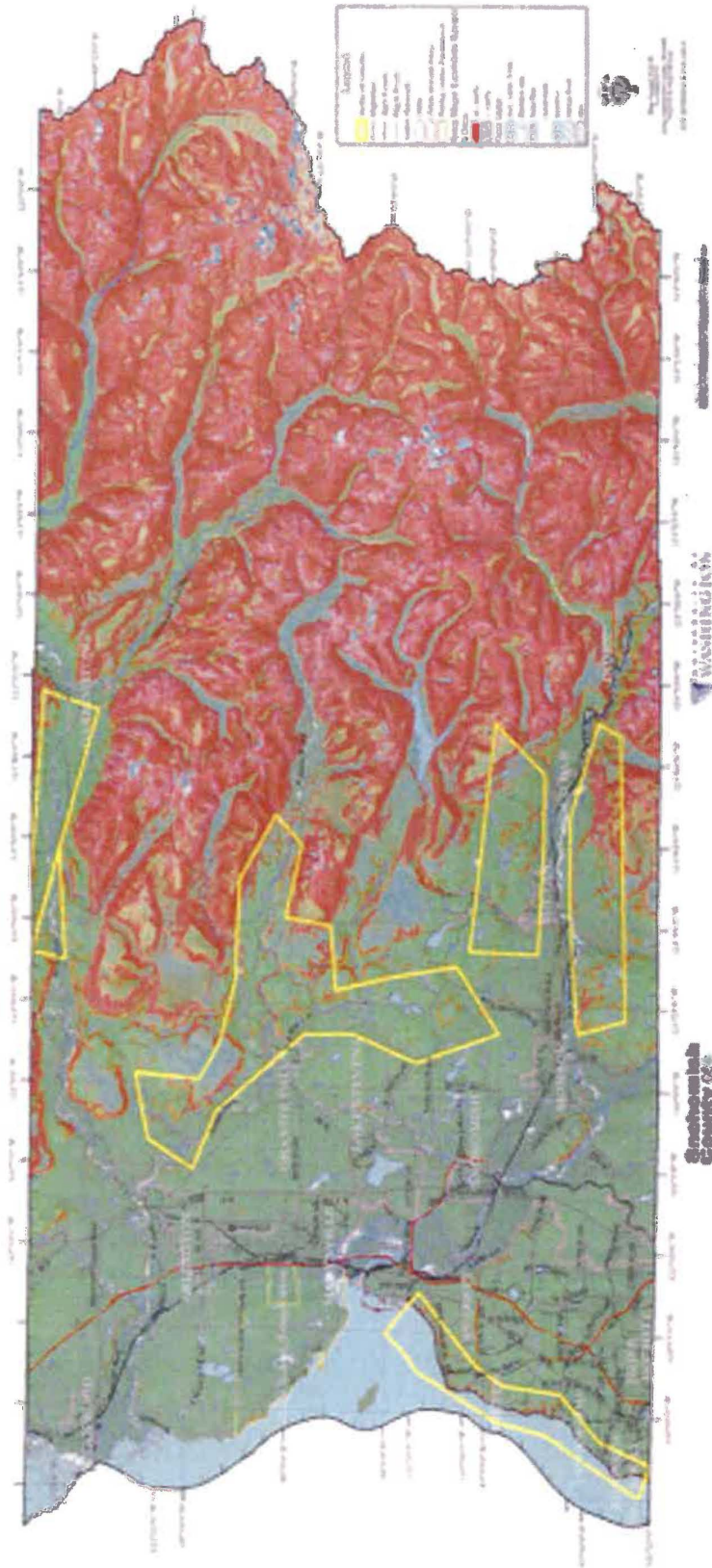


Figure 15-7. Areas of Concern in Landslide and Other Mass Movement Regions

TABLE 21-1.  
COUNTYWIDE MITIGATION INITIATIVES

Initiative	Funding Source	Lead Agency	Timeline
1. Provide coordination and technical assistance in the application for grant funding that includes assistance in cost vs. benefit analysis for grant eligible projects	Existing programs for the two lead agencies	DEM and SWM jointly	Short term Ongoing
2. Provide countywide updates to the HIVA using best available science and technology as new hazard-specific data becomes available (e.g., avalanche, tsunami, landslide)	Possible DHS grant funding for future enhancements; DEM operational funds	DEM	Short term
3. County to assume lead role in the update/re-study of floodplains as a Cooperating Technical Partner with FEMA for all Coalition Partners.	SWM funding, cost share through FEMA map modernization program	SWM	Short term Ongoing
4. Provide basin-specific floodplain information in the form of an informational brochure to all Coalition Partners annually for dissemination to county floodplain residents and identified repetitive loss areas. This outreach project will be designed according to the CRS criteria for outreach projects.	SWM funding	SWM	Short term (Annually) Ongoing
5. Sponsor and maintain a natural hazards informational website to include the following types of information: <ul style="list-style-type: none"> <li>• Hazard-specific information such as warning, private property mitigation alternatives, important facts on risk and vulnerability</li> <li>• Pre- and post-disaster information such as notices of grant funding availability</li> <li>• CRS creditable information</li> <li>• Links to Coalition Partners' pages, FEMA and EMD</li> <li>• SCNHMP information such as progress reports, mitigation success stories, update strategies, Steering Committee meetings.</li> </ul>	DEM operational budget	DEM with support from SWM	Short Term
6. Coordinating with all Coalition Partners, WRIA planning units and other stakeholders in the County, seek the acquisition of high-risk parcels that could provide significant open space benefits such as the attenuation of the impacts of natural hazards and beneficial environmental functions (e.g., enhancement of habitat for threatened or endangered species).	Grant funding: PDM, HMGP, FCAAP, REET, habitat related grants	Coalition Partner Cities, SWM, Snohomish County Parks Dept.	Long term
7. The SCNHMP Steering Committee will remain as a viable body over time to monitor progress of the SCNHMP, provide technical assistance to Coalition Partners and oversee the update of the SCNHMP according to schedule. This body will continue to operate under the ground rules established at its inception.	No impact on existing funding	DEM to be lead coordinating agency with support from SWM, PDS and PIE	Short term Ongoing
<p><b>Abbreviations:</b> CRS = Community Rating System (a FEMA program); DEM = Snohomish County Department of Emergency Management; EMD = Washington Emergency Management Division; FCAAP = Flood Control Assistance Account Program (a Washington Department of Ecology program); FEMA = Federal Emergency Management Agency; HIVA = Hazard Identification and Vulnerability Analysis; HMGP = Hazard Mitigation Grant Program (a FEMA program); PDS = Snohomish County Department of Planning and Development Services; PDM = Pre-Disaster Mitigation Program (a FEMA program); PIE = Snohomish County Public Involvement and Education program; REET = Real Estate Excise Tax; SCNHMP = Snohomish County Natural Hazards Mitigation Plan; SWM = Snohomish County Surface Water Management Division; WRIA = Water Resource Inventory Area</p>			

TABLE 21-2.  
COUNTYWIDE INITIATIVE PRIORITIZATION

Initiative # (see Table 21-1)	Goals Addressed (see Chapter 5)	Objectives Addressed (see Chapter 5)	Cost	Benefit	Priority
1	G-1, G-2	O-1, O-2, O-14	<i>Low:</i> Can be implemented under currently funded programs.	<i>Medium:</i> Increase in mitigation resources within planning area.	High
2	G-1, G-2, G-3, G-4, G-5	O-1, O-2, O-3, O-4, O-5, O-6, O-7, O-8, O-9, O-10, O-12, O-13	<i>Medium:</i> Costs to be determined as information becomes available.	<i>Medium:</i> Enhancement of existing tools that will impact all phases of emergency management	Medium
3	G-2, G-5	O-3, O-7, O-9, O-13	<i>Medium:</i> Can be implemented under currently funded programs.	<i>High:</i> Better mapping leads to better risk reduction in the form of insurance coverage and targeted mitigation.	High
4	G-1, G-2, G-3, G-4, G-5	O-4, O-8, O-9, O-10	<i>Medium:</i> Can be implemented under currently funded programs.	<i>Medium:</i> Increase public awareness of risk, vulnerability and mitigation. Creditable activity under CRS program, thus reducing the cost of flood insurance	High
5	G-1, G-2, G-3, G-4, G-5	O-5, O-8, O-9, O-10	<i>Medium:</i> Would require enhancement of existing funded programs. Estimate \$3,000 to \$5,000 annually.	<i>Medium:</i> Increase public awareness of risk, vulnerability and mitigation. Creditable activity under CRS program, thus reducing the cost of flood insurance	High
6	G-1, G-2, G-4	O-3, O-6, O-7, O-11, O-13, O-14	<i>High:</i> Cost to be determined as targeted properties become available.	<i>High:</i> The possible increase in environmentally significant open space lands within the planning area. The reduction of risk exposure.	Medium
7	G-1, G-2, G-3, G-4, G-5	O-1, O-2, O-3, O-4, O-5, O-6, O-7, O-8, O-9, O-10, O-11, O-12, O-13, O-14	<i>Low:</i> Steering Committee is a volunteer body. Facilitation cost to be shared by coordinating agencies under existing, funded programs.	<i>Medium:</i> Provides continued planning resource to Coalition Partnership.	High



## Department of Emergency Management Response to Performance Audit

**To:** Kymber Waltmunson, Performance Auditor

**From:** John E. Pennington, Director  
Snohomish County Department of Emergency Management

**Date:** August 11<sup>th</sup>, 2006

**Subject:** Performance Audit Response

The Snohomish County Department of Emergency Management (DEM) takes seriously its mission. There is no greater challenge to a government and its leaders than the protection of its citizens. We are grateful to the County Executive for requesting this performance audit and we are equally grateful to those individuals who have conducted this in-depth analysis. We also sincerely appreciate the opportunity to respond to the final recommendations.

The former Department of Emergency Management, the primary focus of review for this audit, was by many accounts systemically broken and in need of complete overhaul. Even though much of what is recommended is based upon a thorough review of that former entity, the analysis and recommendations are nonetheless greatly beneficial to our new and evolving DEM.

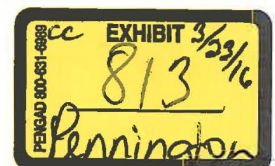
Because of the detail of work and many of the findings of this audit (even while sometimes in disagreement), the Snohomish County Department of Emergency Management has a greater opportunity to improve its performance and we strongly commit to doing so.

The following is our response to the audit *Focus Issues and Recommendations*:

**Recommendation 1:** *“DEM leadership should undertake a strategic planning process and document the results. The strategic plan should include development of performance measures linking activities to goals and objectives, as well as address resources.”*

DEM Response: We concur and have already taken significant steps to address this section’s analysis and recommendation, including the complete reorganization of DEM, hiring of critical staff, and communication of a clear vision and mission for DEM’s employees and partners.

**Recommendation 2:** *“DEM leadership should design and implement internal controls to ensure that DEM objectives are met.”*



DEM Response: We strongly concur with this statement and have already begun the process of addressing this area.

**Recommendation 3:** *“DEM should redesign job descriptions and the organizational structure to ensure that DEM is flexible and responsive; includes both big picture and detail orientations; integrates teamwork and communication.”*

DEM Response: DEM concurs with and has resolved this recommendation. Prior to the release of this audit, and at the direction of the new director of DEM, the department was completely reorganized to reflect more traditional emergency management entities. Job descriptions were restructured and two new individuals were hired to fill critical response roles.

**Recommendation 4:** *“DEM leadership should ensure that DEM is adequately staffed to achieve its objective.”*

DEM Response: Although we concur, we wish to stress that DEM staff is currently made up of only 5 general fund FTEs plus (when fully hired) approximately 5.5 grant funded staff. Grant funded staff have certain limitations that may prohibit or discourage their use during a response (EOC activation).

**Recommendation 5:** *“DEM leadership should develop and update documentation according to legal requirements and strategic priorities.”*

DEM Response: We concur and have addressed some of the concerns noted in this section by, as one example, reorganizing the department and then laying out an internal vision of DEM that is “strategic” (versus tactical) in nature.

**Recommendation 6:** *“DEM leadership should ensure that an effective and informative website is developed and maintained and that technology is appropriately incorporated into DEM operations.”*

DEM Response: We concur.

**Recommendation 7:** *“DEM leadership should work to come into full compliance with all laws and regulations focusing on: NIMS; HSPD-5; HSPD-7; HSPD-8; DMA 2000; National Preparedness Goal.”*

DEM Response: We concur and are making necessary efforts to comply with the aforementioned laws and regulations and their associated timeline requirements.

**Recommendation 8:** *“DEM should make every effort to be in full compliance with NIMS by September 2006...”*

DEM Response: We concur and have assigned specific staff to coordinate the completion of these tasks within the currently set deadlines of September 2006.

**Recommendation 9:** *“DEM should ensure preparedness for all hazards and alignment of activities with Snohomish County hazards including the following...”*

DEM Response: We concur strongly with recommendations to enhance our focus on mitigation and to develop additional hazard-specific plans relevant to Snohomish County, but we only *partially concur* with the recommendation that we should “ensure... alignment of activities with Snohomish County hazards...” We believe that such a strong recommendation to focus training and exercising only on Snohomish County-specific risks might inadvertently lead to less overall preparedness with, as an example, our regional partners and provide less opportunity to train and exercise with region-specific dollars. DEM believes it is more appropriate to align, when possible, these functions with our hazards.

**Recommendation 10:** *“DEM should undertake a thorough update of the CEMP, including ESFs.”*

DEM Response: We concur and have already begun a thorough review of the CEMP. Additionally, we have begun the process of simultaneously enhancing our existing EOC as well pre-designing a potential new EOC, both with a heightened focus on the role of the various ESFs within those facilities.

**Recommendation 11:** *“DEM should ensure that appropriate documentation is in place for training that they provide. This goal should include: specific goals and objectives; assessment of constituency training needs; participant lists; course evaluations.”*

DEM Response: We concur.

**Recommendation 12:** *“DEM should develop and document training plans and training logs for each DEM staff person.”*

DEM Response: We concur.

**Recommendation 13:** *“DEM should develop specific processes to ensure sufficient communication, coordination, and service to member cities, internal and external partners, and regional EOCs.”*

DEM Response: We concur.

**Recommendation 15:** *“DEM should continue to develop and implement effective sub-recipient equipment monitoring processes.”*

DEM Response: We concur.



**Recommendation 16:** “*DEM should develop centralized files and data management procedures including comprehensive files for each grant.*”

DEM Response: We concur.

**Recommendation 17:** “*DEM should implement continuous monitoring processes including methods for ensuring that: grants are closed out timely; grant objectives are being met; grant reporting requirements and submitted as required.*”

DEM Response: We concur and are addressing this issue by reorganization of DEM and placing supervision over certain grant functions.

**Recommendation 18:** “*A comprehensive COOP plan should be developed for Snohomish County government. The Executive’s Office should determine what, if any, role DEM will play in the development of the COOP plan.*”

DEM Response: We strongly concur and believe that COOP planning and its overall coordination is appropriately placed within the Executive’s Office and the Department of Emergency Management.

**Areas for Further Study:** “*Consolidation of County Emergency Operations Centers*”

DEM Response: Although not a recommendation, DEM strongly agrees that the issue of multiple EOCs in Snohomish County must be addressed and we look forward to helping facilitate such a discussion.



**From:** Pennington, John  
**Sent:** Thursday, December 13, 2007 10:45 AM  
**To:** SXO - DeptDir  
**Subject:** FW: Landslide and Debris Removal Guidance

**Importance:** High

FYI, from Washington state EMD regarding debris removal.

-----Original Message-----

**From:** Voss, Donna (EMD) [mailto:D.Voss@emd.wa.gov]

**Sent:** Thursday, December 13, 2007 10:37 AM

**To:** bmartin@co.clallam.wa.us; lyn@esca1.com; plinterman@co.clallam.wa.us; chandra@esca1.com; asullivan@co.grays-harbor.wa.us; bhamlin@co.jefferson.wa.us; ecc.kc@kingcounty.gov; shad.burcham@kingcounty.gov; kathryn.howard@kingcounty.gov; Mann, Phyllis (DOHi); DEM@co.lewis.wa.us; gmcdowne@co.lewis.wa.us; jnkangas@co.lewis.wa.us; sloertscher@co.mason.wa.us; mbest@co.mason.wa.us; sfritts@co.pacific.wa.us; sbailey@co.pierce.wa.us; rschroe@co.pierce.wa.us; Erika Lund; dem@co.skagit.wa.us; markw@co.skagit.wa.us; daveb@co.skamnia.wa.us; johnc@co.skamania.wa.us; Pennington, John; Murphy, Mark; emwebmaster@co.thurston.wa.us; estes@co.thurston.wa.us; danb@sd.co.wahkiakum.wa.us; dollyt@sd.co.wahkiakum.wa.us; SHRAMEK, JOSEPH (DNR); Mettler, Jason (DNR); Sachet, Jim (ECY); Wood, James (AGR); Arlow, Kerry D. (DOC); gerthgfg@dfw.wa.gov; WILLERS, James B (DSHS\LBD); rob.richey@wsp.wa.gov; Soelter, Sonia (AGR); Woodruff, Rick (MIL); Vandermeer, Laura (MIL)

**Cc:** Urbas, Gary (EMD); Nordstrom, Jill (EMD); Kaplan, Alysha (EMD); Gillespie, Amy (EMD); Peters, Evelyn (EMD); Holmes, Jonathan (EMD)

**Subject:** Landslide and Debris Removal Guidance

**Importance:** High

Good Morning,

I wanted to get out some additional information I have received on landslides and debris removal as it applies to the December 2007 Severe Storms and Flooding event. Please share this information within your organizations and with the other potential applicants in your county.

#### Landslides and Mudslide Sites

A number of jurisdictions have experienced landslides and mudslides from our recent severe storm event. Eligibility of repairs to landslides and mudslides as well as any impacted public facilities comes under FEMA Policy No. RP 9524.2 – Landslides and Slope Failures.

Under disaster declaration no. 1734-DR-WA, December 2007 Severe Storms and Flooding, FEMA will have geotechnical experts available to review the landslide and mudslide sites. Guidance will be given on whether a geotechnical study is needed and if so, what needs to be included in the study. Eligibility determinations will be addressed by a landslide task force.

Until 1) your County is declared and 2) a FEMA geotechnical expert is able to come out to your site, you need to act prudently to protect your citizens if you need to do a geotechnical study you should do so. Eligibility to reimburse the costs of the geotechnical study will be determined later.

## Debris Removal

FEMA currently has a Pilot Program available for debris removal initiatives. The Governor requested the state's participation in the program when she requested the disaster declaration for the Public Assistance Program. This request was approved and will be available to local and state governments in all Counties that have been declared as well as any add on Counties under the December 2007 Severe Storms and Flooding event. The following debris removal initiatives are available:

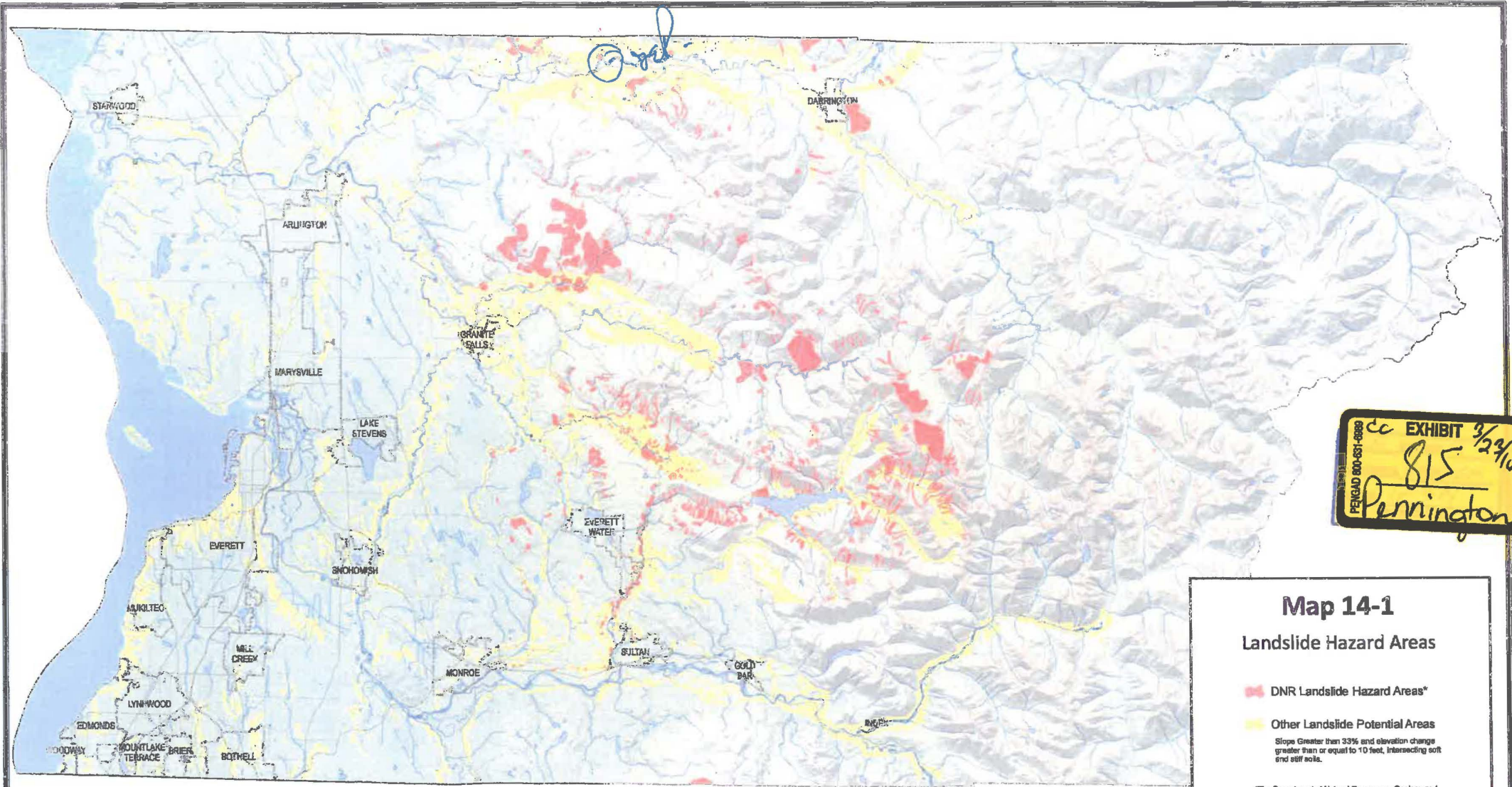
1. Increased federal share (an additional 5%) for debris and wreckage removal for states and local governments that have an approved debris management plan and have pre-qualified two or more debris and wreckage contractors before December 8, 2007. The plan must have been adopted by the local jurisdiction by December 8, 2007. If you have a debris management plan that has been adopted by your governing body, but has not been submitted for review and approval by FEMA please let me know as soon as possible. At that point, I'll cover with you the submittal requirements and the provisions that must be met for meeting the "pre-qualification of debris and wreckage contractors."
2. The second provision creates a financial incentive to encourage local and state governments to recycle debris. Some effective ways to recycle debris include composting or mulching vegetative debris, using materials such as concrete or asphalt as sub-base for roads, selling scrap metal to dealers, and using dirt as landfill cover or for agricultural purposes. FEMA will pay the federal share for all eligible recycling of debris, including sorting. If an applicant receives any financial benefit from the salvage value of the recyclable materials, it may retain this revenue. If an applicant recycles debris during disaster operations, the following information must be provided for preparation of the project worksheet: a description of what the applicant did to recycle debris, the volume of debris that was recycled, and the monetary or non-monetary benefits, if any. If a contract stipulates that the contractor will retain possession of recyclable materials, and therefore there isn't any salvage value, this should be reflected in the bid price.
3. The last provision available recognizes the eligibility of the regular time of force account (your employees) labor of state and local governments involved in or administering debris and wreckage removal. This allows FEMA to pay the straight- or regular- time as well as the overtime salaries and benefits of an applicant's permanently employed staff. The six month time limit for debris removal still applies. The hours and fringe benefit rates must be clearly identified and tracked. Participation in this initiative requires, the activities that force account labor are involved with, such as debris clearance and monitoring, and the volume of debris cleared by force account to be recorded.

At your kick-off meeting, which will be scheduled at the applicant briefings, you will need to identify for the State and Federal Public Assistance Coordinators the initiatives you are interested in participating in.

Any questions, let me know.

Donna Voss





cc EXHIBIT 3/29/10  
815  
Pennington

**Map 14-1**  
**Landslide Hazard Areas**

DNR Landslide Hazard Areas\*

Other Landslide Potential Areas

Slope Greater than 33% and elevation change greater than or equal to 10 feet, intersecting soft and stiff soils.

\*The Department of Natural Resources, Geology and Earth Resources Division (DGER) Landslide dataset is a compilation of landslide data previously mapped by a variety of sources at all scales, and is assessed for reliability by the DGER.

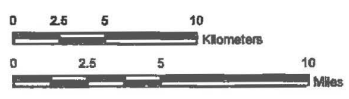
Washington State Department of Natural Resources,  
Division of Geology and Earth Resources



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Tetra Tech, Inc.  
May 2010

Data Sources:  
Snohomish County  
US Geological Survey  
Washington State Department of Natural Resources  
Division of Geology and Earth Resources



**Snohomish County Natural Hazards Mitigation Plan  
Progress Report  
1<sup>st</sup> Annual Steering Committee Meeting**

**Meeting Minutes  
Wednesday August 23, 2006  
6:00 – 8:00 PM**

**In Attendance:**

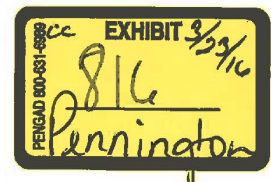
Brad Feilberg, City of Monroe  
Kate Galloway, City of Monroe  
Mike Ganz, City of Stanwood, Camano Island/Stanwood Fire  
Steve Thomsen, Snohomish County Public Works  
Christine Badger, Snohomish County Emergency Management  
Chuck Steele, Washington Dept. of Ecology  
Cyd Donk, City of Sultan  
Brad Collins, City of Arlington  
Dennis Fenstermaker, City of Darrington, Darrington Fire District 24  
Diane Boyd, Resident  
Rob Flaner, Tetra Tech/KCM Inc.  
Karen Wood-McGuinness, Snohomish County Public Works, SWM

**Meeting Objectives**

- Organize Steering Committee
- Review Progress Report
- Identify needs for enhancement
- Expansion of the Partnership (Linkage)

**Agenda**

- **Welcome and Introductions**
  - Round Table Introductions
  - Review Agenda - changes /additions
- **Organize Steering Committee**
  - SC Make-up
  - Chair person
  - SC support roles
- **Progress Report**
  - Purpose for the report
  - Changes in Risk exposure during the reporting period?
  - Review action plan
- **Needs for Plan Enhancement**
  - Emergency response element? (NEMIS/NIMS)
  - Risk assessment?
  - Action Plan(s)
  - Support (Grant application assistance)
- **Expansion of the Partnership**



- New Potential Planning Partners
- Plan linkage procedures
- Role of SC in Linkage procedures
- **Action Items**

Welcome and Introductions were made

Organize Steering Committee

- Rob presented a background of how and why the plan was developed
  - Compliance with the Disaster Mitigation Act of 2000
  - plan allowed eligibility for grants administered by the Act (PDM & HMGP)
  - Snohomish County Public Works, Surface Water Management took the lead in the plan's development
  - The intent of the plan, once developed, was for Snohomish County Dept. of Emergency Management to take the lead responsibility for the annual progress assessments and required updates
- SCNHMP is comprised of 43 entities (13 Cities and 30 Special Purpose Districts)
- Original 13 member SC guided the plan; is a subset of the entire group
  - comprised of citizens, planning partners, special purpose districts
- Upon completion, as specified in the plan, the SC wished to keep their role active
- SC continuing tasks as identified by the SCNHMP
  - Produce the required yearly progress report
  - Update the SCNHMP after 5 years
  - Periodically review and keep track of the progress
- At the end of the SCNHMP planning process a request was sent to all participants to request a commitment to continue to participate; the SC tried to maintain the same representation
  - only received a small portion of responses
- Steering Committee Meeting today is to reorganize and reassemble the SC
  - have a quorum with the members present tonight (minimum 7)
  - the original SC established ground rules for the SC operation
- Present expectations of SC
  - 1 meeting per month during the original planning process
  - Primary function of this SC meeting
    - review and approve the Progress Report
    - Presently, 1 meeting per year to review and approve the annual progress report and identify the needs for future enhancements
      - will revisit this topic later in the meeting after discussions on the work plan and actions the SC accepts to accomplish
    - Minimum commitment from members on this Steering Committee is to attend 1 meeting per year
      - time frame for this meeting is June to August due to required FEMA deadlines of the Progress Report



- Steve Thomsen presented for discussion: the production of this annual progress report should only be the minimum task that the SC is charged with; the SC can do more
  - Other options for SC potential actions
    - Linkage of new partners: review and approval
    - Grant review: screening and coordination
- Selecting new SC chair
  - responsibilities include
    - run SC meeting
    - approve agenda
    - coordinate with planning team
    - assess the needs for meeting
- Floor was opened for nominations for SC chair
- Brad Collins nominated Mike Ganz
- discussion was added to have a vice-chair due to everyone's extremely busy schedules to assist in keeping the SC active in its roles
- Brad recommended Steve Thomsen as vice-chair
- Both Mike and Steve agreed they could serve
- Consensus approved both Mike Ganz as chair and Steve Thomsen as vice-chair
- The SC will now consist of an 11 person committee
- Steering Committee's added roles
  - Discussion of expansion of the SC's role to benefit the 43 participating entities
  - SC would be a good forum to coordinate and review PDM and HMGP grants from the participating entities to enhance the chances for successful grants and to provide expert assistance on submitting grants
  - Review requests for linkage to the SCNHMP
    - Camano Island/Stanwood Fire is considering linkage to the SCNHMP
    - Last year the Sauk-Suiattle Tribe indicated a potential interest to link to the SCNHMP
  - Bob Freitag, UW, presented the proposal that the SC chair(s) could call a SC meeting together after an emergency event to help re-assess the provisions of the SCNHMP
    - To review the initiatives and ask the question "...are the initiatives on target?"
    - the "emergency" would not have to be a "declared" emergency
- Results: the SC is open to the enhanced role of
  - future linkage review
  - coordinate grant applications and review
  - meet after an event to review status

### Progress Report Review

- Only one declared natural hazard within the planning area during this reporting period the flood event that occurred between January 27<sup>th</sup> and February 4<sup>th</sup>, 2006. This was declared for 12 western Washington Counties. The event in Snohomish County was



primarily along the Stillaguamish River, the landslide that re-routed the Stillaguamish River near Steelhead Drive.

- Review of change in risk exposure from landslide
  - expect to reassess the risk analysis for landslides at the 5 year update due to additional development pressures
- Review of Action Plan
  - Coalition Partner Cities and Special Purpose Districts were sent the Draft Progress Report with the Action Plan matrix to report the status of the initiatives they identified in the SCNHMP
  - 23 of the 43 entities replied by recording the progress their initiatives
    - responses ranged from no action to complete
  - SC members recommended adding a column “completion status” for each initiative to allow for quick assessment of the progress with a simple key to denote completed, in progress, no action
  - Also a key for the terminology will be added to the report for long term, short term, etc. for clarification
- The planning team will make the changes recommended by the SC and will forward the final report to each of the Coalition Partner Cities and Special Purpose District to present to their governing bodies, along with instructions

#### Enhanced role of the Steering Committee

- Grant review and coordination would be an appropriate and strategic role
- Linkage to new partners
  - Review and recommend
- Meet as needed after events (to be defined later)
- Assess how can the plan be made better and more useful

#### Needs for Plan Enhancement

- Bob Freitag opened the discussion of how to use the plan to drive recovery
  - How can we use this plan for positive change, as “drivers for change”
  - Identify the number of people at risk for different events (floods) and not just the risk to “areas”
- NEMIS/NIMS is tied to response and preparedness
  - Should the SC open the plan to adding the response and preparedness element?
  - Mitigation focuses on property
  - Response and preparedness focuses on people
  - Presently, there is more overlap between mitigation and response and preparedness than existed during the development of the SCNHMP
  - SC would like to learn more about NEMIS/NIMS before considering these potential linkages
- Risk assessment
  - Landslides
    - Should the SC recommend changing the risk assessment for landslides based on the Stillaguamish landslide at Steelhead Drive?

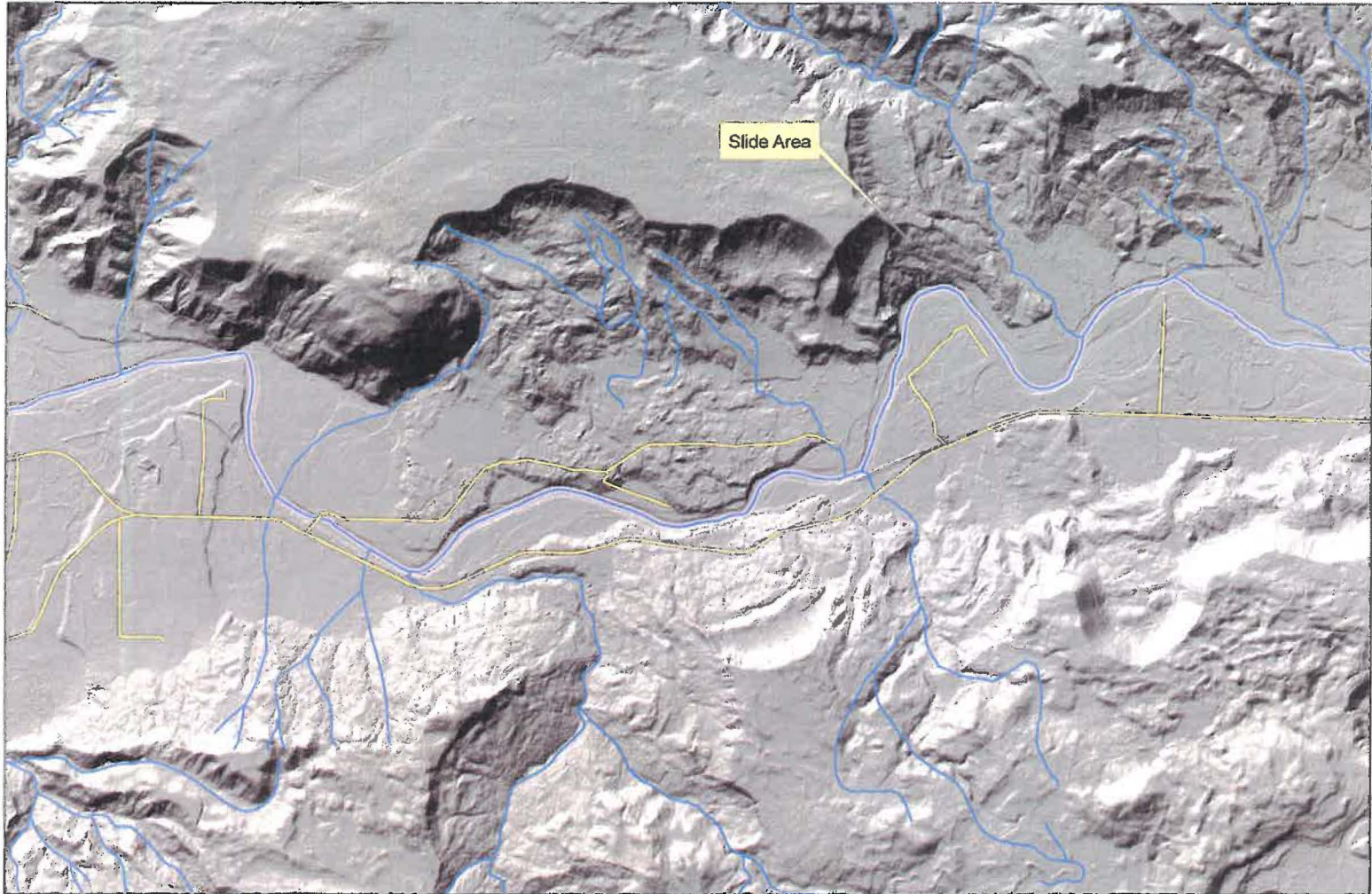
- The risk may have changed
  - Vulnerability to the community as a whole may not have changed, but may have changed for roads and other infrastructure
- Brad Collins raised the issue of coastal areas being more vulnerable to landslides
- Tsunami data should be reassessed due to new data is now being developed
- Global warming and climate change impacts need to be added into the risk assessment including coastal inundation
- Wildland fire, especially along the urban fringe should be reassessed

#### Expansion of Partnership

- Original planning area boundary was set using the boundary of the old Dept. of Emergency Management
- Camano Island/Stanwood Fire proposes linking to the SCNHMP
  - Island County is not planning on developing a natural hazards mitigation plan
  - This would expand the boundary of the SCNHMP
- Chuck Steele raised concern that the SCNHMP risk assessment does not cover any area outside of the original boundary
- Mike Ganz will check to see if Island County is conducting a risk assessment that Camano Island/Stanwood Fire could utilize
- SC members at this point do not see a potential conflict with adding Camano Island/Stanwood Fire if they have a risk assessment, especially since they are not a permitting authority
- SC recommends that Camano Island/Stanwood Fire, as should any requesting linkage organization, submit a notice of intent and application for linkage (as outlined in Appendix D of Volume 2 of the SCNHMP) to the SCPOC and the SC for review
- In 2005, just prior to the final completion of the Plan, the Sauk-Suiattle Tribe inquired about the possibility of linking to the SCNHMP
  - The Sauk-Suiattle Tribe has yet to respond to requests by planning staff to determine their intent to pursue linkage during the preparation of this Annual Progress Report




#### Action items

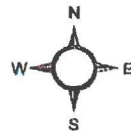
- The SC will consider reconvening later this fall (before the end of 2006) if grant funding does become available
  - to determine how to deal with the grant proposals from Coalition Partners and Special Purpose Districts
  - proposals reviewed and forwarded (endorsed) by the SC would add to the competitiveness of the grant proposals
- Planning staff will incorporate SC additions and changes to the Progress Report, send the completed Progress Report to SC members, Coalition Partners, and Special Purpose Districts
- Meeting minutes will be sent to SC members
- Meeting was adjourned at 8:20 PM



**Oso Slide Area**

Snohomish County LIDAR Data, 2003

-  Street Network
-  Tributaries
-  North Fork Stillaguamish River



GEO01824

PENGAD 800-631-6269  
 EXHIBIT  
 817  
 8/23/16  
 For information