Date To	Горіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
7.3.19 Na Written Comment to Planning Commission Wendy Black	Natural Resources	Concerned that the area where home is located was in a protected natural area according to the first map they were sent, but now seems to be included in the industrial area. Concern about project impact to farm use.	Existing farm uses are allowed both inside and outside of the city. Development Review of new construction and new grading will be subject to the City's Natural Resource Overlay District once annexed into the city.	Planning Commission did not recommend any revisions to the proposed code amendments at the September 23, 20149 Planning Commission Meeting and discussed the NRC's recommendation at the January 13, 2019 Planning Commission Meeting. After further deliberation, the Planning Commission retained their initial direction to staff to not pursue additional code amendments for

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Natural Resources Committee (NRC) Letter	Upland Habitat	The NRC believes that there is a need for additional protection to retain high- value habitat directly abutting protected water features. The Natural Resources Committee believes that new code should be created to address these areas as part of the Beavercreek Road Concept Plan Zoning and Code Amendments.	Staff presented this analysis to the Natural Resource Committee on October 9, 2019 and November 13, 2019. The Natural Resource Committee submitted a letter with a keyed map into the record requesting the Planning Commission create code to regulate and protect upland habitat areas 3 and 4 as they are of specific interest to the committee and are contiguous to large habitat areas. They support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 merits additional protection if analysis can show enough tree area located outside of the Natural Resource Overlay District exists. If the Planning Commission supports additional regulation, staff recommends adding code to either OCMC Chapter 17.49 Natural Resource Overlay District or OCMC 17.41 Tree Protection, Preservation, Removal and Replanting Standards and return at a future meeting with proposed code.	Planning Commission did not recommend any revisions to the proposed code amendments at the September 23, 20149 Planning Commission Meeting and discussed the NRC's recommendation at the January 13, 2019 Planning Commission Meeting. After further deliberation, the Planning Commission retained their initial direction to staff to not pursue additional code amendments for Upland Habitat.

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Nancy Broshot, Ph.D. Natural Resources Committee Chair (speaking for herself)	Upland Habitat	Forest fragmentation is one of the major documented negative impacts of urbanization and is an insidious threat to natural areas. Large intact areas of forest contribute to species diversity (both plant and animal), help remove pollutants from the air, mitigate climate change, and protect water quality. Development chips away at forests edges, reducing interior habitat until the land no longer functions ecologically as forest habitat. She recognizes the importance of additional housing in our area, but felt the need to balance development with protection of important natural resources, that once gone cannot be replaced. Areas 3 and 4 are important natural resources. Supports conservation easements in Areas 3 and 4 with potential density transfers.	See above comment	The Planning Commission discussed the letter from Ms. Broshot at the February 24, 2020 and felt that enough land was protected through the Geologic Hazards and Natural Resource Overlay District (especially in areas 3 and 4) that the need to create brand new regulatory code just for those areas was not warranted.

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
7.12.19	Infrastructure	Territory that is annexed to the City	This is consistent with Staff's understanding.	No response needed
Written Comment		must be withdrawn from CRW and	New development within the concept plan	for this comment
to Planning		served by Oregon City services to the	area (except for the previously approved	
Commission		extent practicable. CRW assumes that	Villages of Beavercreek) will utilize city water.	
		future development will, in large part,		
Clackamas River		be guided and coordinated consistent		
Water (CRW)		with the concepts provided in the Joint		
		Engineering Study, June 11, 2018, by		
		Murraysmith.		
7.15.19 Written	Infrastructure	Assuming that the BRCP is developed in	The school property to the south of the	No response needed
Comment to		stages over the next 5-10 years, the	Concept Plan area will have vehicular access	for this comment
Planning		District currently believes that it has the	to the Concept Plan and can connect to local	
Commission		current capacity and/or will be able to	streets when it is constructed.	
		have time to add capacity to meet the		
Wes Rogers Oregon		long-term enrollment generated by the		
City School District		Beavercreek Road Concept Plan		
		development.		
Wes Rogers Oregon City School District		long-term enrollment generated by the Beavercreek Road Concept Plan development.		

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
8.12.19 Testimony to Planning Commission Paul Edgar Entered into the record- Title 4 Map	Zoning Map	Request that the Planning Commission work with Metro to revise the Title 4 Industrial maps to remove a parcel owned by Terry Emmert to allow construction of housing for homeless veterans onsite.	https://www.oregonmetro.gov/industrial- and-employment-land Portions of the CI area in the BRCP are identified as Title 4 Industrial areas. Any change to the title 4 Map must be adopted by Metro and would need to be completed before the Code amendments are adopted by the City to remain consistent with Title 4.	This will be addressed at the September 9, 2019 Planning Commission Hearing
8.12.19 Testimony to Planning Commission Christine Kosinski	Geologic Hazards	Concerned about development in the Beavercreek concept Plan areas affecting homes on Holly Lane as Holly lane is in a historic landslide area. Does not support any connection of the concept plan area to Holly Lane-	Geologic Hazard Review within the city is subject to <u>OCMC 17.44 Geologic Hazard</u> <u>Review.</u> Areas near the Thimble Creek Conservation Area are subject to the Geologic Hazard code at time of Development.	This topic will be addressed at the September 23, 2019 Planning Commission Meeting
9.9.19 Jim Nicita	Cottage Industry	2011 City Commission Meeting voted to have additional job opportunities at the south of the concept plan. Encouraged PC to look at a hybrid district rather than a residential district with home occupation uses. Encourage implementing cottage industry.	Planning Commission requested staff to return at a future meeting with additional opportunities for jobs in the southern part of the Concept Plan area above and beyond the existing home occupation license.	This topic will be further addressed at the October 14, 2019 Planning Commission Meeting

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
9.9.19 Elizabeth Grazer Lindsey	Cottage Industry	This area was brought into the Urban Growth Boundary for jobs. There are many businesses that are currently in the county that would want to be involved in this use. Encourage allowing cottage industry to promote incubator spaces.	Planning Commission requested staff to return at a future meeting with additional opportunities for jobs in the southern part of the Concept Plan area above and beyond the existing home occupation license.	This topic was further addressed at the October 14, 2019, and November 18, 2019January 13, 2020 Planning Commission Meetings

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Elizabeth Grazer	Cottage	Traffic congestion exists because of	Planning Commission reviewed possible	
Lindsey	Industry/Enhanced	everybody leaving the city to work,	revisions to the home occupation license for	
10.14.19	Home Occupation	Cottage Industry allows entrepreneurs	the concept plan areas and choose not to	
		to grow their business inside the city.	allow outdoor storage.	
Submitted 10.14		Jobs in rural areas should be in city		
		areas. The City is losing a lot by not		
		allowing people to grow their own		
		business. We should have a		
		neighborhood where industrious people		
		can have an opportunity to thrive.		
		Fences can be used to make outdoor		
		storage more compatible. The		
		range of lot sizes to allow different		
		cottage industry types. Think of this		
		area as an attraction/brand The		
		Planning Commission needs to find more		
		people to interview to see what meets		
		their needs.		
Elizabeth Grazer	Cottage			
Lindsey	Industry/Enhanced			
11.18.19	Home Occupation			

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Elizabeth Grazer Lindsey 1.13.20	Cottage Industry/Enhanced Home Occupation/Parks	Recommend under allowed uses, hoe occupation should be identified as encouraged. Keep larger park factor in the park acquisition code.	Revised the home occupation code langue which does not change the requirements to does provide additional background on intent. 17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area Home occupations and Cottage Industries within the Thimble Creek Concept Plan Area are <u>encouraged</u> and allowed an expanded level of uses to support job creation in Oregon City and shall comply with all of the following:	The draft Code has been amended to reflect this change. The Planning Commission did not make any additional revisions to the revised park acquisition equation
9.23.19 & 3.24.20 Christine Kosinki Handouts	Geologic Hazards	Holly Lane Connection is not suitable for road connection to I-205 No insurance coverage is readable available for property owners If near a landslide area you cannot get landslide insurance. The City should provide additional information on landslides and protection people can take to protect their land. State law requires people to educate about landslides. Oregon City has been derelict in educating the public.	Josh Wheeler, Assistant Engineer presented a background on the OCMC 17.44 Geologic Hazard Overlay District. He also recommended people attend the October 8, 2019 City Commission Worksession about Geologic Hazards.	Planning Commission did not provide staff with any direction on amending the existing 17.44 Geologic Hazards Overlay District.
Todd Mobley Letter submitted 11.25.19 PC Meeting	Transportation Collector Roads	Street system classification – Recommends that the city revisit the need for residential collectors in Beavercreek Concept Plan much lower volumes in the south of the Concept Plan area.	While staff does not disagree with Mr. Mobley that some of the proposed collector may very well not support collector level traffic and should be downgraded to a local street, that level of analysis should be down at the time of development review based on a specific proposal and traffic study.	No amendments are needed to address this issue.

Christina Kosinski	Transportation	Oregon City is required to account for	The request to remove the Holly lane	The Planning and City
Letter Submitted	Holly Lane	known hazards, and such is required to	extension was shared with the City	Commission directed
prior to 11.25.19 &		remove Holly Lane from the TSP and not	Commission at the November 12, 2019 City	staff to keep the Holly
letters submitted at		allow more trips to utilize Holly Lane. If	Commission Worksession and Planning	Lane extension
the 11.25.19 and		the City does not do that, the city will	Commission at the November 25, 2019	projects in the
2.24 PC Meetings		lose its FEMA status. Holly Lane is in a	Planning Commission Hearing.	Transportation system
		Geologic sensitive area and the city		Plan as adopted.
		should not be encouraging more traffic	During the Transportation System Plan	
		to use this county road.	(TSP) update in 2012, it was determined that	
			the intersection of Hwy 213 & Beavercreek	
		Traffic impacts to Holly lane from	Road would be too congested in the future	
		concept Plan traffic will be huge and	and would not meet Oregon Highway Plan	
		Holly Lane should not be sued as an	mobility standards through the TSP planning	
		alternative route.	horizon year of 2035. The TSP recommended	
			the City move forward with a project to	
		The Holly Lane Extension needs to be	address the need for a refinement plan at the	
		removed from the TSP.	intersections.	
			Over the next 3 years, the City worked with	
			ODOT and a Technical Advisory Group and a	
			Community Advisory Group identified a	
			variety of reasonable improvements to	
			increase the capacity and/or safety of the	
			intersection along with alternative mobility	
			targets for measuring congestion which was	
			adopted by the City and the Oregon	
			Transportation Commission. Holly Lane and	
			its long-term connection to the Concept Plan	
			area through Maple Lane and Thayer Road	
			was identified as an alternate route to the	
			intersection of Beavercreek and Highway 213.	
			Seth Brumley, Region 1 Planner with the	
			Oregon Department of Transportation	
			(ODOT) submitted a letter identifying that	
			removing Holly Lane extension projects from	
			the ISP would require the City to revise the	
			alternate mobility target and provide an	

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
			alternate project that meets or exceeds the benefit of the Holly Lane extension. Staff is currently unable to identify an alternate project which is affordable and has not allocated funding or staff time towards the creation of such an alternative. The city is currently working with Clackamas County on the implementation of the Holly Lane connection and believes that the project is an important alternate route to the system to ease congestion in this area.	
Paul Edgar Email Submitted 11.25.19 and letter /public comment at 2.24.20 PC meeting	Transportation Holly Lane/ Geologic Hazards	Mr. Edgars comments were very similar to Ms. Kosinski –regarding Geologic Hazards on Holly Lane and in the Concept Plan area. He emphasized that the city should not be encouraging trip traffic from the Concept Plan to use Holly Lane by having TSP projects on Maple and Holly Lane. Mr. Edgar also felt that the city was playing a shell game in the TSP by assigning trips to Holly Lane to reduce trip calculations at 213 and Beavercreek.	Please refer to above comments	Please refer to above comments

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Ray Atkinson Email (2) Submitted 11.25.19	Transportation Induced Demand, Transit analysis in Transportation Plan	Induced demand would reduce any long-term congestion reduction from widening Beavercreek Road. Even though the City Commission supported widening Beavercreek Road, I am thankful that both memos state that widening Beavercreek Road will make this road less inviting and safe for pedestrians and cyclists. Since the Beavercreek Road Concept Plan encourages walking and biking, I hope the City Commission realizes that widening Beavercreek Road likely will discourage walking and biking and encourage more people to drive. Did either memo analyze whether induced demand or future drivers would likely be the main cause for the widened Beavercreek Road to become congested?	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended a transition from 5 lanes to 3 lanes after Meyers Road.
Diane Maxon Email (11.25.19) and Letter (11.18.19)	Transportation Traffic Congestion	Transportation General Traffic Congestion	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended a transition from 5 lanes to 3 lanes after Meyers Road.
Debbie Riggen Email submitted at 11.12.19 CCWS	Transportation Beavercreek Road Design	Not Supportive of Roundabout	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended the use of signals along Beavercreek.

Date	Торіс	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Elizabeth Grazier Lindsey 11.25.19 PC Hearing	Transportation	Stream of traffic on Beavercreek Road throughout the day. Both to and from Oregon City. It is only right to protect the capacity. Arterials should be 5-lane this area was determined a 3 lane as it was supposed be green and everybody was bike or walk. SDCs should be raised to pay for a full 5 lane section. Roundabouts are not optimal for pedestrians.	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended a transition from 5 lanes to 3 lanes after Meyers Road. Discussions about funding strategies will occur outside of the zoning code amendment process.

Thank you for reaching out Christina. The Blue Ribbon Committee, created in 2016, is a community group working to increase awareness around available sites around Clackamas Community College.

Below are the answers to your questions.

- Why was it created? to attract targeted industry to the existing and zoned Industrial sites in the Beavercreek Employment Area, near and around Clackamas Community College area by leveraging the education and training resources at Clackamas Community College.
- Steering Committee -Lori Hall, CCC PIO, Lisa Davidson Executive Director of CCC Center for Business and Industry, Lori Bell Economic Development City of Oregon City, Current Executive Director Oregon City Chamber of Commerce Victoria, Jon Legarza – or other representative from Clackamas County Ec Dev Department, Kent Ziegler, OCBA representative.
- 3. Eric Underwood and Amber Holvek, previous Chamber Director, created the ad hoc committee.
- 4. It is not a public body and interested parties are welcome to attend. The group meets on an ad-hoc bases. Contact Lori Bell for more information.

Please let me know if you need anything else.

Lori Bell Economic Development Ibell@orcity.org



City of Oregon City PO Box 3040 625 Center Street Oregon City, Oregon 97045 503-974-5517 x 1588 Direct 503-657-0891 City Hall

Hello,

I live on Loder Road in the area that now seems to be planned for a Campus Industrial Zoning. Currently we are Rural Residential Farm/Forest 5 and we have a small farm that does include animals. This is significant source of food for our family. We also live on the ridge above the creek. I am concerned how the rezoning would impact our land use. Are you able to provide me further information? I've read through much of the information on the website. I am very concerned that the area where our home is was in a protected natural area according to the first map we were sent, but now seems to be included in the industrial area. I had trouble telling from all the other maps and information what was happening.

Thank you for your assistance in this matter. Kind regards, Wendy Black 15060 S Loder Rd, Oregon City, OR 97045

Memorandum

To:	Oregon City Planning Commission
From:	Todd E. Mobley, PE
Date:	November 25, 2019
Subject:	Beavercreek Concept Plan Implementation: Street Classification



321 SW 4th Ave., Suite 400 Portland, OR 97204 phone: 503.248.0313 fax: 503.248.9251 lancasterengineering.com

This memorandum is written to provide comments regarding the planned street system within the Beavercreek Concept Plan area, specifically, the number of streets slated for designation as collector within the plan area.

Collector Function

In the hierarchy of streets, collectors take people from local streets, "collect" them, and bring them to higherorder streets such as minor and major arterials. In the vicinity of the concept plan area, streets such as Glen Oak Road and Loder Road are collectors. Meyers Road is a minor arterial and Beavercreek Road is a major arterial. Figure 1 below is an excerpt from the Transportation System Plan (TSP) that shows street functional classifications in and around the plan area.



Figure 1 - Excerpt from Figure 8 in the Transportation System Plan

Planned Density

The current proposal for implementation of the Beavercreek Concept Plan includes a mix of industrial, commercial, mixed-use, and residential zones. The northern end of the plan area is primarily industrial,



transitioning to mixed use and residential zones to the south. The higher intensity uses such as commercial and high density residential are near Beavercreek Road and lower density residential to the south and east, away from Beavercreek Road. In addition, the Oregon City School District has long-term plans to construct a new elementary school south of the plan area, adjacent to the southeast corner of the plan boundary.



Figure 2 - Proposed Zoning

An exhibit showing the proposed zoning and comprehensive plan designations is attached to this memo, with an excerpt shown in Figure 2 for reference. The blue lines in the Figure 2 are all planned collectorlevel roadways. On the north end of the plan area, the collectors have a wider spacing. As those same streets extend south, the plan area narrows, and the spacing of collectors becomes much tighter. The street layout is logical, but as explained below, closer examination of residential densities and developable area shows that some of the streets slated for collector status will very likely not carry more traffic than local streets and will not warrant designation as a collector.

With land uses that have the highest trip intensity situated closest to Beavercreek Road, some of the streets, particularly to the south and east, will naturally carry lower traffic volumes. The proposed R5 zoning designation to the south and east result in lower density and correspondingly low trip intensity. That combined with the closer collector spacing, results in a collector roadway density that is higher than necessary.

Effect of Left Turn Restrictions

The concept plan includes restricting left turn movements along Beavercreek Road, except at intersections controlled by either a traffic signal or a roundabout. The intersection of Glen Oak Road at Beavercreek Road is the southernmost intersection along Beavercreek Road within the Urban Growth Boundary that is planned for either a traffic signal or a roundabout. All new street intersection south of Glen Oak Road will be limited to right turns in and out, including the major arterial/collector intersection of Beavercreek Road at D56/Timbersky Way. See Figure 3 for a reference to the future street labeled D56.





These turn restrictions further diminish the future traffic volumes on some of the streets within the plan area. For example, most trips, particularly in the southern area, are expected to be to and from the north. Exiting trips will have convenient access to Beavercreek Road to make a right turn and travel north, but incoming trips will need to make a left turn from Beavercreek Road at Glen Oak Road and use the internal street network. This results in decreased traffic volumes on streets such as D56, which is shown in Figure 3.

Figure 3 - Excerpt from TSP with New Street Labels

Does it Matter?

Sizing and classifying streets appropriately results in the most efficient use of the land available within the plan area. Perhaps more importantly, ensuring that streets are not overbuilt results in increased safety and neighborhood livability. By design, collector streets typically have wider lanes and higher travel speeds than local streets. Keeping street designs slow and safe is critical to ensuring that neighborhoods are comfortable for all users.

Summary & Conclusions

The streets contained in the current Beavercreek Concept Plan create a logical network that will serve the diverse range of land uses in the plan area. However, as the plan area narrows to the south and zoning districts get lower in both density and trip intensity, the result is a system of too-closely spaced collector streets.

It is recommended that with the implementation of the concept plan, that flexibility be retained with respect to internal street classifications, particularly in the southern portion of the plan area. This will allow the creation of new, vibrant neighborhoods, where the emphasis is on the people, the neighborhoods, the land uses, and the parks, with lower emphasis on the streets that connect them.

Beavercreek Road Concept Plan

Proposed Zoning and Comprehensive Plan Designations



Legend

BRCP Subdistrict

We Eas Ma Mix No

West Mixed Use Neighborhood East Mixed Use Neighborhood Main Street Mixed Employment Village

North Employment Campus

Comp Plan Designation

High Density Residential Medium Density Residential Mixed Use Corridor Mixed Use Corridor Industrial

Zoning Designation

High Density ResidentialR-2Medium Density ResidentialR-5Neighborhood CommercialNCMixed Use CorridorMUC-2Campus IndustrialCI



Streams

- City Limits
 - Future Road Connections



Oregon City School District No. 62

Learning to be our Best PO Box 2110 (1417 12th St.), Oregon City, Oregon 97045-5010

July 15, 2019

Community Development Department City of Oregon City 698 Warner Parrott Road Oregon City, OR 97045

RE: Beavercreek Road Concept Plan - BRCP

The District has been asked to provide comments concerning the BRCP and the current proposal for zoning designations and code amendments. Comments are to address the ability of Oregon City School District to adequately provide public educational services to the area. Current impacted school enrollment areas are Gaffney Lane and Beavercreek Elementary Schools, Ogden Middle School and Oregon City High School.

The District has limited short-term capacity available at both Gaffney Lane and Beavercreek Elementary Schools, capacity available at Ogden Middle School and capacity at our three high schools. Recent residential developments in the District have yielded significantly less than one student per household across all grade levels. The District currently is in design and construction to replace/expand and update middle schools and add safety and security features to all District schools. Current enrollment projections show a gradually increasing elementary enrollment, a middle school enrollment that decreases in the short term and then gradually increases and high school enrollment that slightly decreases. Assuming that the BRCP is developed in stages over the next 5-10 years, the District currently believes that it has the current capacity and/or will be able to have time to add capacity to meet the long-term enrollment generated by the Beavercreek Road Concept Plan development.

Sincerely,

Une Rogen

Wes Rogers Bond Program Manager 503-785-8531, wes.rogers@orecity.k12.or.us

Oregon City Planning Commission Meeting of November 18, 2019

RE: Agenda Item 3c - LEG 19-00003 Beavercreek Rd Concept Plan

Testimony of: Christine Kosinski, Unincorporated Clackamas County

At a recent Planning Commission meeting regarding the above BRCP, I believe this was in September, after a presentation by the City and DKS Traffic Consultants, a question came forward from the Commissioners who wanted to know the traffic impacts to Holly Lane from the BRCP. The answer from the City and DKS was that the impacts to Holly Ln would be minimal. I'm here to give you facts that show the traffic impacts to Holly Ln (at full build out) will be huge, in fact, earth shaking.

MAZELLE JOIN

First you must understand the approved development on the old bus barn. I've given you a map which shows these vehicles will exit onto Maplelane, go up Thayer Rd to a turnaround. When they come back down to Maplelane, the vehicles will only be allowed to make an automatic right hand turn, and then an automatic left onto Holly Ln. This would be for a capped trip count, of I believe, 127 trips per day which can be changed in the future. At this point, the City is beginning to force traffic down Holly Ln, **See Map #1 which illustrates the flow of traffic onto Holly Ln**.

Next you must understand the huge traffic counts that will come up the South end of Holly Ln from the Park Place Concept Plan. Next in your packet, is Page 7 of the Kittleson & Associates Traffic Report, dated May, 2007. The report shows the significant impacts to Holly Ln of 167-200%, and this is just for the Park Place Concept Plan

Next in your packet is Page 16 of the Kittleson & Associates Traffic Report, dated May, 2007, stating that the Park Place Plan will generate about 22,990 new weekday daily trips with almost all of these using Holly Ln since it is the only North/South Connector.

Next, see Map #2, where I have circled a large area where most of these streets will use Holly Ln, in addition to both the BRCP and the Park Place Concept Plan. The City is planning for Holly Ln to take on monumental amounts of traffic due to the traffic counts coming out of both of these Concept Plans, however, this small landslide ridden street will not be able to absorb these large amounts of traffic which do belong only on a Major Arterial.

In the meantime, I hope you will read the letter from Kristina Browning, a homeowner on Thayer Rd. The letter is posted on the City website under the Nov. 12th City Commission Work Session. She speaks to the SAFETY issues that already exist on Maplelane and which are worsening by the day. Then I ask you to read the Oregon City Comprehensive Plan, under Landslides, where it clearly states "Landslides can be triggered by heavy rains, groundshaking from earthquakes and heavy traffic, and undercutting the lower edge of a slope, which can be caused by erosion along stream banks, and by development, such as cuts in road construction." All of these concerns are very real for Holly Ln homeowners who cannot obtain any landslide insurance to cover expensive damages.

I will be back in a week with testimony that I believe will help you to understand why the City will not be able to use Holly Ln. In the meantime, see more numbers below.



Park Place Plan - 22,990 new weekday daily trips Growth in travel demand for Holly Ln (from Park Place Plan) from 167-200 %

Beavercreek Road Concept Plan traffic numbers for Holly Lane 5700 part time employees = Two trips per day equals more than 10,000 trips per day 1100 new residences = Nominal 7 trips per day equals 7700 trips per day Commercial Center = Add on another 20.000+ trips per day

Total here is about 37,700 trips per day from BRCP, many will affect Holly Ln

These numbers are for full build out, as currently planned.



H. Transportation

Park Place Concept Plan		Project #: 7938.0
May 21, 2007	•	Page 7

Growth in Travel Demand

Substantial growth in local and regional travel is anticipated over the next 25 years. The HWY 213 corridor will be hardest hit, with travel demands growing by nearly 50 percent to almost 60,000 vehicle-trips a day. Improvements to this corridor would be very costly and face many difficult challenges to overcome. City and regional planners agree that this vital facility must be protected by enhancing the city's transportation system to better serve local travel.

Redland Road, Holcomb Boulevard, and Holly Lane are also forecast to experience significant increases in travel demands. Each corridor is constrained by narrow rights-of-way, physical features, and/or difficult topography that make improvements difficult. Nonetheless, it is imperative that the local transportation system be improved and expanded to better serve the Oregon City area and protect the regional resources of HWY 213 and I-205.

A comparison of 2027 No-Build forecast traffic volumes to those measured under existing conditions reveals significant growth in demand will occur on several key corridors in the Oregon City area. Table 1 provides examples of existing and forecast volumes on several roadway segments and the percentage of growth that is estimated to occur.

Roadway	Existing PM Peak Hour Volumes	2027 No-Build PM Peak Hour Volumes	Percent Increase
HWY 213: North of Washington St.	5,500	8,600	56%
HWY 213: Washington St. to Rediand Rd.	4,900	6,700	37%
HWY 213: Rediand Rd. to Beavercreek Rd.	4,000	5,800	45%
Redland Rd.: HWY 213 to Abemethy Rd- Holcomb Blvd	900	1,500	67%
Rediand Rd.: Abemethy RdHolcomb Blvd. to Anchor Way	1,300	1,800	38%
Redland Rd.: Anchor Way to Livesay Rd.	1,100	1,800	64%
Redland Rd.: Livesay Rd to Holly Ln.	1,100	1,800	64%
Holly Ln: Redland Rd. to Donovan Rd.	300	900	200%
Holly Ln.: Donovan Rd. to Maplelane Rd.	300	800	-167%
Holcomb Blvd.: Redland Rd. to Front St.	800	1,300	63%
Holcomb Bivd .: Front St. to Swan Ave.	600	1,100	83%

TABLE 1 GROWTH IN TRAVEL DEMAND ON KEY CORRIDORS

The projected growth in travel demand on these corridors ranges between 300 vehicles per hour (on Holly Lane) to 3,100 vehicles per hour (on the northernmost segment of HWY 213). The percent increase ranges from 38 percent to 200 percent. These increases are so significant that demands on several roadways will exceed their existing capacity. The next section presents a summary of how well the existing transportation system can accommodate these 2027 No-Build travel demands and what mitigations are likely necessary to meet agency performance standards.

Kittelson & Associates, Inc.

Portland, Oregon

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Appendix

Park Place Concept Plan	Project #: 7938.0
May 21, 2007	Page 16

Table 4 summarizes the estimated site trip generation during a typical weekday, as well as during the weekday PM peak hour (all trip ends shown in Table 4 are rounded to the nearest five trips).

	ITE Land Use		Weekday Daily Trips	Weekday I	PM Peak i	lour Trips
Land Use	Code	Size	Total	Total	In	Out
Single Family Residential	110	1,106 HH	10,585	1,120	705	415
Apartments	220	470 HH	3,160	290	190	100
Condo/Townhouse	230	134 HH	785	70	45	25
Specialty Retail	. 814	122,750 SF	5,440	330	145	185
General Office	710	274,430 SF	3,020	410	70	340
Total New Trips			22,990	2,220	1,155	1,065
Internal Trips (5%)			1,150	110	55	55
Mode Split (5%)			1,150	110	60	50
Total Net New Trips		and the second s	20,690	2,000	1,040	960

TABLE 4					
PARK PLACE CONCEPT P	LAN	ESTIMATED	TRIP	GENERATION	

Table 4 shows that the site is expected to generate approximately 22,990 new weekday daily trips; of which 2,220 will be during the weekday PM peak hour. Approximately 110 of the PM peak hour trips will be internal to the site, while another 110 trips will be made by modes other than a single-occupancy vehicle. This means that the site will generate approximately 2,000 net new trips on the surrounding roadway system during the weekday PM peak hour; of which, approximately 1,040 will be into the site and 960 will be leaving the site.

It should be noted that the 2027 No-Build forecast includes growth in households and jobs in TAZs 505, 506, 507, and 508. Because only a fraction of the planning area is in each zone, it is difficult to determine whether some or all of that growth is anticipated within the Park Place concept planning area. No reduction in travel demand was made to try and account for any "overlap" in assumed development. Therefore, it is safe to say the forecasts used in this analysis represent a reasonable worst-case scenario and likely represent greater levels of development than may actually occur. Appendix "E" contains the land use estimates assumed in the Sunrise model for TAZs located within the planning area.

Trip Distribution and Assignment

Trip Distribution

Distribution of the net new site-generated trips onto the study area roadway system is estimated based on a review of select zone analyses produced by the METRO Sunrise model, as well as existing traffic patterns, local knowledge of the area, and professional judgment. Figure 8, displays the estimated trip distribution pattern for the net new trips associated with the Park Place Concept Plan. Appendix "F" contains the select zone analyses results.

Figure 8 shows that approximately one third of all trips are to/from the I-205 corridor, one third are to/from the west, more than one quarter to/from the south, and 13 percent to/from the east.

Portland, Oregon



Oregon City Planning Commission Meeting of February 24th, 2020

Z. 24.20 Hannig-Comissin Meeting-

RE: Agenda Item 3b - LEG 19-00003 Beavercreek Road Concept Plan

Testimony of: Christine Kosinski, Unincorporated Clackamas County

My Testimony consists of the following 3 documents as listed below and are to be made part of the record for the above Agenda Item, the Beavercreek Road Concept Plan.

First Document

E-mail dated January 15, 2020 from Commissioner Rachel Smith asking Professor Bill Burns of DOGAMI "Is it possible to engineer a solution to a site so that a landslide that has moved in the past won't move again?" The answer from Professor Bill Burns is part of this E-mail, and he stated regarding mitigation to stop an existing large deep landslide from moving, the issue is usually cost, he goes on to state "These types of landslides usually cross multiple properties and this causes many issues like who is going to pay and how much. Is one owner paying to stabilize the neighborhood. The other part to understand is that nothing lasts forever. The mitigation will have a design life and making sure that design life is equal or more than the houses life will be difficult."

Second Document

E-mail dated December 13th, 2019 from John Lewis to Paul Edgar regarding City Code and development regulation as highlighted in Mr. Edgar's Question 2, "Does the City Code and development regulation go far enough to regulate development in areas highly susceptibility to landslide conditions?"

Mr. Lewis states "We have intent in 2020 to make several public works related code changes in the next round of OCMC changes and we agree that the City need to adopt several changes as our currentl Geohazard code was adopted in 2010, for instance......

Regulatory Authority – I'd like the City to have more regulatory authority when we come up against a Geotechnical Engineer who's recommendations do not align with our thoughts and/or our third party Geotechnical Engineer's recommendations. We have a reasonable amount of authority, but when professional opinions becomes subjective, we see a need for more strength in our authority.

Geotechnical Special Inspections - Our code calls for special inspections by the applicant's Geotech and most often the City feels more of these inspections are needed than the applicant's geotechnical engineer recommends. We would like to add language to strengthen this code language."

Stormwater - The City's Stormwater code and Stormwater Design Standards encourage reintroducing runoff generated from new development be put back onto the ground or subsurface. In geologic hazards areas re-saturating soils is not a best practice. Our Review practice is to now allow stormwater infiltration in geologic hazards areas, but the code should be updated to eliminate any confusion on this matter. Similar clarifications can be made around stormwater detention in a geologic hazard area.

Undergrounding Utilities = Gnerally OCMC suggests new utilities should be installed underground. Staff typically has not applied this code in geologic hzards areas, **but we would like to include clarifying code language on utility undergrounding in a geologic hazard zone.**

Third Document

The Oregon City Addendum to the Clackamas County Multi-Jurisdictional Natural Hazards Mitigation Plan (NHMP). The entire 59 pages of this document are being submitted and are to be made part of the record for this Agenda Item - The Beavercreek Road Concept Plan. This document also becomes part of the updated City Comprehensive Land Use Plan. See Page 46, where it is stated under Ideas for Implementation, Use the mitigation plan to help the City's Comprehensive Land Use Plan meet State Land Use Planning Goal 7, designed to protect life and property from natural disasters and hazards through planning strategies that restrict development in hazard-prone areas.

All of these documents being submitted, speak to the many issues that are present in many areas of Oregon City, and also that of Holly Lane, where the City intends to heavily use the street for thousands of vehicle trips per day, even though both the Oregon City Addendum of the Natural Nazards Mitigation Plan, as well as the City's own Comprehensive Plan speak to these issues. The City cannot meet these requirements, nor those of State Land Use Goal 7, therefore the City must take Holly Lane, and other streets as well that are very susceptible to future landslides, out of it's Transportation System Plan.

From: Smith, Rachel <rachel.smith@state.or.us> Sent: Wednesday, January 15, 2020 2:18 PM To: BURNS Bill * DGMI <Bill.BURNS@state.or.us> Subject: landslide/development question

Hi Bill.

I have a landslide/development question. Hopefully I can make it brief and easy. Is it possible to engineer a solution to a site so that a landslide that has moved in the past won't move again? I know there are mitigation activities such as diverting water, etc... But if there are houses sitting on a deep-seated landslide, can it be made "reasonably" ok to inhabit?

I realize this may be a loaded question, so feel free to let me know if you don't want to answer.

Thanks!

Rachel

------ Original message ------From: BURNS Bill * DGMI <Bill.BURNS@oregon.gov> Date: 1/15/20 3:38 PM (GMT-08:00) To: "Smith, Rachel" <rsmith@dlcd.state.or.us> Subject: RE: landslide/development question

Hi Rachel,

The answer is yes, but... 😇

Yes, people can engineer a mitigation to stop an existing large deep landslide from moving, but the issue is usually the cost. The cost of design and construction can be very high, especially considering the following. These types of landslides usually cross multiple properties and this causes many issues like who is going to pay and how much. Is one owner paying to stabilize the neighborhood. The other part to understand is that nothing lasts forever. The mitigation will have a design life and making sure that design life is equal or more than the houses life will be difficult.

Hope that helps. Happy New Year!

Bill

From: John M. Lewis <jmlewis@orcity.org>

To: pauloedgar@q.com <pauloedgar@q.com>

Cc: britenshin@aol.com <britenshin@aol.com>; Mike Mitchell <mike.k.mitchell@gmail.com>; Raymond Rendleman <RRendleman@clackamasreview.com>; Laura Terway <lterway@orcity.org>; Jim Nicita - Home/office <james.nicita@gmail.com>; Jesse A. Buss <jessebuss@gmail.com>; Rachel Lyles Smith <rlsmith@orcity.org>; Denyse McGriff <dmcgriff@orcity.org>

Subject: RE: What Is: 'The Best Course of Action to be Taken'??

Date: Fri, Dec 13, 2019 6:17 pm

Hello again Paul. I have done some research and discussed your concerns with Staff and offer the following responses to the two questions you asked:

Edgar Question 1: What is the reason for this Declaration Of Covenant of Release And Indemnity and is there a conflict of interest that City Officials require execution of such a form?

As previously stated the declaration of covenant of release and indemnity is a standard public agencies use and with regard to work planned in a geologic hazard area its considered an industry best practice. The purpose of the Indemnity Agreement is to make sure that the City has signed documentation that the owner / developer is aware of certain types of land are susceptible to risk and to the degree possible the City's liability is limited from any geologic hazards resulting from the project. You need to understand that a City cannot disallow development and when a City is managed properly it is incumbent upon the City codes and processes to limit the responsibility for the entire city, especially in areas where natural risk conditions exist. We will do our best within the law to protect property as well as neighboring properties based on the scientific data available. I'm not a lawyer nor am I sure how having this document would play out for protections against the employees of the City but I suspect unless it were proven to be something like recklessness, or willful blindness, or worse, the employee would also have protections.

Edgar Question 2: Does the City Code and development regulation go far enough to regulate development in areas highly susceptibility to landslide conditions?

The City regulates new development applications that are in a Geologic Hazard Overlay Zone in accordance with OCMC 17.44

. I'm certain you are familiar with this code but I've provided a link. For development in Oregon City it's a high standard but it could be better. Particularly in the case of developers who are not as conscientious as the code is intended to require and inspire. We have intent in 2020 to make several public works related code changes in the next round of OCMC changes and we agree that the City needs to adopt several changes as our current Geohazard code was adopted in 2010. For instance:

DOGAMI Maps - Our code references the LIDAR Maps available in 2009 and DOGAMI has produced new maps. Our OCMap uses the latest DOGAMI maps for reference and the code should be updated to match.

Regulatory Authority - I'd like the City to have more regulatory authority when we come up against a Geotechnical Engineer who's recommendations do not align with our thoughts and/or our

ŝ,

third party Geotechnical Engineer's recommendations. We have a reasonable amount of authority but when professional opinions becomes subjective, we see a need for more strength in our authority.

Geotechncial Special Inspections – Our code calls for special inspections by the applicant's Geotech and most often the City feels more of these inspections are needed than the applicant's geotechnical engineer recommends. We would like to add language to strengthen this code language.

Stormwater – The City's Stormwater code and Stormwater Design Standards encourage reintroducing runoff generated from new development be put back onto the ground or subsurface. In geologic hazards areas re-saturating soils is not a best practice. Our review practice is to not allow stormwater infiltration in geologic hazards areas but the code should be updated to eliminate any confusion on this matter. Similar clarifications can be made around stormwater detention in a geologic hazard area.

Undergrounding Utilities – Generally OCMC suggests new utilities should be installed underground. Staff typically has not applied this code in geologic hazards areas but we would like to include clarifying code language on utility undergrounding in a geologic hazard zone.

Another piece of work on our to do list includes records management of past geologic hazards assessments such that we have these assessments more readily available by way of our GIS system.

I hope this information is helpful for you.



John M. Lewis, P.E.

Public Works Director

City of Oregon City

PO Box 3040 625 Center Street Oregon City, Oregon 97045 503.657.0891 phone 503.793.2255 cell

email:

City web site:

Bid/RFP site:
From: John M. Lewis
Sent: Saturday, November 30, 2019 12:16 PM
To: pauloedgar@q.com
Cc: britenshin@aol.com; Mike Mitchell <mike.k.mitchell@gmail.com>; Raymond Rendleman
<Rendleman@clackamasreview.com>; Laura Terway <lterway@orcity.org>; Jim Nicita - Home/office
<james.nicita@gmail.com>; Jesse A. Buss <jessebuss@gmail.com>; Rachel Lyles Smith
<rlsmith@orcity.org>; Denyse McGriff <dmcgriff@orcity.org>
Subject: RE: What Is: 'The Best Course of Action to be Taken'??

Thank you Paul.

You have articulated this in a way much different than I have considered it in the past. You are correct that we have a standard covenant of release and indemnity form that goes along with approvals to work in a geologic hazard area (attached). We also use it for ROW encroachments. This is a standard form and it's my recollect that agency protections in the form of a covenant release and indemnity forms are an industry standard. I've also attached the DLCD and DOGAMI presentation from October and on slide 6 they specifically highlighted this as a program strength. But given your email and the email audience I have asked our Attoney to help me better understand the history/origins of the form.

As you know geologic hazard areas across Oregon City vary in their susceptibility to landslide. The State has done some amazing work with LIDAR and their geologic research and yet the susceptibility for landslide on a particular parcel must go much deeper, which is what our Geohazard Code strives to achieve. We definitely have steep slopes which often are emphaised on Lidar maps because these maps highlight those areas with drastic topographic changes (Canemah Bluffs). We also have areas with much less slope that are also susceptible to landslide due to the makeup of the soil (Newell Canyon). Both deserve detailed and site specific analysis but I would also argue both have development potential using the right engineered solutions.

But I took away two specific questions from your email which I will pursue and provide a written response.

1. What is the reason for this Declaration Of Covenant of Release And Indemnity and is there a conflict of interest that City Officials require execution of such a form?

2. Does the City Code and development regulation go far enough to regulate development in areas highly susceptibility to landslide conditions?

My schedule is such that I have scheduled myself to reply via email on 12/12/19.

a 1.

HAded TOZ. 24.20 PCMEERM

OREGON CITY ADDENDUM

Purpose

This is an update of the Oregon City addendum to the Clackamas County Multi-Jurisdictional Natural Hazard Mitigation Plan (NHMP). This addendum supplements information contained in Volume I (Basic Plan) which serves as the NHMP foundation and Volume III (Appendices) which provide additional information. This addendum meets the following requirements:

- Multi-Jurisdictional Plan Adoption §201.6(c)(5),
- Multi-Jurisdictional Participation §201.6(a)(3),
- Multi-Jurisdictional Mitigation Strategy §201.6(c)(3)(iv) and
- Multi-Jurisdictional Risk Assessment §201.6(c)(2)(iii).

Updates to Oregon City's addendum are further discussed throughout the NHMP and within Volume III, Appendix B, which provides an overview of alterations to the document that took place during the update process.

The Oregon City addendum was adopted via resolution on [Month] [Day], 2019 and the Clackamas County NHMP and Oregon City addendum were approved by FEMA on [Month] [Day], 2018. This NHMP is effective through [Month] [Day], 2024.

Mitigation Plan Mission

The NHMP mission states the purpose and defines the primary functions of the NHMP. It is intended to be adaptable to any future changes made to the NHMP and need not change unless the community's environment or priorities change.

The City concurs with the mission statement developed during the Clackamas County planning process (Volume I, Section 3):

Promote sound public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards.

This can be achieved by increasing public awareness, documenting the resources for risk reduction and loss-prevention, and identifying activities to guide the county towards building a safer, more sustainable community.

Mitigation Plan Goals

Mitigation plan goals are more specific statements of direction that Clackamas County citizens, and public, and private partners can take while working to reduce the City's risk from natural hazards. These statements of direction form a bridge between the broad mission statement, and serve as checkpoints, as agencies, and organizations begin implementing mitigation action items.

The City concurs with the goals developed during the Clackamas County planning process (Volume I, Section 3). All NHMP goals are important and are listed below in no order of priority. Establishing community priorities within action items neither negates nor eliminates any goals, but it establishes which action items to consider implementing first, should funding become available.

Below is a list of the NHMP goals:

GOAL #1: PROTECT LIFE AND PROPERTY

- Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to natural hazards.
- Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- Improve hazard assessment information to make recommendations for discouraging new development and encouraging preventative measures for existing development in areas vulnerable to natural hazards.

GOAL #2: ENHANCE NATURAL SYSTEMS

- Balance watershed planning, natural resource management, and land use planning with natural hazards mitigation to protect life, property, and the environment.
- Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

GOAL #3: AUGMENT EMERGENCY SERVICES

- Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.
- Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, and business, and industry.
- Coordinate and integrate natural hazards mitigation activities, where appropriate, with emergency operations plans and procedures.

GOAL #4: ENCOURAGE PARTNERSHIPS FOR IMPLEMENTATION

- Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

GOAL #5: PROMOTE PUBLIC AWARENESS

- Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.
- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

NHMP Process, Participation and Adoption

This section of the NHMP addendum addresses 44 CFR 201.6(c)(5), *Plan Adoption* and 44 CFR 201.6(a)(3), *Participation*.

Oregon City first developed an addendum to Clackamas County's Natural Hazards Mitigation Plan in 1998, but the plan did not meet FEMA criteria and did not get adopted, this also happened when Oregon City tried again for the 2002 addendum. Oregon City's Plan was finally approved and adopted in 2009 with updates in 2012 and now in 2018. The last update of the Oregon City addendum to the Clackamas County NHMP was approved by FEMA on April 8, 2013.

In addition to establishing a comprehensive community-level mitigation strategy, the Disaster Mitigation Act of 2000 (DMA2K), and the regulations contained in 44 CFR 201, require that jurisdictions maintain an approved NHMP to receive federal funds for mitigation projects. Local adoption, and federal approval of this NHMP ensures that the city will remain eligible for pre-, and post-disaster mitigation project grants.

The Oregon Partnership for Disaster Resilience (OPDR) at the University of Oregon's Institute for Policy Research and Engagement (IPRE) collaborated with the Oregon Office of Emergency Management (OEM), Clackamas County and Oregon City to update their NHMP. This project is funded through the Federal Emergency Management Agency's Pre-Disaster Mitigation (PDM) Competitive Grant Program EMS-2017-PC-0005 (PDMC-PL-10-OR-2016-001). Members of the Oregon City NHMP Hazard Mitigation Plan Committee also participated in the County NHMP update process (Volume III, Appendix B).

The Clackamas County NHMP and Oregon City addendum, are the result of a collaborative effort between citizens, public agencies, non-profit organizations, the private sector and regional organizations. The Oregon City Hazard Mitigation Advisory Committee (HMAC) guided the process of developing the NHMP.

Convener

Oregon City's Public Works Director served as the designated convener of the NHMP update and will take the lead in implementing, maintaining and updating the addendum to the Clackamas County NHMP in collaboration with the designated convener of the Clackamas County NHMP (Clackamas County Resilience Coordinator).

Representatives from the Oregon City HMAC met formally and informally, to discuss updates to their addendum (Volume III, Appendix B). The HMAC reviewed and revised the City's addendum, with focus on the NHMP's risk assessment and mitigation strategy (action items).

This addendum reflects decisions made at the designated meetings and during subsequent work and communication with Clackamas County Resilience Coordinator and the OPDR. The changes are highlighted with more detail throughout this document and within Volume III, Appendix B. Other documented changes include a revision of the City's risk assessment and hazard identification sections, NHMP mission and goals, action items and community profile. The Oregon City HMAC was comprised of the following representatives:

- Convener, John Lewis, Public Works Director
- Martin Montalvo, Public Works Operations Manager (former)
- Kelly Reid, Planner
- Vance Walker, Assistant Public Works Director

Public participation was achieved with the establishment of the HMAC, which was comprised of City officials representing different departments and sectors and members of the public. The HMAC served as the local review body for the NHMP's development. Community members were provided an opportunity for comment via the NHMP review process, and through a survey administered by Clackamas County (Volume III, Appendix G).

NHMP Implementation and Maintenance

The City Commission will be responsible for adopting the Oregon City addendum to the Clackamas County NHMP. This addendum designates the HMAC, and a convener to oversee the development, and implementation of action items. Because the City addendum is part of the County's multi-jurisdictional NHMP, the City will look for opportunities to partner with the County. The City's HMAC will convene after re-adoption of the Oregon City NHMP addendum on an annual schedule. The County is meeting on a semi-annual basis and will provide opportunities for the cities to report on NHMP implementation, and maintenance during their meetings. The Public Works Director will serve as the convener and will be responsible for assembling the HMAC. The HMAC will be responsible for:

- Reviewing existing action items to determine suitability of funding;
- Reviewing existing, and new risk assessment data to identify issues that may not have been identified at NHMP creation;
- Educating, and training new HMAC members on the NHMP, and mitigation actions in general;
- Assisting in the development of funding proposals for priority action items;
- Discussing methods for continued public involvement; and
- Documenting successes, and lessons learned during the year.

The convener will also remain active in the County's implementation, and maintenance process (Volume I, Section 4).

The City will utilize the same action item prioritization process as the County (Volume I, Section 4).

Implementation through Existing Programs

This NHMP is strategic and non-regulatory in nature, meaning that it does not necessarily set forth any new policy. It does, however, provide: (1) a foundation for coordination and collaboration among agencies and the public in the city; (2) identification and prioritization of future mitigation activities; and (3) aid in meeting federal planning requirements and qualifying for assistance programs. The mitigation plan works in conjunction with other city plans and programs including the Comprehensive Land Use Plan, Capital Improvements Plan, and Building Codes, as well as the <u>Clackamas County NHMP</u>, and the <u>State of Oregon NHMP</u>.

The mitigation actions described herein (and in Attachment A) are intended to be implemented through existing plans and programs within the city. Plans and policies already in existence have support from residents, businesses and policy makers. Where possible, Oregon City will implement the NHMP's recommended actions through existing plans and policies. Many land-use, comprehensive and strategic plans get updated regularly, allowing them to adapt to changing conditions and needs. Implementing the NHMP's action items through such plans and policies increases their likelihood of being supported and implemented. Implementation opportunities are further defined in action items when applicable.

Future development without proper planning may result in worsening problems associated with natural hazards. Metro, the regional government for Clackamas, Multhomah, and Washington counties, determines many land use laws for the tri-county region and sets the urban growth boundary. The entire Portland Metro area is subject to tremendous growth pressures due to its desirable location and the restrictions on urban sprawl placed by urban growth boundary requirements.

Oregon City's acknowledged comprehensive plan is the Oregon City Comprehensive Plan (1982, updated June 2004). The Oregon Land Conservation and Development Commission first acknowledged the plan in 1982. The City implements the plan through the development regulations (zoning, subdivision and related ordinances).

Oregon City currently has the following plans that relate to natural hazard mitigation. For a complete list visit the City's <u>website</u>:

- Comprehensive Plan (1982, amended 2004)
 - <u>Comprehensive Plan Map</u>
- Oregon City Municipal Code (revised 7/2018)
 - Title 12 Streets, Sidewalks and Public Places, <u>Chapter 12.08 Public and</u> Street Trees
 - Title 15 Buildings and Construction
 - <u>Title 17 Zoning, Chapter 17.40 Historic Overlay District</u>
 - Title 17 Zoning, Chapter 17.41 Tree Protection Standards
 - Title 17 Zoning, Chapter 17.42 Flood Management Overlay District
 - Title 17 Zoning, Chapter 17.44 US Geologic Hazards
 - Title 17 Zoning, Chapter 17.47 Erosion and Sediment Control
 - Title 17 Zoning, Chapter 17.49 Natural Resource Overlay Zone
- Building Code, <u>2017 Oregon State Code</u> based on 2015 International Residential
 Code (IRC) and 2012 International Building Code
- Downtown Community Plan
- Oregon City Operations Facilities Plan
- •37 Transportation System Plan
- Portland Metro 2014 Regional Transportation Plan
- <u>Sanitary Sewer Master Plan</u>
- <u>Stormwater Plans</u>
 - Erosion Prevention and Sediment Control Planning and Design Manual
 - Drainage Master Plan
 - South End Basin Master Plan
 - Caulfield Basin Master Plan
 - Park Place Basin Master Plan

- Water Master Plan
- Willamette Falls Legacy Project Master Plan

Government Structure

The City Commission is the policy making body for Oregon City. The commission is composed of a mayor and four commissioners, all of whom are elected from the city at large. The Mayor and Commissioners in turn appoint the city manager, who serves as the administrative head of the city's government.

The following departments within the city have a role in natural hazards mitigation:

The **Community Development Department** is responsible for guiding growth and development in the city. The department includes three divisions:

- **Building** is responsible for plan review and inspections on commercial, industrial and residential developments, as well as fire life and safety plan review.
- Planning is responsible for all long range and current planning for new development, as well as the city's natural resource, geologic hazard and floodplain overlay zones. It is also responsible for implementation of the Oregon City Comprehensive Plan.
- **Geographic Information Services (GIS)** supplies mapping services to the public, city planners, engineers, public works, and other departments.

The **Public Works Department** operates and maintains existing infrastructure, plans and constructs capital improvements, and enforces the municipal code. The public works department includes six divisions:

- Engineering Services reviews and approves development applications to ensure they are up-to-date on policies and engineering standards. It provides professional engineering services and consultation to various city departments and the public for private development.
- Water Operations distributes and maintains the potable water supply.
- Wastewater Operations provides wastewater utility by maintaining and improving the wastewater collection system. They also respond to emergency system bypasses to reduce hazards to human health and the environment.
- Stormwater Division provides a safe and reliable stormwater system and implements watershed protection and restoration actions that promote surface water quality and stream health.
- Streets Division maintains Oregon City's transportation system.

The **Finance Department** manages the city budget, information systems, and accounting. Tasks of the department include utility billing, accounts payable and receivable, payroll, budget development and management, and internal auditing.

The **Public Safety Department** is committed to providing quality public safety services to the Oregon City community. Police services are provided by the Oregon City Police Department and fire services are provided by Clackamas Fire District #1.

• **Code Enforcement** provides prompt, effective and efficient enforcement of the Oregon City Municipal Code.

The **Community Services Department** focuses on increasing, improving, and facilitating communication between the city and its residents. The department supports Oregon City Neighborhood Associations, the Citizen Involvement Committee, and numerous other citizen involvement committees. The department also manages the Library, Senior Center, and Parks and Recreation.

Continued Public Participation

An open public involvement process is essential to the development of an effective NHMP. To develop a comprehensive approach to reducing the effects of natural disasters, the planning process shall include opportunities for the public, neighboring communities, local, and regional agencies, as well as, private, and non-profit entities to comment on the NHMP during review.¹ Keeping the public informed of efforts to reduce its risk to future natural hazard events is important for successful NHMP implementation, and maintenance. As such, the City is committed to involving the public in the NHMP review and update process (Volume I, Section 4). The City posted the plan update for public comment before FEMA approval, and after approval will maintain the plan on the City's website: https://www.orcity.org/publicworks/natural-hazards-mitigation-plan

NHMP Maintenance

The Clackamas County Multi-Jurisdictional Natural Hazard Mitigation Plan and City addendum will be updated every five years in accordance with the update schedule outlined in the Disaster Mitigation Act of 2000. During the County NHMP update process, the City will also review and update its addendum (Volume I, Section 4). The convener will be responsible for convening the HMAC to address the questions outlined below.

- Are there new partners that should be brought to the table?
- Are there new local, regional, state or federal policies influencing natural hazards that should be addressed?
- Has the community successfully implemented any mitigation activities since the NHMP was last updated?
- Have new issues or problems related to hazards been identified in the community?
- Are the actions still appropriate given current resources?
- Have there been any changes in development patterns that could influence the effects of hazards?
- Have there been any significant changes in the community's demographics that could influence the effects of hazards?
- Are there new studies or data available that would enhance the risk assessment?
- Has the community been affected by any disasters? Did the NHMP accurately address the impacts of this event?

These questions will help the HMAC determine what components of the mitigation plan need updating. The HMAC will be responsible for updating any deficiencies found in the NHMP.

¹ Code of Federal Regulations, Chapter 44. Section 201.6, subsection (b). 2015

Mitigation Strategy

This section of the NHMP addendum addresses 44 CFR 201.6(c)(3(iv), Mitigation Strategy.

The City's mitigation strategy (action items) were first developed during the 2009 NHMP planning process (actions from earlier versions mitigation plans that were not formally adopted were reviewed at this time). During this process, the HMAC assessed the City's risk, identified potential issues and developed a mitigation strategy (action items).

During the 2018 update process the City re-evaluated their mitigation strategy (action items). During this process action items were updated, noting what accomplishments had been made and whether the actions were still relevant; any new action items were identified at this time (see Volume III, Appendix B for more information on changes to action items).

Priority Action Items

Table OC-1 presents a list of mitigation actions. The HMAC decided to modify the prioritization of action items in this update to reflect current conditions (risk assessment), needs, and capacity. High priority actions are shown in **bold** text with grey highlight. The City will focus their attention, and resource availability, upon these achievable, high leverage, activities over the next five-years. Although this methodology provides a guide for the HMAC in terms of implementation, the HMAC has the option to implement any of the action items at any time. This option to consider all action items for implementation allows the committee to consider mitigation strategies as new opportunities arise, such as capitalizing on funding sources that could pertain to an action item that is not currently listed as the highest priority. Refer to Attachment A for detailed information for each action. Full text of the plan goals referenced in Table OC-1 is located on page OC-2.

FL#1	EQ#1	MH#4	MH#3	MH#2	MH#1	Natural Hazard Action ID	Table OC
Promote and protect the use of naturally flood prone open space or wetlands as flood storage areas.	Conduct seismic evaluations on identified community assets and 'high risk' school and emergency service buildings and implement appropriate structural and non-structural mitigation strategies.	Improve vegetation management throughout Oregon City.	Develop, enhance, and implement education programs aimed at mitigating natural hazards, and reducing risk.	Integrate the goals and action items from the Oregon City Natural Hazards Mitigation Plan into existing regulatory documents and programs, where appropriate.	Maintain Certification and coordinate with Clackamas County and regional partners to identify and coordinate building officials that are qualified to conduct damage assessments.	Action Item	- I Oregon City Action Items
Community Development	Oregon City Emergency Management	Community Services	Community Development	Community Development	Oregon City Emergency Management	Coordinating Organization (Lead)	
Public Works	Community Development, Public Works	Community Development, Code Enforcement, Parks and Recreation, Public Works	Public Works, CFD #1	Public Works, City Commission	Building	Internal Partners	
Ongoing	Long Term	Ongoing	Ongoing	Ongoing	Ongoing	Timing	
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Clackamas County NHMP

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Source: Ore Note: Full t	WF#3	WF#2	WF#1	SW#1	LS#2	LS#1	FL#3	FL#2	Natural Hazard Action II
gon City HMAC, 2018. ext of the plan goals referenced in this table is located on page OC	Promote fire-resistant strategies and the use of non-combustible roofing materials by evaluating and making recommendations to current code to encourage noncombustible roofing standards in high fire-hazard areas.	Complete periodic updates of the Water Master Plan.	Coordinate wildfire mitigation action items through the Clackamas County Community Wildfire Protection Plan	Reduce frequency and duration of power outages from the severe wind and winter storm hazards where possible.	Maintain an inventory of streets and properties threatened by landslides.	Continue to implement municipal codes and policies mitigating future landslide damage.	Complete periodic updates of the Surface Water Management Master Plan.	Continue participating in the National Flood Insurance Program and develop strategies to reduce property damage and related financial impacts due to flooding.	Action Item
-2.	Community Development	Public Works	Clackamas Fire District #1	Public Works	Mapping/GIS	Public Works	Public Works	Community Development	Coordinating Organization (Lead)
	Public Works; Clackamas Fire District #1	Community Development	Community Development, Public Works	Community Development	Community Development, Public Works	Community Development	Community Development	Public Works	Internal Partners
	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Ongoing	Timing
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Oregon City Addendum

Risk Assessment

This section of the NHMP addendum addresses 44 CFR 201.6(b)(2) - Risk Assessment. In addition, this chapter can serve as the factual basis for addressing Oregon Statewide Planning Goal 7 – Areas Subject to Natural Hazards. Assessing natural hazard risk has three phases:

- **Phase 1:** Identify hazards that can impact the jurisdiction. This includes an evaluation of potential hazard impacts type, location, extent, etc.
- **Phase 2:** Identify important community assets, and system vulnerabilities. Example vulnerabilities include people, businesses, homes, roads, historic places, and drinking water sources.
- **Phase 3:** Evaluate the extent to which the identified hazards overlap with or have an impact on, the important assets identified by the community.

The local level rationale for the identified mitigation strategies (action items) is presented herein, and within Volume I, Section 2, and Volume III, Appendix C. The risk assessment process is graphically depicted in Figure OC-1. Ultimately, the goal of hazard mitigation is to reduce the area of risk, where hazards overlap vulnerable systems.

Figure OC-1 Understanding Risk



Hazard Analysis

The Oregon City HMAC developed their hazard vulnerability assessment (HVA), using their previous HVA and the County's HVA as a reference. Changes from the County's HVA were made where appropriate to reflect distinctions in vulnerability and risk from natural hazards unique to Oregon City, which are discussed throughout this addendum.

Table OC-2 shows the HVA matrix for Oregon City listing each hazard in order of rank from high to low. For local governments, conducting the hazard analysis is a useful step in planning for hazard mitigation, response and recovery. The method provides the jurisdiction with sense of hazard priorities but does not predict the occurrence of a particular hazard.

Two catastrophic hazards (Cascadia Subduction Zone earthquake and a Crustal earthquake event such as from the Portland Fault) and two chronic hazards (winter storm and flood) rank as the top hazard threats to the City (Top Tier). The landslide, wildfire, extreme heat, and drought hazards comprise the next highest ranked hazards (Middle Tier), while the windstorm and volcanic event hazards comprise the lowest ranked hazards (Bottom Tier).

			Maximur	n	Total Threat	Hazard	Hazard
Hazard	History	Vulnerability	Threat	Probability	Score	Rank	Tiers
Earthquake - Cascadia	4	45	100	49	198	#1	
Earthquake - Crustal	6	50	100	21 🖌	177	#2	Тор
Winter Storm	18	30	70	49	167	#3	Tier
Flood	16	20	70	56	162	#4	
Landslide	14	35	30	63	142 🥢	#5	
Wildfire	12	25	70	21	128	#6	Middle
Extreme Heat	16	15	40	56 📢	127	#7	Tier
Drought	10	15	50	42	117	#8	
Windstorm	14	15	30	42	101	#9	Bottom
Volcanic Event	2	15	50	7	74	#10	Tier

Table OC-2 Haza	rd Analysis Matrix	x – Oregon City
-----------------	--------------------	------------------------

Source: Oregon City HMAC, 2018.

Table OC-3 categorizes the probability, and vulnerability scores from the hazard analysis for the City and compares the results to the assessment completed by the Clackamas County HMAC. Variations between the City, and County are noted in **bold** text within the city ratings.

Table OC-3 P	Probability an	d Vulnerability	Comparison
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	Oreg	on City	Clackam	as County
Hazard	Probability	Vulnerability	Probability	Vulnerability
Drought	Moderate	Low	High	Low
Earthquake - Cascadia	Moderate	High	Moderate	High
Earthquake - Crustal	Low	High	Low	High
Extreme Heat	High	Low	Low	High
Flood	High	Moderate	High	Moderate
Landslide	High	Moderate	High	Low
Volcanic Event	Low	Low	Low	Moderate
Wildfire	Low	Moderate	High	Moderate
Windstorm	Moderate	Low	Moderate	Low
Winter Storm	Moderate	Moderate	Moderate	Moderate

Source: Oregon City HMAC, 2018.

Community Characteristics

Table OC-4 and the following section provides information on City specific demographics and assets. For additional information on the characteristics of Oregon City, in terms of geography, environment, population, demographics, employment and economics, as well as housing and transportation see Volume I, Section 2. Many of these community characteristics can affect how natural hazards impact communities and how communities choose to plan for natural hazard mitigation. Considering the City specific assets during the planning process can assist in identifying appropriate measures for natural hazard mitigation. Between 2010 and 2016 the City grew by 2,245 people² (7%) while median household income increased by 6% (Volume I, Section 2).³ The population is forecast to grow by 22% to 41,857 by 2040.⁴ In 2017, the Park Place annexation on the south side of Holcomb Blvd brought 92 acres into the City. New development has complied with the standards of the <u>Oregon Building Code</u> and the city's development code.

Transportation/Infrastructure

In the Oregon City, transportation has played a major role in shaping the community. Oregon City has three state highways and one interstate. State Highway 99E (or McLoughlin Blvd.), runs along the western border of the city; Highway 213 runs north to south through the eastern part of the city; Highway 43 enters at the northwest border of the city, and Interstate 205 runs along the northern border.

Today, mobility plays an important role in Oregon City and the daily experience of its residents and businesses as they move from point A to point B. Motor vehicles represent the dominant mode of travel through, and within the city. Oregon City public transportation is serviced by Tri-Met which provides daily local bus services to numerous community transit centers, including downtown Oregon City and the Clackamas County College Campus. The Canby Area Transit (CAT) additionally serves Oregon City with service to Canby, Aurora, Hubbard and Woodburn, while the South Clackamas Transportation District (SCTD) provides transportation between Clackamas Community College south to Molalla. Oregon City is also accessed by the Union Pacific Railroad main line and Amtrak, which travels northeast to southwest carrying both passengers and freight.

Economy

Oregon City is located near the greater Portland region, resulting in easy access to downtown Portland and surrounding communities. Historically, Oregon City had a strong mill and timber economic presence. Now, Oregon City residents are mostly employed in professional and related occupations.⁵ In 2016, the average per capita income for residents is \$28,232.⁶ The top economic sectors are Educational Services, and Health Care and Social Assistance; Retail Trade; and Manufacturing.⁷

⁵ Social Explorer, Table T50, U.S. Census Bureau, 2012-2016 American Community Survey Estimates.

 ² Portland State University, Population Research Center, "Annual Population Estimates", 2016.
 ³ Social Explorer, Table T57, U.S. Census Bureau, 2006-2010 and 2012-2016 American Community Survey Estimates.

⁴.Metro, 2040 Distributed Forecast (2016).

⁶ Ibid. Table T83.

⁷ Ibid. Table T49.

 Table OC-4 Community Characteristics

Population Characteristics		
2010 Population	31,995	
2016 Population	34,240	
2040 Forecasted Population*	41,857	
Race and Ethnic Categories		
White		86%
Black/ African American		1%
American Indian and Alaska Na	tive	1%
Asian		1%
Native Hawaiian and Other Pac	ific Islandeı	< 1%
Some Other Race		< 1%
Two or More Races		3%
Hispanic or Latino		8%
Limited or No English Spoken		3%
Vulnerable Age Groups		
Less than 15 Years	7,200	21%
65 Years and Over	4,455	13%
Disability Status		
Total Population	4,141	12%
Children	263	3%
Seniors	1,691	40%
Income Characteristics		
income characteristics		
Households by Income Category	an a	
Households by Income Category Less than \$15,000	1,110	9%
Households by Income Category Less than \$15,000 \$15,000-\$29,999	1,110 1,193	9% 9%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999	1,110 1,193 1,893	9% 9% 15%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999	1,110 1,193 1,893 1,457	9% 9% 15% 11%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999	1,110 1,193 1,893 1,457 1,668	9% 9% 15% 11% 13%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999	1,110 1,193 1,893 1,457 1,668 2,097	9% 9% 15% 11% 13% 16%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$100,000-\$199,999	1,110 1,193 1,893 1,457 1,668 2,097 3,047	9% 9% 15% 11% 13% 16% 24%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$100,000-\$199,999 \$200,000 or more	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302	9% 9% 15% 11% 13% 16% 24% 2%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$100,000-\$199,999 \$200,000 or more Median Household Income	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302 \$65,548	9% 9% 15% 11% 13% 16% 24% 2%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$100,000-\$199,999 \$200,000 or more Median Household Income Poverty Rates	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302 \$65,548	9% 9% 15% 11% 13% 16% 24% 2%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$200,000 or more Median Household Income Poverty Rates Total Population	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302 \$65,548 4,835	9% 9% 15% 11% 13% 16% 24% 2% 14%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$200,000 or more Median Household Income Poverty Rates Total Population Children	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302 \$65,548 4,835 1,076	9% 9% 15% 11% 13% 16% 24% 2% 14% 13%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$200,000 or more Median Household Income Poverty Rates Total Population Children Seniors	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302 \$65,548 4,835 1,076 299	9% 9% 15% 11% 13% 16% 24% 2% 14% 13% 7%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$200,000 or more Median Household Income Poverty Rates Total Population Children Seniors Housing Cost Burden	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302 \$65,548 4,835 1,076 299	9% 9% 15% 11% 13% 24% 2% 14% 13% 7%
Households by Income Category Less than \$15,000 \$15,000-\$29,999 \$30,000-\$44,999 \$45,000-\$59,999 \$60,000-\$74,999 \$75,000-\$99,999 \$100,000-\$199,999 \$200,000 or more Median Household Income Poverty Rates Total Population Children Seniors Housing Cost Burden Owners with Mortgage	1,110 1,193 1,893 1,457 1,668 2,097 3,047 302 \$65,548 4,835 1,076 299 2,802	9% 9% 15% 11% 13% 24% 2% 14% 13% 7% 33%

Source: U.S. Census Bureau, 2012-2016 American Community Survey; Portland State University, Population Research Center, "Annual Population Estimates", 2016. <u>Metro, 2040 Distributed Forecast</u>. Note: * = Population forecast within Metro UGB

			Participation of the local
Housing Characteris	stics		
Housing Units			
Single-Family		10,097	76%
Multi-Family		2,731	21%
Mobile Homes		418	3%
Year Structure Built			
Pre-1970		3,517	27%
1970-1989		3,199	24%
1990 or later		6,530	49%
Housing Tenure and	d Vacancy 🧹		
Owner-occupied	L.	8,545	65%
Renter-occupied		4,222	32%
Seasonal		0	0%
Vacant	11 - Car	479	4%

Oregon City is near the southern limits of the Portland metro-area and is the County Seat of Clackamas County. The City has benefited from its natural setting. Its location on the Willamette and Clackamas Rivers supplied an abundant power source and bolstered an economy based on manufacturing, timber, and commerce. This prime location drew settlers from around the nation and helped Oregon City become the first incorporated city in Oregon. In the shadow of Mount Hood and surrounded by forests, Oregon City is a scenic settlement built on the "solid ground" of the valleys and hillsides.

The City has grown in land area over the years. As of 2015, Oregon City occupies 6,467 acres. Urbanization at the edge of Oregon City is constrained by the Willamette River and the City of West Linn to the west, Clackamas River and the City of Gladstone to the north, and steep topography to the south and east.

Oregon City's temperatures range from monthly average lows of 36°F in the winter months (December/January coldest) to average highs of 84°F in the summer months (July/August hottest). The average annual precipitation is 44 inches.⁸

For more information see Volume I, Section 2.

⁸ Western Regional Climate Center, Oregon City, Oregon. Retrieved November 16, 2018.

Community Assets

This section outlines the resources, facilities, and infrastructure that, if damaged, could significantly impact the public safety, economic conditions, and environmental integrity of Oregon City. It is important to note that the facilities identified as "critical" and "essential" are characterized differently than the structural code that identifies buildings as "essential" and "non-essential." The structural code uses different language and criteria and therefore have completely different meanings than the buildings identified in this addendum.

Critical Facilities

Facilities that are critical to government response, and recovery activities (i.e. life, safety, property, and environmental protection). These facilities include: 911 Centers, Emergency Operations Centers, Police, and Fire Stations, Public Works facilities, sewer, and water facilities, hospitals, bridges, roads, shelters, and more.

Table OC-5 Critical Facilities in Oregon City

	ught	thquake	reme Heat	g.	dslide	canic Event	dfire	ndstorm	iter Storm
Facility	<u>0</u>	Ear	EXTI	<u>Š</u>	Lan	<u> </u>	<u>IS</u>	Ŝ	<u> </u>
Critic	al Fa	cilitie	s		i				
Fire and Police Stations: Main Fire Station is th	e EOC					1. A.A.			
Station 9 – Holcomb (built in 1974)		х							
Station 15 – John Adams (remodeled 1998)									
Station 16 – Hilltop (rebuilt 2018)	and the								
Station 17 – South End (built in 2004)									
Police Department		Х							
Other Critical Facilities		4 - 19 - 19 19 - 19 - 19 - 19 - 19 - 19 -	i tan	1	l	1			
Providence Willamette Falls Hospital		Х			Х		X		X
Public Works Operations Center		X				*****	X		
C-COM (9-1-1; County facility)									
Clackamas County EOC (County facility)									
PGE Substation - Kanema		Х		Х	*****		Х	Carland 40000	
PGE Substation - 18 th Street		Х		Х			Х		

Hazardous Materials:

Facilities that, if damaged, could cause serious secondary impacts may also be considered "critical." A hazardous material facility is one example of this type of critical facility. Those sites that store, manufacture, or use potentially hazardous materials include:

- Clackamas Community
 College
- Benchmade
- Metro South Transfer Station

Miles Fiberglass

(1993) Mariana

- Railroad
- Rossman Landfill

Click here for a map of hazardous materials sites found on the city website: <u>Hazardous</u> <u>Materials Sites Map</u>.

Critical Infrastructure:

Infrastructure that provides necessary services for emergency response include:



Table OC-6 Critical Infrastructure in Oregon City

Additionally, the following transportation infrastructure is considered vulnerable (hazards noted where applicable):

- 5th Street
- 7th Street
- Abernethy Road (flood)
- Abernethy Creek Culvert at McLoughlin Blvd.
- Anchor Way
- Anchor Way Bridge at Abernethy Creek
- Beavercreek Road (flood)
- Central Point Road

- Division Street
- George Abernethy Bridge (I-205 at Willamette)
- Glen Oak Road
- High Street
- Highway 43 Arch Bridge
- Highway 213
- Holcomb Boulevard
- Redland Road overcrossing on Hwy 213

- I-205 over Clackamas River
- Interstate 205
- Leland Road
- Linn Avenue (flood)
- Main Street (7th to McLoughlin Blvd)
- Main Street overcrossing at I-205
- Maple Lane Road
- McLoughlin Blvd Viaduct
- Main St. extension overcrossing at McLoughlin Blvd.
- McLoughlin Blvd/Highway 99E
- McLoughlin Blvd Tunnel at UPRR
- Meyers Road (flood)

Essential Facilities and Infrastructure

- Molalla Ave
- OR City Gladstone Bridge 99
- HWY 213 overcrossing at Holcomb Blvd
- Pedestrian Bridge to Gladstone
- Redland Road
- South End Road
- Warner Milne Road
- Warner Parrott Road
- Washington Street overcrossing on Hwy 213
- Washington Street Bridge (at Abernethy Creek)

Facilities that are essential to the continued delivery of key government services, and/or that may significantly impact the public's ability to recover from the emergency. These facilities may include: City buildings such as the Public Services Building, the City Hall, and other public facilities such as schools.

	bit	quake	me Heat		lide	nic Event	ire	storm	er Storm
	Ĩ	arth	xtrei	lood	ands	'olca	Vildf	Vind	Vinte
ratinty	Essential Fa	ncilitie	<u>ш</u> ?S	<u> </u>				-2	2
Churches^ (Potential Shelter Sites)		X		Х	X	101.019690680	X	X	X
Schools: Potential Shelter Sites									
Gaffney Lane Elementary		Х							
Holcomb Elementary		х							Х
John McLoughlin Elementary		X							
King Elementary Charter		X							
Mt. Pleasant Elementary									
Park Place Elementary									
Gardiner Middle (to be rebuilt)		х							
Ogden Middle		х			Х		Х		
Oregon City High									
Jackson Campus - CAIS		Х			Х				
Clackamas Community College									
Eastham Community School		Х							
Other Facilities									
City Hall		Х							
Pioneer Community Center									
Community Development Building		X							
Clackamas County Jail	101								

Table OC-7 Essential Facilities in Oregon City

Facility	Drought Earthquake	Extreme Heat Flood	Landslide Volcanic Event	Wildfire Windstorm Winter Storm
Esse	ntial Faciliti	ies		
Clackamas County Roads Services				
Veterans of Foreign Wars Post 1324				

Note: ^ Churches include: First Presbyterian, First United Methodist Church, Light on the Hill Fellowship, Logan Community Church, Maranatha Baptist Church, Mountain View Community Church, North Clackamas Christian, Oregon City Christian, Oregon City Church of the Nazarene, Oregon City Evangelical, St. John the Apostle Catholic Church, St. Paul's Episcopal Church, St. Philip Benizi Church, Trinity Lutheran Church, Victorious Faith Family Church

Essential infrastructure includes:

- Cellular Tower System
- Telephone System
- Amanda Lift Station
- Barclay Hills Lift Station
- Brendon Estates Lift Station
- Canemah Lift Station
- Cook Street Lift Station
- Hilltop Acres Lift Station
- Parrish Road Lift Station
- Pease Road Lift Station

- Hidden Creek Lift Station
 Nobel Ridge Lift Station
- Newell Crest Lift Station
- Boynton Lift Station
- Livesay Pump Station
- Fairway Downs Pump Station
- Settler's Point Pump Station
- Stormwater Management
 System

Economic Assets/Population Centers:

Economic assets include businesses that employ large numbers of people and provide an economic resource to the city of Oregon City. If damaged, the loss of these economic assets could significantly affect economic stability, and prosperity. Population Centers usually are aligned with economic centers, and are a concern during evacuation/notification during a hazard event.

Environmental Assets:

Environmental assets are those parks, green spaces, wetlands, and rivers that provide an aesthetic, and functional ecosystem services for the community include Clackamette Park and Mill Creek Canyon.

Vulnerable Populations:

Vulnerable populations, including seniors, disabled citizens, women, and children, as well those people living in poverty, often experience the impacts of natural hazards and disasters more acutely. Populations that have special needs or require special consideration include child care facilities and adult care facilities.

Cultural and Historic Assets

The cultural and historic heritage of a community is more than just tourist charm. For families that have lived in the city for generations and new resident alike, it is the unique places, stories, and annual events that make Oregon City an appealing place to live. The cultural and historic assets are both intangible benefits and obvious quality-of-life-enhancing amenities. Because of their role in defining and supporting the community, protecting these resources from the impact of disasters is important. The following historic resources can be found in Oregon City:

- 7th Street Historic Fire Station
- 90 Historic Homes in Canemah, a National Registered Historic District
- 376 Individually Designated Historic Homes in McLoughlin Historic Conservation District
- 98 Individually Designated Historic Homes Outside of a Historic District
- Barclay House
- Carnegie Center
- Carnegie Library
- Clackamas County Courthouse
- End of the Oregon Trail Interpretive Center
- Ermatinger House
- McLoughlin House
- McLoughlin Promenade
- Museum of the Oregon Territory
- Oregon City Municipal Elevator
- Rose Farm
- Stevens-Crawford House
- Willamette Falls Locks
- Oregon City/West Linn (Hwy. 43) Bridge

The city's Historic Review Board reviews new development in the McLoughlin and Canemah historic districts and the city has adopted a Historic Overlay District to ensure that new development is compatible with existing historically designated structures.

Hazard Characteristics

Drought

The HMAC determined that the City's probability for drought is **moderate** and that their vulnerability to drought is **low**. The probability rating increased and the vulnerability rating decreased since the previous version of this NHMP addendum.

Volume I, Section 2 describes the characteristics of drought hazards, history, as well as the location, extent and probability of a potential event. Due to the climate of Clackamas County, past and present weather conditions have shown an increasing potential for drought.

Oregon City provides water to most of its residents within a service area of approximately 4,134 acres; residents not within the services area are served by the <u>Clackamas River Water</u> <u>District</u>. Oregon City draws its main water supply comes from the Clackamas River which is supplied by the South Fork Water Board (a wholesale water supplier that is equally owned

by Oregon City and West Linn). Water is provided via an intake and pumping station just to the north of the Oregon City boundary limits which is delivered to the SFWB water treatment plant located in the Park Place area. The City has a current surplus of 4.99 million gallons (MG), however, the city's Water Master Plan has identified the need for an additional storage to meet anticipated growth. To meet these needs the city plans to build two new ground level storage reservoirs (one 2 MG storage reservoir just beyond the Henrici Reservoir, and the other 3 MG storage reservoir near Holly Lane); additional storage will be needed if/when CRW facilities are incorporated into the City). The City has identified areas that will need to replace existing pipelines to meet the demand and flow requirements. For more information on the future of Oregon City's water supply visit their website: https://www.orcity.org/publicworks/about-oregon-city-water-division

Vulnerability Assessment

Due to insufficient data and resources, Oregon City is currently unable to perform a quantitative risk assessment, or exposure analysis, for this hazard. For a list of facilities and infrastructure vulnerable to this hazard see the Community Assets section and Tables OC-5 through OC-7.

Mitigation Activities

The existing drought hazard mitigation activities are conducted at the county, regional, state, and federal levels and are described in the Clackamas County NHMP.

Please review Volume I, Section 2 for additional information on this hazard.

Earthquake (Cascadia Subduction Zone)

The HMAC determined that the City's probability for a Cascadia Subduction Zone (CSZ) earthquake is **moderate** and that their vulnerability to a CSZ earthquake is **high**. *The* probability rating did not change, and the vulnerability rating increased, since the previous version of this NHMP addendum. Previously, the earthquake hazard profile was a single risk assessment, which is now divided into two separate earthquake hazards: Cascadia Subduction Zone (CSZ) earthquake and Crustal earthquake.

Volume I, Section 2 describes the characteristics of earthquake hazards, history, as well as the location, extent and probability of a potential event. Generally, an event that affects the County is likely to affect Oregon City as well. The causes and characteristics of an earthquake event are appropriately described within the Volume I, Section 2 as well as the location and extent of potential hazards. Previous occurrences are well documented within Volume I, Section 2 and the community impacts described by the County would generally be the same for Oregon City as well.

Within the Northern Willamette Valley/Portland Metro Region, three potential faults and/or zones can generate high-magnitude earthquakes. These include the Cascadia Subduction Zone, Portland Hills Fault Zone, and Gales Creek-Newberg-Mt. Angel Structural Zone (discussed in the crustal earthquake section).

Cascadia Subduction Zone

The Cascadia Subduction Zone is a 680-mile-long zone of active tectonic convergence where oceanic crust of the Juan de Fuca Plate is subducting beneath the North American continent at a rate of 4 cm per year. Scientists have found evidence that 11 large, tsunami-producing earthquakes have occurred off the Pacific Northwest coast in the past 6,000 years. These

earthquakes took place roughly between 300 and 5,400 years ago with an average occurrence interval of about 510 years. The most recent of these large earthquakes took place in approximately 1700 A.D.⁹

Figure OC-2 displays relative shaking hazards from a Cascadia Subduction Zone earthquake event. As shown in the figure, most of the city is expected to experience very strong shaking (orange), while areas near rivers and streams will experience severe (light red) to violent (dark red) shaking in a CSZ event.





Source: Oregon HazVu: Statewide Geohazards Viewer (DOGAMI) Note: To view detail click the link above to access Oregon HazVu.

⁹ The Cascadia Region Earthquake Workgroup, 2005. Cascadia Subduction Zone Earthquakes: A magnitude 9.0 earthquake scenario. <u>http://www.crew.org/PDFs/CREWSubductionZoneSmall.pdf</u>

damage will occur.

An additional earthquake hazard map is available via the City website: <u>Earthquake Hazard</u> <u>Map</u> and <u>DOGAMI's Geologic Report and Map</u> (GMS-119). Ground shaking can mix groundwater and soil, liquefying and weakening the ground that supports buildings and severing utility lines. This is a special problem in low lying areas adjacent to rivers where the water table is shallow and the soils are subject to liquefaction. For example, the fine-grained alluvial soils along the banks of the Willamette and Clackamas Rivers and Abernethy Creek are likely subject to this hazard.

The city's proximity to the Cascadia Subduction Zone, potential slope instability and the prevalence of certain soils subject to liquefaction and amplification combine to give the city a high-risk profile. Due to the expected pattern of damage resulting from a CSZ event, the Oregon Resilience Plan divides the State into four distinct zones and places the city predominately within the "Valley Zone" (Valley Zone, from the summit of the Coast Range to the summit of the Cascades). Within the Northwest Oregon region, damage and shaking is expected to be strong and widespread - an event will be disruptive to daily life and commerce and the main priority is expected to be restoring services to business and residents.

Older buildings and the sewer system in the city are most vulnerable to damage. Earthquakes shift soil that could cause landslides. Transportation routes and economics within the City can also be affected. Demand on resources such as Police, Fire and Public Works would also increase.

Vulnerability Assessment

Due to insufficient data and resources, Oregon City is currently unable to perform a quantitative risk assessment for this hazard. However, in 2018 the Department of Geology and Mineral Industries (DOGAMI) completed a regional impact analysis for earthquakes originating from the Cascadia Subduction Zone and Portland Hills faults (<u>0-18-02</u>), findings from that report are provided at the end of the crustal earthquakes hazard section.

Seismic building codes were implemented in Oregon in the 1970s, however, stricter standards did not take effect until 1991 and early 2000s. As noted in the community profile, approximately 51% of residential buildings (primarily single-family residential) were built prior to 1990 (27% before 1970), which increases the City's vulnerability to the earthquake hazard. Information on specific public buildings' (schools and public safety) estimated seismic resistance, determined by DOGAMI in 2007, is shown in Table OC-8; each "X" represents one building within that ranking category. Of the facilities evaluated by DOGAMI using their Rapid Visual Survey (RVS), one (1) has a very high (100% chance) collapse potential and two (2) have a high (greater than 10% chance) collapse potential. *Note: one fire station and two schools have been, or are scheduled to be, rebuilt and/or renovated*.

For a list of additional facilities and infrastructure vulnerable to this hazard see the Community Assets section and Tables OC-5 through OC-7. In addition to building damages, utility (electric power, water, wastewater, natural gas) and transportation systems (bridges, pipelines) are also likely to experience significant damage. There is a low probability that a major earthquake will result in failure of upstream dams.

Utility systems will be significantly damaged, including damaged buildings and damage to utility infrastructure, including water treatment plants and equipment at high voltage substations (especially 230 kV or higher which are more vulnerable than lower voltage substations). Buried pipe systems will suffer extensive damage with approximately one

break per mile in soft soil areas. There would be a much lower rate of pipe breaks in other areas. Restoration of utility services will require substantial mutual aid from utilities outside of the affected area.

		Level of Collapse Potential					
Facility	Site ID*	Low (<1%)	Moderate (>1%)	High (>10%)	Very High (100%)		
Schools				Alle			
Jackson Campus: CAIS (ca. 1939) (19761 Beavercreek Rd)	None	2007 RVS appendix	S report did not for this facility.	include stru Facility bu	ictural ilt 1939.		
Gaffney Ln Elementary (ca. 1965) (13521 S Gaffney Ln)	Clac_sch44	х	N.	×			
Gardiner Middle (ca. 1954) (180 Ethel St)	Clac_sch49	School to	o be rebuilt per	2018 schoo	ol bond.		
Holcomb Elementary (ca. 1966) (14625 S Holcomb)	Clac_sch43	X	×	<u>P</u>			
John McLoughlin Elem. (ca. 1975) (19230 S End Rd)	Clac_sch91	X	- ************************************	X			
King Campus: OCSLA (ca. 1959) (995 S End Rd)	Clac_sch46			Х,Х			
Mt Pleasant Elementary (1232 Linn Ave) - CLOSED	Clac_sch47		x	X	x		
Ogden Middle (ca. 1965) (14133 S Donovan Rd)	Clac_sch50	Renovati per 2018	ion planned Sschool bond.	Х,Х			
Oregon City High (ca. 2003)	Clac_sch51	×					
Alliance Charter Academy (16075 S Front Ave)	Clac_sch48			x			
Clackamas Community College (19600 S Molalla Ave)	Varies		See Note	2 below.			
Clackamas Fire District							
Station 9 – Holcomb (300 Longview Wy)	Clac_fir29	х					
<u>Station 15 – John Adams</u> (624 W, 7 th St)	Clac_fir35	х					
<u>Station 16 – Hilltop</u> (19340 S Molalla Ave)	Clac_fir36	Mit	igated per 2013	3-2014 SRG	P grant.		
Station 17 – South End (19001 South End)	Clac_fir51	x					
Police							
Police Department (320 Warner Milne Rd)	Clac_pol11	х					
Hospital							
Providence Willamette Falls (1500 Division St)	Clac_hos4			Х			

Table OC-8 Rapid Visual Survey Scores

Source: <u>DOGAMI 2007</u>, <u>Open File Report 0-07-02</u>, <u>statewide Seismic Needs Assessment Using Rapid V</u> <u>Assessment.</u> ****** - Site ID is referenced on the <u>RVS Clackamas County Map</u>

Note 1: Bold indicates facilities that have been seismically retrofitted or rebuilt.

Note 2: Clackamas Community College buildings with 'very high' collapse potential include: Dye Learning Center, Family Residential Center, Gregory Forum ; and with 'high' collapse potential include: McLoughlin Hall, Pauling Center (east and south), Randall Hall (mitigated per 2015-2017 SRGP grant), and Streeter Hall.

Mitigation Activities

Many buildings in Oregon City have been seismically upgraded including the Carnegie Center, fire station #15 (John Adams, ca. 1998), the 10.5 million-gallon Mountainview drinking water reservoir, and numerous buildings at Clackamas Community College. New public buildings built for seismic activity include Oregon City High School and all water pump stations. Additionally, new water lines with flexible couplings at the joints were installed near the Newell Creek Apartments. Seismic retrofit grant awards per the <u>Seismic</u>. <u>Rehabilitation Grant Program</u>¹⁰ have been funded to retrofit Clackamas Fire District's Hilltop Fire Station #16 (2013-2014 grant award, \$483,062) and Clackamas Community College's Randall Hall (Phase Two of 2015-2017 grant award, \$1,500,000). A \$158 million bond was passed in 2018 to improve security, address overcrowding, and finance and construction including the replacement of Gardiner Middle School and renovation of Ogden Middle School.

Earthquake (Crustal)

The HMAC determined that the City's probability for a crustal earthquake is **low** and that their vulnerability to crustal earthquake is **high**. The probability rating decreased, and the vulnerability rating increased, since the previous version of this NHMP addendum. Previously, the earthquake hazard profile was a single risk assessment, which is now divided into two separate earthquake hazards: Crustal earthquake, and Cascadia Subduction Zone (CSZ) earthquake.

Volume I, Section 2 describes the causes and characteristics of earthquake hazards, history, as well as the location, extent, and probability of a potential event. Generally, an event that affects the County is likely to affect Oregon City as well. Figure OC-3 shows a generalized geologic map of the Oregon City area that includes the areas for potential regional active faults, earthquake history (1971-2008), and soft soils (liquefaction) hazard. The figure shows the areas of greatest concern within the City limits as red and orange. An additional earthquake hazard map is available via the City website: <u>Earthquake Hazard Map</u>.

There are two potential crustal faults and/or zones near the City that can generate highmagnitude earthquakes. These include the Gales Creek-Mt. Angel Structural Zone and Portland Hills Fault Zone (discussed in greater detail below). Other nearby faults include the Bolton fault and Oatfield faults which run through the city west and east side respectively, Canby-Molalla structural zones located west of the city, and the Mt. Hood Fault in eastern Clackamas County. Historical records count over 56 earthquakes in the Portland-metro area. The more severe ones occurred in 1877, 1880, 1953 and 1962. The most recent severe earthquake was the March 25, 1993 Scotts Mills quake. It was a 5.6 magnitude quake with aftershocks continuing at least through April 8.

¹⁰ The Seismic Rehabilitation Grant Program (SRGP) is a state of Oregon competitive grant program that provides funding for the seismic rehabilitation of critical public buildings, particularly public schools and emergency services facilities.

Earthquake-induced damages are difficult to predict, and depend on the size, type, and location of the earthquake, as well as site-specific building, and soil characteristics. Presently, it is not possible to accurately forecast the location or size of earthquakes, but it is possible to predict the behavior of soil at any site. In many major earthquakes, damages have primarily been caused by the behavior of the soil.

Portland Hills Fault Zone

The Portland Hills Fault Zone is a series of NW-trending faults that vertically displace the Columbia River Basalt by 1,130 feet and appear to control thickness changes in late Pleistocene (approx. 780,000 years ago) sediment. The fault zone extends along the eastern margin of the Portland Hills for 25 miles and lies about 11 miles northeast of Oregon City.



Figure OC-3 Active Crustal Faults, Epicenters (1971-2008), and Soft Soils

Security for the security of t 3-5 2-3 1-2 0-1 Source: Oregon HazVu: Statewide Geohazards Viewer (DOGAMI)

Magnitude Earthquake Epicenter (1971-2008) 5.7 An earthquake episonter is the point on the Earth's surface that is directly above the location where an carthouake croonates 1.2

Earthquake Liquefaction (Soft Soll) Hazard Eartinguake Eigenaction (301 301) Addates and The intense takking of an earthquake can cause soil Eigenaction – where loosely packed, water logged sediments are transformed into a substance that acts the a signed Buildings and initiatizationer witing on these soft soils are likely to be severely damaged in an earthquake.

Muderat

Note: To view detail click the link above to access Oregon HazVu

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Earthquake Regional Impact Analysis

In 2018 DOGAMI completed a regional impact analysis for earthquakes originating from the Cascadia Subduction Zone and Portland Hills faults (O-18-02). Their study focused on damage to buildings, and the people that occupy them, and to two key infrastructure sectors: electric power transmission and emergency transportation routes. Each earthquake was studied with wet and dry soil conditions and for events that occur during the daytime (2 PM) and night time (2 AM). Impacts to buildings and people were tabulated at the county, jurisdictional (city), and neighborhood unit level. Estimated damaged varied widely across the study area depending on local geology, soil moisture conditions, type of building, and distance from the studied faults. In general, damage from the Cascadia Subduction Zone scenario was greater in the western portion of the study area, however, damage could still be significant in some areas east of the Willamette River. The report found that damage to high-value commercial and industrial buildings was high since many of these facilities are in areas of high to very high liquefaction hazard. Casualties were higher during the daytime scenario (generally double) since more people would be at work and occupying non-wood structures that fare worse in an earthquake. The Portland Hills fault scenario created greater damages than the Cascade Subduction Zone scenario due primarily to its placement relative to population centers and regional assets; however, at distances 15 or more miles from the Portland Hills fault the damages from the Cascadia Subduction Zone scenario generally were higher. In both the Cascadia Subduction Zone and Portland Hills Fault scenarios it is forecasted that emergency transportation routes will be fragmented, affecting the distribution of goods and services, conditions are worse under the Portland Hills Fault scenario. Portions of the electric distribution system are also expected to be impacted under both scenarios, however, the impact is considerably less than it is to the transportation routes. Additional, capacity or redundancy within the electric distribution network may be beneficial in select areas that are likely to have greater impacts.

Table OC-9 shows the permanent resident population that are vulnerable to injury or death (casualty) and the buildings in the City that are susceptible to liquefaction and landslides, it does not predict that damage will occur in specific areas due to either liquefaction or landslide. More population and property are exposed to higher degrees of expected damage or casualty under the Portland Hills Fault "wet" scenario than in any other scenario.

	Cascadia Subduction Zone (M9.0)		Portland Hills Fault (M6.8)	
	"Dry" Soil	"Wet" Saturated Soil	"Dry" Soil	"Wet" Saturated Soil
Number of Buildings	12,641	12,641	12,641	12,641
Building Value (\$ Million)	4,190	4,190	4,190	4,190
Building Repair Cost (\$ Million)	277	342	1,319	1,422
Building Loss Ratio	7%	8%	31%	34%
Debris (Thousands of Tons)	148	170	496	525
Long-Term Displaced Population	102	307	2,983	3,827
Total Casualties (Daytime)	258	318	1,286	1,364
Level 4 (Killed)	14	18	80	85
Total Casualties (NIghttime)	38	57	383	448
Level 4 (Killed)	1	2	11	13

Table OC-9 Expected damages and casualties for the CSZ fault and Portland Hills fault: earthquake, soil moisture, and event time scenarios

Source: DOGAMI, Earthquake regional impact analysis for Clackamas, Multnomah, and Washington Counties, Oregon (2018, O-18-02), Tables 12-8, 12-9, 12-10, and 12-11.

Cascadia Subduction Zone Scenario

Oregon City is expected to have a 7% building loss ratio with a repair cost of \$277 million under the CSZ "dry" scenario, and an 8% building loss ratio with a repair cost of \$170 million under the CSZ "wet" scenario.¹¹ The city is expected to have around 258 daytime or 33 nighttime casualties during the CSZ "dry" scenario and 318 daytime or 57 nighttime casualties during the CSZ "wet" scenario. It is expected that there will be a long-term displaced population of around 102 for the CSZ "dry" scenario and 307 for the CSZ "wet"

Portland Hills Fault Scenario

Oregon City is expected to have a 31% building loss ratio with a repair cost of \$1,32 billion under the CSZ "dry" scenario, and a 34% building loss ratio with a repair cost of \$1.42 billion under the CSZ "wet" scenario.¹³ The long-term displaced population and casualties are greatly increased for all the Portland Hills Fault scenarios. The city is expected to have around 1,286 daytime or 383 nighttime casualties during the Portland Hills Fault "dry" scenario and 1,364 daytime or 448 nighttime casualties during the Portland Hills Fault "wet" scenario. It is expected that there will be a long-term displaced population of around 2,983 for the Portland Hills Fault "dry" scenario.¹⁴

Recommendations from the report included topics within Planning, Recovery, Resiliency: Buildings, Resiliency: Infrastructure Improvements, Resiliency: Essential and Critical Facilities, Enhanced Emergency Management Tools, Database Improvements, Public Awareness, and Future Reports. The recommendations of this study are largely incorporated within this NHMPs mitigation strategies (Table OC-1 and Volume I, Section 3). For more detailed information on the report, the damage estimates, and the recommendations see: *Earthquake regional impact analysis for Clackamas, Multnomah, and Washington Counties, Oregon* (2018, <u>0-18-02</u>).

Please review Volume I, Section 2 for additional information on this hazard.

Flood

The HMAC determined that the City's probability for flood is **high** and that their vulnerability to flood is **moderate**. These ratings did not change since the previous version of this NHMP addendum.

Volume I, Section 2 describes the characteristics of flood hazards, history, as well as the location, extent and probability of a potential event. Portions of Oregon City have areas of floodplains (special flood hazard areas, SFHA). These include areas include along Willamette River, Clackamas River, and Abernethy Creek (Figure OC-4). Additional flood hazard maps are available via the City website: <u>100 Year Floodplain and 1996 Flood Area</u>, <u>Water Quality and Flood Management Areas</u>. Other portions of Oregon City, outside of the mapped floodplains, are also subject to flooding from local storm water drainage. Not all flood prone

¹¹ DOGAMI, Earthquake regional impact analysis for Clackamas, Multnomah, and Washington Counties, Oregon (2018, O-18-02), Tables 12-8 and 12-9.

¹² Ibid, Tables 12-8 and 12-9.

¹³ Ibid, Tables 12-10 and 12-11

¹⁴ Ibid, Tables 12-10 and 12-11.

areas are subject to damage. Several valleys, such as the upper reaches of Abernethy Creek, are still in or near their natural state. Flooding of such areas causes no damage to human development and may help the riparian habitat.





Vulnerability Assessment

Due to insufficient data and resources, Oregon City is currently unable to perform a quantitative risk assessment for this hazard. Floods can have a devastating impact on almost every aspect of the community, including private property damage, public infrastructure damage and economic loss from business interruption. It is important for the City to be aware of flooding impacts and assess its level of risk. The City has been proactive in mitigating flood hazards by purchasing floodplain property.

The economic losses due to business closures often total more than the initial property losses that result from flood events. Business owners and their employees are significantly impacted by flood events. Direct damages from flooding are the most common impacts, but indirect damages, such as diminished clientele, can be just as debilitating to a business.

For mitigation planning purposes, it is important to recognize that flood risk for a community is not limited only to areas of mapped floodplains. Other portions of Oregon City

Source: Oregon HazVu: Statewide Geohazards Viewer (DOGAMI) Note: To view detail click the link above to access Oregon HazVu

outside of the mapped floodplains may also be at relatively high risk from over bank flooding from streams too small to be mapped by FEMA or from local storm water drainage.

The Willamette and Clackamas Rivers both flooded in January 1997 and from December 28th, 2005 to January 1st, 2006 following severe winter storms. The high water caused bank erosion and cleanup was required at Clackamette Park, for which FEMA provided some funding.

From January 1st to 2nd, 2009 a severe winter storm dropped over 3.5 inches of rain over a 24-hour period. The event led to localized flooding, land movement, traffic delays, and sewer line back-ups. Sections of Meyers Road, Beavercreek Road, Linn Avenue, Abernethy Road, and Van Buren Street were closed because of the storm. Additional significant floods occurred in December 2015 and March 2017.

Finally, there is a rainfall pattern known as the "Pineapple Express" which brings very heavy and warm rains from the southwest. These warm rains begin their journey from parts of the Pacific near Hawaii, holding their heat and moisture until making landfall along the Oregon coast.

Most of the buildings affected by flooding are in the lowest part of the city, where the three waterways converge. The Floodplain Map shows 12.7 miles of the transportation network could be affected in a flood. For a list of facilities and infrastructure vulnerable to this hazard see the Community Assets section and Tables OC-5 through OC-7.

National Flood Insurance Program (NFIP)

FEMA updated the Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) in 2018 (effective January 19, 2018). Table OC-10 shows that as of July 2018, Oregon City has 38 National Flood Insurance Program (NFIP) policies in force. Of those, 24 are for properties that were constructed before the initial FIRM. The last Community Assistance Visit (CAV) for Oregon City was on April 26th, 2016. Oregon City's Class Rating within the Community Rating System (CRS) is 7. The table shows that the majority of flood insurance policies are for residential structures, primarily single-family homes. There has been a total of 18 paid claims for \$1,467,600. The City complies with the NFIP through enforcement of their flood damage prevention ordinance and their floodplain management program.

The Community Repetitive Loss record for Oregon City identifies zero (0) Repetitive Loss Properties (RL)¹⁵ and one (1) Severe Repetitive Loss Property (SRL)¹⁶. The SRL property is non-residential, located in zone A21, and has had two claims for a total of \$51,162.53. For additional detail and a map of its general location see Volume I, Section 3 and Figure 2-13.

¹⁵ A Repetitive Loss (RL) property is any insurable building for which two or more claims of more than \$1,000 were paid by the National Flood Insurance Program (NFIP) within any rolling ten-year period, since 1978. A RL property may or may not be currently insured by the NFIP.

¹⁶ A Severe Repetitive Loss (SRL) property is a single family property (consisting of 1 to 4 residences) that is covered under flood insurance by the NFIP and has incurred flood-related damage for which 4 or more separate claims payments have been paid under flood insurance coverage, with the amount of each claim payment exceeding \$5,000 and with cumulative amount of such claims payments exceeding \$20,000; or for which at least 2 separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

Cla	ickamas County	Oregon City
Effective FIRM and FIS	6/17/2008	6/17/2008
InitialFIRM Date	-	2/15/1980
Total Policies	1,957	38
Pre-FIRM Policies	1,086	24
Policies by Building Type		
Single Family	1,761	16
2 to 4 Family	30	1
Other Residential	58	0
Non-Residential	9	0
Minus Rated A Zone	123	· 0
Insurance in Force	\$541,833,400	\$13,060,400
Total Paid Claims	590	18
Pre-FIRM Claims Paid	450	17
Substantial Damage Claims	83	3
Total Paid Amount	\$20,830,662	\$1,467,600
Repetitive Loss Structures	51	1
Severe Repetitive Loss Properties	4	1
CRS Class Rating	A V-	7
Last Community Assistance Visit		4/26/2016

Table OC-10 Flood Insurance Detail

Source: Information compiled by Department of Land Conservation and Development, July 2018. Note: The portion of the cities of Portland and Tualatin that are within Clackamas County are not included in this table.

Mitigation Activities

Oregon City employs several mitigation strategies to reduce the city's risk to flood events. The city development code includes policies and regulations for flood prone areas including the Flood Management Overlay District (Chapter 17.42), stormwater master plans (Erosion Prevention and Sediment Control Planning and Design Manual, Drainage Master Plan, South End Basin Master Plan, Caulfield Basin Master Plan, and Park Place Basin Master Plan). Development review practices and conditions of development require developers to account for stormwater management onsite to reduce the risks of urban flooding in the future. Oregon City regularly inspects and maintains the stormwater facilities. Enclosed pipe sections and catch basins are routinely cleaned and inspected using the combination truck, and a regular street sweeping program reduces the amount of debris and contaminants entering the stormwater system. The Greater Oregon Watershed Council did plantings along Abernethy Creek. Sediment is regularly removed from culverts around the city to allow for better water flow. River bank stabilization and restoration work was done along the Willamette River at Jon Storm Park.

Please review Volume I, Section 2 for additional information on this hazard.

Landslide

The HMAC determined that the City's probability for landslide is **high** and that their vulnerability to landslide is **moderate**. *The probability rating did not change and the vulnerability rating increased since the previous version of this NHMP addendum*.

Volume I, Section 2 describes the characteristics of landslide hazards, history, as well as the location, extent and probability of a potential event within the region. The potential for landslide in Oregon City is high and the City's wastewater main lines, major water lines and fiber optic lines. The flooding of 1996 caused numerous landslide events in Oregon City. One of these events caused a sanitary sewer pump to begin sliding downhill. A report by Portland State University found that half of the 48 landslides that occurred in the region in 1996 were considered "natural," while the others were triggered by human activity. Oregon City experienced another series of landslides because of the December 28th, 2005 to January 1st, 2006 storm and flood on Trillium Drive, Morton Road, near the football field at Oregon City High School Jackson Campus, Newell Crest Drive and Newell Creek Village Apartments. In December 2015 landslides impacted the Forest Edge Apartment Complex, forcing the evacuation of all 41 apartments. Landslides in 2017 impacted Trillium Park, South End Road, Center Street, and OR-224.

Landslides destroy or damage anything on the sliding hillside or in the path of the slide. This includes buildings, houses and streets. Sometimes, a small amount of settlement occurs, giving the owner time to shore up or retrofit the building to prevent further damage. Many property owners in Oregon City have built retaining walls and replaced slide prone soils with rock to help prevent landslides. However, if an entire hillside fails, the buildings may be destroyed and the streets washed out or covered in debris.

Landslide susceptibility exposure for Oregon City is shown in Figure OC-6. Most of Oregon City demonstrates a moderate to high susceptibility to landslide exposure. Approximately 12% of Oregon City has very high or high and approximately 16% moderate, landslide susceptibility exposure.¹⁷

Note that even if a jurisdiction has a high percentage of area in a high or very high landslide exposure susceptibility zone, this does not mean there is a high risk, because risk is the intersection of hazard and assets.

Vulnerability Assessment

Due to insufficient data and resources, Oregon City is currently unable to perform a quantitative risk assessment for this hazard. However, DOGAMI completed a statewide landslide susceptibility assessment in 2016 (<u>O-16-02</u>), general findings from that report are provided above and within Figure OC-5. Additional landslide hazard maps are available via the City website: <u>Geological Hazards Map</u> (adopted by ordinance 10-1003), <u>Slope Map</u>, and <u>DOGAMI's Landslide Inventory Maps</u>.

Potential landslide-related impacts are adequately described within Volume I, Section 2 and include infrastructural damages, economic impacts (due to isolation and/or arterial road closures), property damages and obstruction to evacuation routes. Rain-induced landslides and debris flows can potentially occur during any winter in Clackamas County and

¹⁷ DOGAMI Open-File Report, O-16-02, Landslide Susceptibility Overview Map of Oregon (2016)

thoroughfares beyond City limits are susceptible to obstruction as well. For a list of facilities and infrastructure vulnerable to this hazard see the Community Assets section and Tables OC-5 through OC-7.







High

Landsliding unlikely. Areas classified as Landslide Density = Low (less than 7%) and areas classified as Slopes Prone to Landsliding = Low.

Landsliding possible. Areas classified as Landslide Density = Low to Moderate (less than 17%) and areas classified as Slopes Prone to Landsliding = Moderate OR areas classified as Landslide Density = Moderate (7%-17%) and areas classified as Slopes Prone to Landsliding = Low.

Landsliding likely. Areas classified as Landslide Density = High (greater than 17%) and areas classified as Slopes Prone to Landsliding = Low and Moderate OR areas classified as Landslide Density = Low and Moderate (less than 17%) and areas classified as Slopes Prone to Landsliding = High.

Existing landslides Landslide Density and Slopes Prone to Landsliding data were not considered in this category. Note: the quality of landslide inventory (existing landslides) mapping varies across the state.

Source: Oregon HazVu: Statewide Geohazards Viewer (DOGAMI) Note: To view detail click the link above to access Oregon HazVu

The most common type of landslides in Clackamas County are slides caused by erosion and flooding. Slides move in contact with the underlying surface, are generally slow moving and can be deep. Rainfall-initiated landslides tend to be smaller; while earthquake induced

landslides may be quite large. All soil types can be affected by natural landslide triggering conditions.

Mitigation Activities

Oregon City works to mitigate future landslide hazards. Oregon City uses percent slope as an indicator of hill slope stability. The city uses a 25% or greater threshold to identify potentially unstable hill slopes. Approximately, 518 acres in the city exceeds this 25% slope threshold (about 8.25% of the land in Oregon City). The city development code includes policies and regulations for landslide prone areas including Chapter 15.48 (Grading, Filling, and Excavating), Chapter 17.44 (US Geologic Hazards), and Chapter 17.47 (Erosion and Sediment Control).

After the 1996 landslide events, 20 of the 48 landslides were repaired by the city, meaning reconstruction or mitigation took place. These fixes varied and included constructing retaining walls, installing rockfill, and moving structures. The sanitary sewer pump station that began sliding downhill had seismic isolation piles installed under the foundation of the building to mitigate future slides.

Repairs and mitigation after the December 28th, 2005 to January 1st, 2006 landslides included:

- The storm sewer manhole that failed on Trillium Drive was repaired. The city
 installed monitoring wells with inclinometers to allow the city to continue to
 monitor the slope.
- The owner of the Morton Road apartment building installed a crib wall.
- A homeowner on Newell Crest Drive constructed a retaining wall, costing approximately \$100,000.
- Newell Creek Apartments had the most mitigation work done. The city temporarily
 repaired one of the water lines and permanently abandoned the waterline on the
 slope and reconfigured the second water line. The repaired line that remained at
 risk was later replaced with a new water line with flexible couplings at the joints.
 The city required relocation and reconstruction of the apartment complex's private
 sanitary sewer pump station.

The city additionally has many ongoing mitigation actions including a water pipe line leak detection system and annual assessments of slide hazard areas.

Please review Volume I, Section 2 for additional information on this hazard.

Severe Weather

Severe weather in can account for a variety of intense and potentially damaging weather events. These events include windstorms and winter storms. The following section describes the unique probability and vulnerability of each identified weather hazard. Other more abrupt or irregular events such as hail are also described in this section.

Extreme Heat

The HMAC determined that the City's probability for extreme heat events is **high** and that their vulnerability is **low**. The probability rating increased and the vulnerability rating did not change since the previous version of this NHMP addendum.
Volume I, Section 2 describes the characteristics of extreme heat, history, as well as the location, extent and probability of a potential event within the region. Generally, an event that affects the County is likely to affect the City as well.

A severe heat episode or "heat wave" occurs about every two to three years and typically lasting two to three days but can last as many as five days. A severe heat episode can be defined as consecutive days of upper 90s to around 100. Severe heat hazard in the Portland metro region can be described as the average number of days we have temperatures greater than or equal to 90-degrees Fahrenheit and 100-degrees Fahrenheit. On average the region experiences 13.6 days with temperatures above 90-degrees Fahrenheit and 1.4 days above 100-degrees Fahrenheit, based on new 30-year climate averages (1981-2010) from the National Weather Service – Portland Weather Forecast Office.

The Oregon City has not experienced any life-threatening consequences from the few extreme heat events in the past, though with the changing climate expect to see more extreme heat events with potentially greater risk to the City's population.

Please review Volume I, Section 2 for additional information on this hazard.

<u>Windstorm</u>

The HMAC determined that the City's probability for windstorm is **moderate** and that their vulnerability to windstorm is **low**. These ratings did not change since the previous version of this NHMP addendum.

Volume I, Section 2 describes the characteristics of windstorm hazards, history, as well as the location, extent and probability of a potential event within the region. On December 11th, 1995, a windstorm hit Oregon. Oregon City was one of the most severely damaged cities in Clackamas County. Winds tore off roofs from buildings, uprooted or damaged trees, and knocked out electrical and telephone service. Because windstorms typically occur during winter months, they are sometimes accompanied by ice, freezing rain, flooding and very rarely, snow. Other severe weather events that may accompany windstorms, including thunderstorms, hail, lightning strikes and tornadoes are generally negligible for Oregon City. Wind storms also impacted Oregon City in December 2015 and during December 2016 and January 2017 including cold weather and damaging winds.

Volume I, Section 2 describes the impacts caused by windstorms, including power outages, downed trees, heavy precipitation, building damages and storm-related debris. Additionally, transportation and economic disruptions result as well.

Damage from high winds generally has resulted in downed utility lines and trees usually limited to several localized areas. Electrical power can be out anywhere from a few hours to several days. Outdoor signs have also suffered damage. If the high winds are accompanied by rain (which they often are), blowing leaves and debris clog drainage-ways, which in turn causes localized urban flooding.

Please review Volume I, Section 2 for additional information on this hazard.

Winter Storm (Snow/Ice)

The HMAC determined that the City's probability for winter storm is **moderate** and that their vulnerability to winter storm is **moderate**. *The probability rating decrease and vulnerability rating did not change since the previous version of the NHMP*.

Volume I, Section 2 describes the characteristics of winter storm hazards, history, as well as the location, extent and probability of a potential event within the region. Severe winter storms can consist of rain, freezing rain, ice, snow, cold temperatures and wind. They originate from troughs of low pressure offshore that ride along the jet stream during fall, winter and early spring months. Severe winter storms affecting the City typically originate in the Gulf of Alaska or in the central Pacific Ocean. These storms are most common from November through March.

Major winter storms can and have occurred in the Oregon City area. From January 9th to 12th, 1998, a severe winter storm included freezing rain and snow and was accompanied by high winds for two days. Most of the city lost power due to downed electrical lines and malfunctioning transformers. One emergency shelter was opened for those who could not stay in their homes. Off-duty firefighters were called in to help respond to the increased number of calls. Another winter storm happened in January 2009, which resulted in over 3.5 inches of rain in a 24-hour period. The snow and rain led to localized flooding, land movement, traffic delays, and sewer line back-ups. Sections of Meyers Road, Beavercreek Road, Linn Avenue, Abernethy Road, and Van Buren Street were closed due to the effects of the storm. The storm led to significant power outages, eight water main breaks, and hazardous road conditions. The City contracted forces to assist in snow removal efforts. Another winter storm impacted the City during December 2016 and January 2017 including cold weather and damaging winds.

Most winter storms typically do not cause significant damage, they are frequent and have the potential to impact economic activity. Road and rail closures due to winter weather are an uncommon occurrence, but can interrupt commuter and commercial traffic.

Vulnerability Assessment

Due to insufficient data and resources, Oregon City is currently unable to perform a quantitative risk assessment, or exposure analysis, for the extreme heat, windstorm, and winter storm hazards. For a list of facilities and infrastructure vulnerable to these hazards see the Community Assets section and Tables OC-5 through OC-7.

Mitigation Activities

Mitigating severe weather can be difficult because storms affect all areas of the city, but Oregon City has made progress to reduce the effects of storms. Oregon City has a snow route priorities map. This map informs Public Works which roads should be cleared first and what roads require closure. The plan even includes sign placement procedures. The city has uses a combination of sand and a de-icing compound for use on its streets. The city has installed emergency generators for sanitary sewer pump stations in susceptible hazard areas. In winter storms, it is difficult for the city to bring portable generators to those sites. Most utilities are underground and all new utilities are required to be undergrounded, but in case of power outages the city's critical facilities have back up power generation. Clackamas County Public Health operates heating and cooling centers for the region.

Please review Volume I, Section 2 for additional information on this hazard.

Volcanic Event

The HMAC determined that the City's probability for a volcanic event is **low** (which is the same as the County's rating) and that their vulnerability to a volcanic event is **low**. *These ratings did not change since the previous version of this NHMP addendum*.

Volume I, Section 2 describes the characteristics of volcanic hazards, history, as well as the location, extent and probability of a potential event within the region. Generally, an event that affects the County is likely to affect Oregon City as well. Oregon City is very unlikely to experience anything more than volcanic ash during a volcanic event.

Vulnerability Assessment

Due to insufficient data and resources, Oregon City is currently unable to perform a quantitative risk assessment, or exposure analysis, for this hazard. For a list of facilities and infrastructure vulnerable to this hazard see the Community Assets section and Tables OC-5 through OC-7.

Due to Oregon City's relative distance from volcanoes, the city is unlikely to experience the immediate effects that eruptions have on surrounding areas (i.e., mud and debris flows, or lahars). Depending on wind patterns and which volcano erupts, however, the city may experience ashfall. The eruption of Mount St. Helens in 1980, for example, coated the Willamette Valley with a fine layer of ash. If Mount Hood erupts, however, the city could experience a heavier coating of ash.

Mitigation Activities

The existing volcano hazard mitigation activities are conducted at the county, regional, state, and federal levels and are described in the Clackamas County NHMP.

Please review Volume I, Section 2 for additional information on this hazard.

Wildfire

The HMAC determined that the City's probability for wildfire is **low** and that their vulnerability to wildfire is **moderate**. The probability rating did not change and the vulnerability rating increased since the previous version of this NHMP addendum.

The 2017 Clackamas County Community Wildfire Protection Plan (CWPP) was completed in May 2018. The CWPP is hereby incorporated into this NHMP addendum by reference, and it will serve as the wildfire section for this addendum. The following presents a summary of key information; refer to the full CWPP for a complete description, and evaluation of the wildfire hazard: <u>https://www.clackamas.us/dm/CWPP.html</u>. Fire protection in Oregon City is provided by Clackamas Fire District #1, information specific to the fire district and Oregon City is found in the following chapter: <u>Chapter 10.3: Clackamas Fire District #1</u>.

Volume I, Section 2 describes the characteristics of wildland fire hazards, history, as well as the location, extent, and probability of a potential event within the region. The location, and extent of a wildland fire vary depending on fuel, topography, and weather conditions. Weather, and urbanization conditions are primarily at cause for the hazard level. Oregon City does not regularly experience wildfire within City limits, but the city has abundant wooded areas that are a concern in the case of a wildfire event. However, a major fire broke out near Rosemont Ridge in September 1967. The fire burned 300 acres and cut telephone and electrical service, but fire fighters were able to save all threatened homes. Less than two weeks later another fire destroyed 500 acres. This fire took the efforts of over 150 firefighters to save the homes.

Clackamas County has two major physiographic regions: the Willamette River Valley in western Clackamas County and the Cascade Range Mountains in eastern and southern Clackamas County. The Willamette River Valley, which includes Oregon City, is the most heavily populated portion of the county and is characterized by flat or gently hilly topography. The Cascade Range has a relatively small population and is characterized by heavily forested slopes. Eastern Clackamas County is at higher risk to wildfire than western portions of the county due to its dense forest land. Human caused fires are responsible for most fires in Clackamas County. In Oregon City most instances of fire have been started by the railroads and I-5 but the fires have been small enough to contain quickly and easily.

The forested hills within, and surrounding Oregon City are interface areas. One area that's particularly susceptible to fires is the Canemah Bluffs area. This area has heavy tree coverage and a dense neighborhood sits atop a steep wooded area, increasing the threat of wildfire. In August 2005, a wildfire on the Canemah Bluffs burned down a non-occupied historic structure. Another fire began in this same area in 2007. The 2007 fire began at Highway 99E and spread up the rock cliff face. Two additional areas that are particularly susceptible to wildfires: Newell Creek Canyon and the Waterboard Park. Newell Creek Canyon is open space located outside the Metro UGB and is not part of a master plan. This area is a major wildland urban interface and has the potential for a catastrophic fire. Transients often have campfires in this area, creating a potential for fire to start. Highway 213 runs through this area and a cigarette thrown from a car is another potential source of ignition. If a fire were to break out along the highway, firefighters would have to fight it from the highway as there is limited access to the canyon. The Barclay Hills residential development on the west side of the canyon has very poor access, with only one way in and one way out. Waterboard Park is located along the bluff below Promontory Avenue. This area is considered a charter park, meaning trees and brush cannot be cut to reduce fuel load. Like Newell Creek Canyon, Waterboard Park is home to many transients and campfires pose a threat to igniting a fire. High and medium Priority Communities at Risk (CARs) within the City include: Canemah Bluffs (high) and Holcomb (medium).¹⁸

Most of the city has less severe (moderate or less) wildfire burn probability that includes expected flame lengths less than four-feet under normal weather conditions.¹⁹ However, conditions vary widely and with local topography, fuels, and local weather (including wind) conditions. Under warm, dry, windy, and drought conditions expect higher likelihood of fire starts, higher intensity, more ember activity, and a more difficult to control wildfire that will include more fire effects and impacts.

Vulnerability Assessment

Due to insufficient data and resources, Oregon City is currently unable to perform a quantitative risk assessment, or exposure analysis, for this hazard. For a list of facilities and

¹⁸ Clackamas County Community Wildfire Protection Plan, Clackamas Fire District #1 (2018), Table 10.3-1.

¹⁹ Oregon Wildfire Risk Explorer, date accessed November 19, 2018.

infrastructure vulnerable to this hazard see the Community Assets section and Tables OC-5 through OC-7.

The potential community impacts, and vulnerabilities described in Volume I, Section 2 are generally accurate for the City as well. Oregon City's fire response is addressed within the CWPP which assesses wildfire risk, maps wildland urban interface areas, and includes actions to mitigate wildfire risk. Figure OC-6 shows overall wildfire risk in Oregon City. The City will update the City's wildfire risk assessment if the fire plan presents better data during future updates (an action item is included to participate in future updates to the CWPP).



Figure OC-6 Overall Wildfire Risk

Source: Oregon Wildfire Risk Explorer, date accessed November 19, 2018.

Property can be damaged or destroyed with one fire as structures, vegetation, and other flammables easily merge to become unpredictable, and hard to manage. Other factors that affect ability to effectively respond to a wildfire include access to the location, and to water, response time from the fire station, availability of personnel, and equipment, and weather (e.g., heat, low humidity, high winds, and drought).

Mitigation Activities

Oregon City uses several mitigation tools to reduce the city's risk to wildfires. Oregon City's Fire Department, Clackamas County Fire District #1, has a Fire Prevention Division dedicated

to protecting and preserving life and property through education, engineering, and enforcement. The Fire Prevention Division offers numerous education opportunities including school programs, public presentations, media events, and safety fairs. They review pre-construction plans and develop fire codes. Additionally, this division inspects buildings for fire code compliance, enforces open burning regulations, and offers juvenile fire setter counseling and follow-up.

The Clackamas Fire District #1 (CFD #1) serves the cities of Happy Valley, Johnson City, Milwaukie, and Oregon City and the unincorporated areas of Barton, Beavercreek, Boring, Carus, Carver, Central Point, Clackamas, Clarkes, Damascus, Eagle Creek, Highland, Hillsview, Holcomb, Kelso, Jennings Lodge, Oak Grove, Redland, South End, Sunnyside, and Westwood. For more information on the fire district see their addendum.

Please review the <u>2017 Clackamas County Community Wildfire Protection Plan (CWPP)</u>, Volume I, Section 2, and the Clackamas Fire District #1 Addendum in Volume II for additional information on this hazard. This page intentionally left blank.

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ATTACHMENT A: ACTION ITEM FORMS

ACTION ITEM FORMS

Multi-Hazard #1				. 45
Multi-Hazard #2				. 46
Multi-Hazard #3				. 47
Multi-Hazard #4				. 48
Earthquake #1*				. 49
Flood #1	••••••			. 50 🕺
Flood #2				. 51
Flood #3*		<u></u>	A.	. 52
Landslide #1*				. 53
Landslide #2		/ NA	*\$\$p	. 54
Severe Weather #1				. 55
Wildfire #1*		k. <i>10</i> 1		. 56
Wildfire #2*	A second	Marine (C)		57
Wildfire #2	19			58
	·····	·····		. 55

* - Priority Action Item

Note: The HMAC decided to modify the prioritization of action items in this update to reflect current conditions (risk assessment), needs, and capacity.

Summary of Action Changes

Below is a list of changes to the action items since the previous plan.

Previous NHMP Actions: Completed

Multi-Hazard Action #8 (2012): "Update and maintain the Oregon City Emergency Operations Plan to provide a comprehensive multi-hazard emergency response program" is considered complete (last updated in 2017). In addition, the plan is routinely updated and the HMAC does not consider it necessary to retain the action in the mitigation plan that deals with ongoing hazards response planning.

See 2018 status identified in each action for activities that have been completed since the previous plan.

Previous NHMP Actions: Removed

Multi-Hazard Action #4 (2012): "Continue to update and improve hazard assessments in the Oregon City Natural Hazards Mitigation Plan Addendum" was removed from the list since it was determined by the steering committee that this is a function of their Implementation and Maintenance Plan and did not need to be included as an action.

Multi-Hazard Action #5 (2012): "Identify and pursue funding opportunities to develop and implement hazard mitigation activities" was removed from the list since it was determined by the steering committee that this is a function of their Implementation and Maintenance Plan and did not need to be included as an action.

Flood Action ST-FL #2 (2012): "Continue to implement and enhance the flood public education program designed to inform local residents about:" was removed from the list of actions. This action is included within MH #3.

Landslide Action ST-LS #3 (2012): "Educate the community about landslides, their associated risks and ways of reducing vulnerability" was removed from the list of actions. This action is included within MH #3.

Wildfire Action WF #1 (2012): "Enhance outreach and education programs aimed at mitigating wildfire hazards and reducing or preventing public exposure to hazards" was removed from the list of actions. This action is included within MH #3.

Note: 2012 Actions MH #3, MH #5, MH #7, ST-FL #1, ST-FL #3, LT-FL #1, ST-LS #1, and ST-LS #2 were renumbered to 2019 Actions MH #2, MH #3, MH #4, FL #1, FL #2, FL #3, LS #1, and LS #2 respectively.

New NHMP Actions (2019):

• Wildfire Action #3

See action item forms below for detail.

Action Item Forms

Each action item has a corresponding action item worksheet describing the activity, identifying the rationale for the project, identifying potential ideas for implementation, and assigning coordinating and partner organizations. The action item worksheets can assist the community in pre-packaging potential projects for grant funding. The worksheet components are described below.

ALIGNMENT WITH EXISTING PLANS/POLICIES

The Clackamas County NHMP includes a range of action items that, when implemented, will reduce loss from hazard events in the County, participating cities, and special districts. Within the plan, FEMA requires the identification of existing programs that might be used to implement these action items. The City addresses statewide planning goals and legislative requirements through its comprehensive land use plan, capital improvements plan, mandated standards and building codes. To the extent possible, the City will work to incorporate the recommended mitigation action items into existing programs and procedures. Each action item identifies related existing plans and policies.

STATUS/RATIONALE FOR PROPOSED ACTION ITEM

Action items should be fact-based and tied directly to issues or needs identified throughout the planning process. Action items can be developed at any time during the planning process and can come from several sources, including participants in the planning process, noted deficiencies in local capability, or issues identified through the risk assessment. The rationale for proposed action items is based on the information documented in Section 2. The worksheet provides information on the activities that have occurred since the previous plan for each action item.

IDEAS FOR IMPLEMENTATION

The ideas for implementation offer a transition from theory to practice and serve as a starting point for this plan. This component of the action item is dynamic, since some ideas may prove to not be feasible, and new ideas may be added during the plan maintenance process. Ideas for implementation include such things as collaboration with relevant organizations, grant programs, tax incentives, human resources, education and outreach, research, and physical manipulation of buildings and infrastructure.

COORDINATING (LEAD) ORGANIZATION:

The coordinating organization is the public agency with the regulatory responsibility to address natural hazards, or that is willing and able to organize resources, find appropriate funding, or oversee activity implementation, monitoring and evaluation.

INTERNAL AND EXTERNAL PARTNERS:

The internal and external partner organizations listed in the Action Item Worksheets are potential partners recommended by the project HMAC but not necessarily contacted during the development of the plan. The coordinating organization should contact the identified partner organizations to see if they are capable of and interested in participation. This initial contact is also to gain a commitment of time and/or resources toward completion of the action items. Internal partner organizations are departments within the City or other participating jurisdiction that may be able to assist in the implementation of action items by providing relevant resources to the coordinating organization.

External partner organizations can assist the coordinating organization in implementing the action items in various functions and may include local, regional, state, or federal agencies, as well as local and regional public and private sector organizations.

PLAN GOALS ADDRESSED:

The plan goals addressed by each action item are identified as a means for monitoring and evaluating how well the mitigation plan is achieving its goals, following implementation.

TIMELINE:

All broad scale action items have been determined to be ongoing, as opposed to short-term (0 to 2 years) or long-term (3 or more years). This is because the action items are broad ideas, and although actions may be implemented to address the broad ideas, the efforts should be ongoing.

POTENTIAL FUNDING SOURCE

Where possible potential funding sources have been identified. Example funding sources may include: Federal Hazard Mitigation Assistance programs, state funding sources such as the Oregon Seismic Rehabilitation Grant Program, or local funding sources such as capital improvement or general funds. An action item may include several potential funding sources.

ESTIMATED COST

A rough estimate of the cost for implementing each action item is included. Costs are shown in general categories showing low, medium, or high cost. The estimated cost for each category is outlined below:

Low - Less than \$50,000 Medium - \$50,000 - \$100,000 High - More than \$100,000

Multi-Hazard #I

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Proposed Action Item:	Alignment with Plan Goals:
Maintain Certification and coordinate with Clackamas Co and regional partners to identify and coordinate building officials that are qualified to conduct damage assessmer	DuntyProtect Life and Property; AugmentgEmergency Services; Encouragents.Partnerships for Implementation
Alignment with Existing Plans/Policies:	
2018 Status/Rationale for Proposed Action Item:	
2018 Status: Oregon City continues to have train which focus on the basic building assessments a	fter hazard events.
Ideas for Implementation:	
Coordinating Organization: Oregon City Emergency	Management
Internal Partners:	Partners
Building Clackam	as County, Clackamas Fire District #1
Potential Funding Sources: Kernete Estimate	ed cost: Timeline:
General Fund	 Short Term (0-2 years) Long Term (2-4+ years) X Ongoing
Form Submitted by: Existing action item	
Priority: Medium	

Multi-Hazard #2

Integrate the goals and action items from the Oregon City Natural Hazards Mitigation Plan into existing regulatory documents and programs, where appropriate. Protect Life and Property; Enhance Natural Systems; Augment Emergency Services; Encourage Partnerships for Implementation; Promote Public Awareness Alignment with Existing Plans/Policies:	Proposed Action Item:		Alignment	with Plan Goals:
Alignment with Existing Plans/Policies: Comprehensive Plan, Zoning Ordinance, Emergency Operations Plan 2018 Status/Rationale for Proposed Action Item: • The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community [201.6(c)[3)(iii)]. Incorporating natural hazards plans into comprehensive plans, local ordinances, and land-use regulations will ensure that communities implement the proper mitigation measures for heir community. • 2018 Status: The City last amended their development code in 2017. The floodplain ordinance was last updated in 2002 (new FIRMs are preliminary and effective maps are expected Januar 2019). The City updated their comprehensive plan in April 2012. Ideas for Implementation: • Use the mitigation plan to help the City's Comprehensive Land Use Plan meet State Land Use Planning Goal 7, designed to protect life and property from natural disasters and hazards; through planning strategies that restrict development in areas of known hazards; • Use the mitigation actions into the current emergency operations plan and capital improvement plans (where appropriate); • Partner with other organizations and agencies with similar goals to promote building codes that are more disaster resistant at the state level; • Use citizen input for the creation of appropriate ordinances; and • Use the natural hazard mitigation planning to learn how to better integrate the NHMP into existing documents and programs. Coordinating Organization: Community Development Internal/Partners: External Partne	Integrate the goals and action items from the Natural Hazards Mitigation Plan into existing r documents and programs, where appropriate.	Oregon City egulatory	Protect Life Natural Sys Emergency Partnershi Promote P	e and Property; Enhance stems; Augment y Services; Encourage ps for Implementation; ublic Awareness
Comprehensive Plan, Zoning Ordinance, Emergency Operations Plan 2018 Status/Rationale for Proposed Action Item: • The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community [201.6(c)(3)(ii)]. Incorporating natural hazards plans into comprehensive plans, local ordinances, and land-use regulations will ensure that communities implement the proper mitigation measures for their community. 2018 Status: The City last amended their development code in 2017. The floodplain ordinance was last updated in 2002 (new FIRMs are preliminary and effective maps are expected Januar 2019). The City updated their comprehensive plan in April 2012. Ideas for Implementation: • • Use the mitigation plan to help the City's Comprehensive Land Use Plan meet State Land Use Planning Goal 7, designed to protect life and property from natural disasters and hazards through planning strategies that restrict development in areas of known hazards; • Use zoning codes to regulate development in hazard-prone areas; • Integrate the city's mitigation ations into the current emergency operations plan and capital improvement plans (where appropriate); • Partner with other organizations and agencies with similar goals to promote building codes that are more disaster resistant at the state level; • Use citizen input for the creation of appropriate ordinances; and • Use the natural hazard mitigation planning to learn how to better integrate the NHMP into existing documents and programs. Coordinating Org	Alignment with Existing Plans/Policies:			
2018 Status/Rationale for Proposed Action Item: The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community [201.6(c)(3)(ii)]. Incorporating natural hazards plans into comprehensive plans, local ordinances, and land-use regulations will ensure that communities implement the proper mitigation measures for their community. 2018 Status: The City last amended their development code in 2017. The floodplain ordinance was last updated in 2002 (new FIRMs are preliminary and effective maps are expected Januar 2019). The City updated their comprehensive plan in April 2012. Ideas for Implementation: Use the mitigation plan to help the City's Comprehensive Land Use Plan meet State Land Use Planning Goal 7, designed to protect life and property from natural disasters and hazards; Use zoning codes to regulate development in areas of known hazards; Use zoning codes to regulate development in hazard-prone areas; Integrate the city's mitigation actions into the current emergency operations plan and capital improvement plans (where appropriate); Partner with othe organizations and agencies with similar goals to promote building codes that are more disaster resistant at the state level; Use citizen input for the creation of appropriate ordinances; and Use the natural hazard mitigation planning to learn how to better integrate the NHMP into existing documents and programs. Coordinating Organization: Community Development Internal Partners: Public Works, City Commission Department of Land Conservation and Development, Department o	Comprehensive Plan, Zoning Ordinance, Emerge	gency Operations	Plan	Alterna C
The Disaster Mitigation Act of 2000 requires communities to identify actions and projects that reduce the effects of hazards on the community [201.6(c)(3)(ii). Incorporating natural hazards plans into comprehensive plans, local ordinances, and land-use regulations will ensure that communities implement the proper mitigation measures for their community. 2018 Status: The City last amended their development code in 2017. The floodplain ordinance was last updated in 2002 (new FIRMs are preliminary and effective maps are expected Januar 2019). The City updated their comprehensive plan in April 2012. Ideas for Implementation: Use the mitigation plan to help the City's Comprehensive Land Use Plan meet State Land Use Planning Goal 7, designed to protect life and property from natural disasters and hazards through planning strategies that restrict development in areas of known hazards; Use zoning codes to regulate development in hazard-prone areas; Integrate the city's mitigation actions into the current emergency operations plan and capital improvement plans (where appropriate); Partner with other organizations and agencies with similar goals to promote building codes that are more disaster resistant at the state level; Use citizen input for the creation of appropriate ordinances; and Use the natural hazard mitigation planning to learn how to better integrate the NHMP into existing documents and programs. Coordinating Organization: Community Development Internal Partners: External Partners: Public Works, City Commission Department of Land Conservation and Development, Department of Land Conservation, Department of Environmental Quality Potential Funding Sources: Estimated cost: Timeline: General Fund, DLCD Technical Assistance Form Submitted by: Existing action item Priority: Medium	2018 Status/Rationale for Proposed Action Ite	m:		
Ideas for Implementation: Use the mitigation plan to help the City's Comprehensive Land Use Plan meet State Land Use Planning Goal 7, designed to protect life and property from natural disasters and hazards through planning strategies that restrict development in areas of known hazards; Use zoning codes to regulate development in hazard-prone areas; Integrate the city's mitigation actions into the current emergency operations plan and capital improvement plans (where appropriate); Partner with other organizations and agencies with similar goals to promote building codes that are more disaster resistant at the state level; Use citizen input for the creation of appropriate ordinances; and Use the natural hazard mitigation planning to learn how to better integrate the NHMP into existing documents and programs. Coordinating Organization: Community Development Internal Partners: External Partners: Public Works, City Commission Department of Land Conservation and Development, Department of Geology and Mineral Industries, Oregon Department of Transportation, Department of Environmental Quality Potential Funding Sources: Estimated cost: Timeline: General Fund, DLCD Technical Assistance Grant Low to Moderate Short Term (0-2 years) X Orgoing Form Submitted by: Existing action item Y Orgoing	 The Disaster Mitigation Act of 2000 rereduce the effects of hazards on the carbon hazards plans into comprehensive planensure that communities implement t <u>2018 Status</u>: The City last amended th was last updated in 2002 (new FIRMs 2019). The City updated their comprehensive planensure that comprehensive planensure that comprehensive planensure that communities implement t 	ommunity [201.6 ns, local ordinanc he proper mitigat eir development are preliminary an hensive plan in Ap	(c)(3)(ii)]. In es, and land tion measure code in 2017 nd effective pril 2012.	corporating natural -use regulations will es for their community. 7. The floodplain ordinance maps are expected January
 Use the mitigation plan to help the City's Comprehensive Land Use Plan meet State Land Use Planning Goal 7, designed to protect life and property from natural disasters and hazards through planning strategies that restrict development in areas of known hazards; Use zoning codes to regulate development in hazard-prone areas; Integrate the city's mitigation actions into the current emergency operations plan and capital improvement plans (where appropriate); Partner with other organizations and agencies with similar goals to promote building codes that are more disaster resistant at the state level; Use citizen input for the creation of appropriate ordinances; and Use the natural hazard mitigation planning to learn how to better integrate the NHMP into existing documents and programs. Coordinating Organization: Community Development Internal Partners: Public Works, City Commission Potential Funding Sources: Estimated cost: General Fund, DLCD Technical Assistance Grant Low to Moderate Long Term (0-2 years) Low to Moderate Short Term (0-2 years) X Ongoing 	Ideas for Implementation:			
Coordinating Organization: Community Development Internal Partners: External Partners: Public Works, City Commission Department of Land Conservation and Development, Department of Geology and Mineral Industries, Oregon Department of Transportation, Department or Environmental Quality Potential Funding Sources: Estimated cost: Timeline: General Fund, DLCD Technical Assistance Grant Low to Moderate Short Term (0-2 years) Low to Moderate Form Submitted by: Existing action item Priority: Medium	 Planning Goal 7, designed to protect li through planning strategies that restri Use zoning codes to regulate develope Integrate the city's mitigation actions improvement plans (where appropriate Partner with other organizations and a that are more disaster resistant at the Use citizen input for the creation of ap Use the natural hazard mitigation plan existing documents and programs. 	ife and property f ict development i ment in hazard-pu into the current e te); agencies with sime state level; opropriate ordina nning to learn how	rom natural n areas of ki rone areas; emergency o ilar goals to nces; and v to better in	disasters and hazards nown hazards; perations plan and capital promote building codes ntegrate the NHMP into
Internal Partners: External Partners: Public Works, City Commission Department of Land Conservation and Development, Department of Geology and Mineral Industries, Oregon Department of Transportation, Department or Environmental Quality Potential Funding Sources: Estimated cost: Timeline: General Fund, DLCD Technical Assistance Grant Image: Short Term (0-2 years) Image: Short Term (0-2 years) Form Submitted by: Existing action item X Ongoing Priority: Medium	Coordinating Organization: Community D	evelopment		
Public Works, City Commission Department of Land Conservation and Development, Department of Geology and Mineral Industries, Oregon Department of Transportation, Department or Environmental Quality Potential Funding Sources: Estimated cost: Timeline: General Fund, DLCD Technical Assistance Grant Low to Moderate I Long Term (0-2 years) I Long Term (2-4+ years) X Ongoing Form Submitted by: Existing action item Priority: Medium	Internal Partners:	External Partne	rs:	
Potential Funding Sources: Estimated cost: Timeline: General Fund, DLCD Technical Assistance Grant	Public Works, City Commission Department of Land Conservation and Development, Department of Geology and Mineral Industries, Oregon Department of Transportation, Department of Environmental Quality			
General Fund, DLCD Technical Assistance Low to Moderate Image: Short Term (0-2 years) Grant Low to Moderate Image: Low to Moderate Form Submitted by: Existing action item Priority: Medium	Potential Funding Sources:	Estimated cost:		Timeline:
Form Submitted by: Existing action item Priority: Medium	General Fund, DLCD Technical Assistance Grant Low to Moderate D Long Term (0-2 X Ongoing			 Short Term (0-2 years) Long Term (2-4+ years) X Ongoing
Priority: Medium	Form Submitted by: Existing action item	• • • • • • • • • • • • • • • • • • •		
	Priority: Medium			

Multi-Hazard #3

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Proposed Action Item		Alignment with Plan Goals:
Develop, enhance, and implement education p	rograms aimed	Protect Life and Property; Augment
at mitigating natural hazards, and reducing risk	•	Emergency Services; Encourage
		Partnerships for Implementation;
		Promote Public Awareness
Alignment with Existing Plans/Policies:		
2018 Status/Rationale for Proposed Action Iten	n:	
Conducting public outreach campaigns	raises awarenes	s about natural hazards and helps
illustrate what residents and businesse	s can do to redu	ce the impact of a natural disaster on
their properties, thereby reducing the i	impact of natura	I hazards on Oregon City.
 The Disaster Mitigation Act of 2000 rec 	uires that comm	nunities continue to involve the public
beyond the original planning process [2	201.6(c)(4)(ii)]. D	eveloping public education programs
for hazard risk mitigation would be a w	ay to keep the p	ublic informed of, and involved in, the
county's actions to mitigate hazards.		
• 2018 Status: The City maintains a CERT	, and utilizes the	city's website to provide information
on natural hazards: https://www.orcity	.org/community	<pre>v/emergency-preparedness and</pre>
hazards mitigation: https://www.orcity	.org/publicwork	s/natural-hazards-mitigation-plan
Ideas for Implementation:	<i>.</i> //	
Maintain hazard related information a	nd public inform	ation materials and disseminate to
public through existing resources (new	sletter, Trail Nev	vs, website, social media, etc.);
Conduct public education as hazard set	asons approach;	
Target neighborhood associations to special sections to special sections to special section secti	oonsor CERT tea	ms;
 Add emergency preparedness and resp 	oonse curriculum	to school programs;
Partner with Clackamas County and ot	her jurisdictions	to develop public education flyers for
all hazards;		
Utilize Community Rating System public	ications for guida	ance on preparing effective public
information:	> U	
 Include hazard information on the city 	website: and	
 Include insurance information in public 	c outreach and e	ducation materials.
Coordinating Organization: Community D	evelopment	
Internal Partners:	External Partne	rrs:
Public Works	Clackamas Cou	nty, Community Organizations Active in
	Disaster (COAD), Clackamas Fire District #1
Potential Funding Sources:	Estimated cost	Potential Funding Sources:
		□ Short Term (0-2 years)
General Fund	Low	□ Long Term (2-4+ years)
		X Ongoing
Form Submitted by: Existing action item	L	
Dulasitus Adadium		
Priority: Niedium		

Multi-Hazard #4

Proposed Action Item:			Alignment with Plan Goals:
Improve vegetation ma	nagement throughout	Oregon City.	Augment Emergency Services; Promote Public Awareness
Alignment with Existing	g Plans/Policies:		
Parks Master Plan	5		4
2018 Status/Rationale	for Proposed Action Iter	m:	
 Landscaping an Trees break the overflow from toward vulnera hillside lot redu Planting vegeta use landscaping afford. These re regulations and <u>2018 Status</u>: Ci Friends of Tree Ideas for Implementati Partner with U Identify approp Maintain healt Maintain veget Identify hazard Develop a writt power lines; ar 	ad vegetation make a di e force of the wind and stream channels. Fire-ro able buildings. Limiting of uces the risk of increasin ation or maintaining slo g requirements to prese equirements may be pa d environmental perform ty properties actively m is), enforce requirement on: nion Pacific and ODOT to priate practices for elimination hy urban canopy; cation coverage for slop lous trees for remediation ten set of procedures to ad	fference in mitiga stabilize the soil. esistant vegetatic or regulating the a ong the number of pe terraces can a erve or enhance h rt of site plan rev mance standards. anaged, have a to ts. to control vegetat inating English ivy e stability; on or removal; minimize damag	ating the impacts of natural hazards. Wetlands absorb much of the on can retard the spread of wildfires amount of vegetation cleared off a f landslide-prone areas in a community also reduce slope- runoff. Planners can he protection such natural features views or a separate set of zoning tree mitigation program (used for tion along transportation corridors; y and other invasive species; ge from wildfires erosion, and downed
Coordinate wit	h Greater Oregon City V	Watershed Counc	cil and others.
Coordinating Organizat	ion: Community Se	ervices	
Internal Partners:		External Partne	irs:
Community Developme	ent, Public Works,	Clackamas Fire	District #1, Oregon Department of
Parks and Recreation, (Code Enforcement	Forestry, US Foi	restry Service, Clackamas County, Grea
	N.	Oregon City Wa	atershed Council, Union Pacific Railroa
		Oregon Departr	ment of Transportation
Potential Funding Sour	ces:	Estimated cost:	Timeline:
			Short Term (0-2 years
General Fund, Parks SDC Low to Moderate Long Term (2-4+ years X Ongoing			
CONTRACTOR AND A CONTRACTOR AND A CONTRACTOR			
Form Submitted by:	Existing action item		

Earthquake #1*

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Proposed Action Item:	A	lignment with Plan Goals:		
Conduct seismic evaluations on identified com	nunity assets P	rotect Life and Property; Augment		
and 'high risk' school and emergency service be	uildings and E	mergency Services; Encourage		
implement appropriate structural and non-stru	ctural P	artnerships for Implementation		
mitigation strategies.				
Alignment with Existing Plans/Policies:				
2018 Status/Rationale for Proposed Action Iter	<u>n:</u>	Alternative and a law		
 The Disaster Mitigation Act of 2000 red 	luires communities	to identify mitigation actions that		
are being considered by the communit	y to reduce the effe	ect that natural hazards will have on		
the community [201.6(c)(3)(ii)]. Develo	ping and implemen	iting programs to reduce the		
potential for earthquakes to cause dan	nage can assist a co	mmunity in mitigating its overall risk		
to earthquakes.				
 Pre-disaster mitigation strategies will r 	educe post-disaster	r response needs by lessening life		
loss, injury, damage, and disruption.				
Refer to risk assessment, and DOGAMI	's rapid visual asses	sment scores		
 <u>2018 Status</u>: Many buildings in Oregon 	City have been seis	smically upgraded including:		
Carnegie Center, CFD John Adams Fire	Station #15, CFD Hi	lilitop Fire Station #16, the 10.5		
million-gallon Mountainview drinking	vater reservoir, and	a numerous buildings at Clackamas		
Community College. New public building	igs pullt for seismit	tor lines with flexible countings at		
school and all water pump stations. At	all Creek Apartmen	te A \$158 million hand was nassed		
in 2018 to replace Gardiner Middle Sci	and renovate (aden Middle School		
Ideas for Implementation:		<u>Sach maar concon</u>		
Obtain funding to perform seismic eva	luations:			
 Obtain running to perform seismic evaluations on identiti 	ied community ass	ets (including shelters) for		
implementing appropriate structural a	nd non-structural n	nitigation strategies:		
 Prioritize seismic ungrades based on cl 	iticality of need an	d population served:		
 Seismically retrofit critical government 	facilities to guaran	tee continuous operation during and		
after a natural disaster				
Partner with appropriate organization	s to implement seis	mic upgrades; and		
Create damage assessment procedure	s.			
Coordinating Organization: Oregon City E	mergency Manager	nent		
Internal Partners	External Partners:			
Community Development, Public Works	DOGAMI, Clackam	nas Fire District #1, Clackamas County		
	Estimated cost:	Potential Funding		
Potential Funding Sources:		Sources:		
General Fund, Seismic Rehabilitation Grant		□ Short Term (0-2 years)		
Program, Hazard Mitigation Assistance	Low to Moderate	X Long Term (2-4+ years)		
Grants		Ongoing		
Form Submitted by: Existing action item				
Priority: Medium				
* - High Priority Action Item		· · · · · · · · · · · · · · · · · · ·		

Flood #I

Proposed Action Item:		Alignment	with Plan Goals:
Promote and protect t space or wetlands as fl	he use of naturally flood prone o ood storage areas.	pen Protect Lif Natural Sy Partnershi Promote P	e and Property; Enhance stems; Encourage ps for Implementation; ublic Awareness
Alignment with Existing	g Plans/Policies:		1
Flood Ordinance; Zonir	ng Code, FEMA FIRMs, Comprehe	nsive Plan, Parks an	d Recreation Master Plan
2018 Status/Rationale	for Proposed Action Item:		
beneficial func the natural infi enter waters fr can choose fro health or wate floodplain deve banks 3) Adopt and Wildlife Se 2018 Status: Th wording was u Ideas for Implementati Develop and in the 100-year fl Gain support fo importance	tions of floodplains. Natural and iltration capacities of floodplains rom floodplain development acti m are: 1) Prohibit all activities in r quality (e.g. septic systems, sto elopments to avoid or minimize of t regulations pursuant to a Habit ervice or the National Marine Fish he city continues to monitor the pdated.	beneficial floodplain as well as minimizin vities. A number of o the floodplain that is rage of hazardous m disruption to stream at Conservation Plan teries Service. water quality and vo matives for properties as related to the floo the open space by ed	i functions include both ng the pollutants that can options local governments may be hazardous to publi naterials) 2) Require new channels and stream approved by the US Fish olume. The action item
Coordinating Organizat	tion: Community Developm	ent	
Internal Partners:	Externa Clasker	Partners:	onconvotion District
	Division Council	of State Lands, Johi , Clackamas River Ba	nson Creek Watershed sin Council
Potential Funding Sour	ces: Estimat	ed cost:	Timeline:
General Fund, Capital F OWEB	Funds, FEMA HMA, Low to	High	 Short Term (0-2 years Long Term (2-4+ years Ongoing
rista			X Oligonia
Form Submitted by:	Existing Action Item		

Flood #2

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Proposed Action Item:	Alignment with Plan Goals:				
Continue participating in the National Flood Insurance	Protect Life and Property; Enhance				
Program and develop strategies to reduce property date	nage Natural Systems; Encourage				
and related financial impacts due to flooding.	Partnerships for Implementation;				
Promote Public Awareness					
Alignment with Existing Plans/Policies:					
Flood Ordinance; Zoning Code, FEMA FIRMs, Comprehe	nsive Plan				
2018 Status/Rationale for Proposed Action Item:					
 The National Flood Insurance Program provide 	communities with federally backed flood				
insurance to homeowners, renters, and busine	ss owners, if communities develop and enforce				
adequate floodplain management ordinances.	The benefits of adopting NFIP standards for				
communities are a reduced level of flood dama	ge in the community and stronger buildings				
that can withstand floods.					
 I ne Disaster Witigation Act of 2000 requires co address new and existing buildings and infrast; 	ucture [201 6/c](3)(ii)] Continued participation				
in the NEID will help reduce the level of flood d	amage to new and existing huildings in				
communities while providing homeowners, re	ters and business owners additional flood				
insurance protection.					
 2018 Status: The city continues to comply with 	the NFIP. New Flood Insurance Rate Maps				
(FIRMs). The City currently has a CRS Class 7 ra	ting.				
Ideas for Implementation:					
Continue to develop strategies to improve the city's current rating in the National Flood					
Insurance Program's Community Rating System					
• Community Assistance Visits (CAV) are schedu	ed visits to communities participating in the				
NFIP for the purpose of: 1) conducting a comp	ehensive assessment of the community's				
floodplain management program; 2) assisting	he community and its staff in understanding				
the NFIP and its requirements; and 3) assisting	the community in implementing effective flood				
loss reduction measures when program deficie	ncies or violations are discovered. Actively				
participate with DLCD and FEMA during Comm	unity Assistance Visits.				
 Assess the floodplain ordinances to ensure the 	y reflect current flood hazards and situations				
and meet NFIP requirements.					
 Mitigate areas that are prone to flooding and/ 	or have the potential to flood.				
Coordinating Organization: Community Developm	ent				
Internal Partners: Extern	Il Partners:				
Public Works Depart	ment of Land Conservation and Development;				
Association of State Floodplain Managers					
Potential Funding Sources: Estima	ed cost: Timeline:				
	Short Term (0-2 years)				
General Fund Low	□ Long Term (2-4+ years)				
X Ongoing					
Form Submitted by: Existing Action Item					
Priority: Medium					

Flood #3*

CONTRACTOR OF A DESCRIPTION OF A DESCRIP		Alignmen	t with Plan Goals:
Complete periodic upd	lates of the Surface Wat	er Protect Li	fe and Property; Enhance
Management Master P	Plan.	Natural S	ystems; Augment
		Emergene	cy Services; Encourage
		Partnersh	nips for Implementation
Alignment with Existin	g Plans/Policies:		4
Stormwater Master Pla	ans, Flood Ordinance; Zo	oning Code, FEMA FIRMs, Co	mprehensive Plan
2018 Status/Rationale	for Proposed Action Ite	m:	
 The Surface W address deficie The Surface W Stormwater m 	/ater Management Mast encies in the stormwate /ater Management Mast	er Plan developed Capital In r system; er Plan promotes proper wa pent in maintaining and enh	nprovement Projects to itershed management; and
Stormwater in livability. There waters. Protec	e is a direct link between thing these waters is vita	n stormwater and a commu l for a great number of uses	nity's surface and ground , including fish and wildlife
 <u>2018 Status</u>: T 	he city expects the Surfa	r. ace Water Management Ma	ster Plan to be completed ir
2019.			<u>e</u>
Ideas for Implementat	ion:	<u> </u>	
 Identify staff o 	or community members	to lead participation efforts.	
Coordinating Organiza	tion: Public Works		
Coordinating Organiza	tion: Public Works	External Dartners	
Coordinating Organiza Internal Partners:	tion: Public Works	External Partners:	Environment Services
Coordinating Organiza Internal Partners: Community Developm	ation: Public Works	External Partners: Clackamas County Water F	Environment Services,
Coordinating Organiza Internal Partners: Community Developm	ntion: Public Works	External Partners: Clackamas County Water E METRO, Department of En	Environment Services, ivironmental Quality, ervation and Development
Coordinating Organiza Internal Partners: Community Developm	ption: Public Works	External Partners: Clackamas County Water F METRO, Department of En Department of Land Conse Department of State Land	Environment Services, ivironmental Quality, ervation and Development,
Coordinating Organiza Internal Partners: Community Developm	Ition: Public Works	External Partners: Clackamas County Water E METRO, Department of En Department of Land Conse Department of State Lands Estimated cost:	Environment Services, avironmental Quality, ervation and Development, s Potential Funding
Coordinating Organiza Internal Partners: Community Developm Potential Funding Sour	ntion: Public Works	External Partners: Clackamas County Water F METRO, Department of En Department of Land Conse Department of State Lands Estimated cost:	Environment Services, avironmental Quality, ervation and Development, s Potential Funding Sources:
Coordinating Organiza Internal Partners: Community Developm Potential Funding Sour	nent rces:	External Partners: Clackamas County Water E METRO, Department of En Department of Land Conse Department of State Lands Estimated cost:	Environment Services, avironmental Quality, ervation and Development, s Potential Funding Sources:
Coordinating Organiza Internal Partners: Community Developm Potential Funding Sour General Fund	ttion: Public Works nent rces:	External Partners: Clackamas County Water E METRO, Department of En Department of Land Conse Department of State Lands Estimated cost: Moderate	Environment Services, avironmental Quality, ervation and Development, s Potential Funding Sources: Short Term (0-2 years) Long Term (2-4+ years X Ongoing
Coordinating Organiza Internal Partners: Community Developm Potential Funding Sour General Fund Form Submitted by:	Ition: Public Works nent	External Partners: Clackamas County Water E METRO, Department of En Department of Land Conse Department of State Lands Estimated cost: Moderate	Environment Services, avironmental Quality, ervation and Development, s Potential Funding Sources: Short Term (0-2 years) Long Term (2-4+ years X Ongoing

* - High Priority Action Item

Landslide #1*

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Proposed Action Item:	Ali	gnment with Plan Goals:
Continue to implement municipal codes an mitigating future landslide damage.	nd policies Pro Na Pa Pro	otect Life and Property; Enhance Itural Systems; Encourage rtnerships for Implementation; omote Public Awareness
Alignment with Existing Plans/Policies:		<u> </u>
U.S. Geologic Hazards (Chapter 17.44), Ero	sion and Sediment Contr	ol (Chapter 17.47), Natural
Resource Overlay Zone (Chapter 17.49), Co	omprehensive Plan	Alterna (1)
2018 Status/Rationale for Proposed Action	Item:	
 reduce the effects of hazards on ne Developing and implementing programage can assist a community in <u>2018 Status</u>: Through city code 17. expanded. 	ew and existing buildings grams to reduce the pote mitigating its overall risk .44, Oregon City's Overla	and infrastructure [201.6(c)(3)(ii)]. ential for landslides to cause to landslide events. y District has been greatly
Ideas for Implementation:		
 Projects should be carefully engine 	eered so:	
The most appropriate mea	asures are used;	
Environmental impacts are	e avoided;	
There are no advares inter	ate on other properties	
 There are no adverse impage 	acts on other properties.	un the Carl I and Carl
 Obtain funding to be engaged in m 	nore pro-active bank stat	ilization projects;
 Obtain funding to be engaged in m Limit construction in known landsl 	nore pro-active bank stat lide areas;	ilization projects;
 Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system 	nore pro-active bank stat lide areas; leak detection in geologi	vilization projects; c hazard areas.
 Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system 	acts on other properties. hore pro-active bank stat lide areas; leak detection in geologi	vilization projects;
Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system Coordinating Organization: Public Wo	acts on other properties. nore pro-active bank stat lide areas; leak detection in geologi	vilization projects;
Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system Coordinating Organization: Public Wo Internal Partners:	orks External Partners:	vilization projects; c hazard areas.
Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system Coordinating Organization: Public Wo Internal Partners. Community Development	orks External Partners: DOGAMI, Oregon E	Department of Transportation
Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system Coordinating Organization: Public Wo Internal Partners: Community Development Potential Funding Sources:	acts on other properties. nore pro-active bank stat lide areas; leak detection in geologi orks External Partners: DOGAMI, Oregon E Estimated cost:	Department of Transportation Potential Funding Sources:
Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system Coordinating Organization: Public Wo Internal Partners: Community Development Potential Funding Sources: General Fund, Capital Funds	acts on other properties. nore pro-active bank stat lide areas; leak detection in geologi orks External Partners: DOGAMI, Oregon D Estimated cost: Low	Department of Transportation Potential Funding Sources: Short Term (0-2 years) Long Term (2-4+ years) X Ongoing
Obtain funding to be engaged in m Limit construction in known landsl Regular water distribution system Coordinating Organization: Public Wo Internal Partners: Community Development Potential Funding Sources: General Fund, Capital Funds Form Submitted by: Existing Action Iter	acts on other properties. nore pro-active bank stat lide areas; leak detection in geologi orks External Partners: DOGAMI, Oregon E Estimated cost: Low	Department of Transportation Potential Funding Sources: Short Term (0-2 years) Long Term (2-4+ years X Ongoing

* - High Priority Action Item

Landslide #2

Proposed Action Item:			Alignment with Plan Goals:
Maintain an inventory of streets and propertie by landslides.		es threatened	Protect Life and Property; Enhance Natural Systems; Encourage Partnerships for Implementation; Promote Public Awareness
Alignment with Existing	g Plans/Policies:		
U.S. Geologic Hazards Resource Overlay Zone	Chapter 17.44), Erosior (Chapter 17.49), Comp	n and Sediment Co prehensive Plan	ntrol (Chapter 17.47), Natural
2018 Status/Rationale	for Proposed Action Ite	m:	
 The Disaster M reduce the effection of the second se	ects of hazards on the ca can help a community information can help a a community in mitigat ty adopted new maps. AR (O-16-02); the data f	ommunity [201.6(identify which stre community in bett ing its overall risk t DOGAMI complete from the report is	c)(3)(ii)]. Developing an inventory of eets might be more vulnerable to ter identifying and prioritizing projects to landslides. ed a landslide susceptibility report in available to the City of Oregon City.
Ideas for Implementation Conduct a study buildings and in Develop publicy historical lands	on: ly to identify appropriat nfrastructure in the pro information to emphas lide areas;	te mitigation strate blem areas; size economic risk	egies for problem areas including when building on potential or
Update the lan Review the pla	dslide hazard map whe nning and building code	n LIDAR data beco es and make updat	omes available; and tes or changes, if necessary.
Coordinating Organiza			
Public Works, Commun	ity Development	DOGAMI, USGS,	s: Clackamas County GIS
Potential Funding Sour	ces:	Estimated cost:	Timeline:
Capital Funds		Low	 Short Term (0-2 years) Long Term (2-4+ years) X Ongoing
Form Submitted by: Existing Action Item			
Form Submitted by:	Existing Action Item		

Severe Weather #I

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Proposed Action Item:	Alignment	with Plan Goals:		
Reduce frequency and duration of power outages	from the Protect Life	e and Property; Enhance		
severe wind and winter storm hazards where pos	sible. Natural Sy	stems; Augment		
	Emergency	/ Services; Encourage		
	Partnershi	ps & Implementation;		
	Promote P	ublic Awareness		
Alignment with Existing Plans/Policies:				
2018 Status / Patianala for Proposed Action Itom:				
2018 Status/Rationale for Proposed Action Item.	res communities to identi	fy and analyze a		
 Me Disaster Mitigation Act of 2000 require comprehensive range of specific mitigation 	in actions and projects he	ing considered to reduce		
the effects of each hazard with emphasis	on new and existing huild	lings and		
infractructure[201_6(c)(2)(ii)] Developing	and implementing progra	ims to reduce the notential		
for wind and winter storms to cause now	and implementing progre	munity in mitigating its		
overall rick to wind and winter storms	er outages can assist a con	initiality in hitigating its		
 2018 Statue: This is a regular activity of th 	e City and PGE All new m	ower lines are required to		
• <u>2016 Status.</u> This is a regular activity of the	le city and 1 OL. All new p			
be underground.				
	· · · //			
Ideas for Implementation:				
Reduce power outages by partnering with	n PGE to obtain funding to	bury power lines subject		
to frequent failures:				
 Encourage burial of power lines for existing 	ng development;			
 Ensure that there are back up undergroup 	nd lines to major business	es & employers;		
 Develop partnerships to implement progr 	rams to keep trees from t	hreatening lives, property,		
and public infrastructure:		3 3 1 1 1		
Continue regular tree trimming practices				
 Partner with PGE to continue bazardous t 	, tree inventory and mitigat	ion programs:		
Create sheltering programs; and				
 Promote safe installation and use of gene 	erators			
Coordinating Organization: Public Works				
Internal Partners:	xternal Partners:			
Community Development P	GE. Bonneville Power Adn	ninistration, private		
	indowners			
Potential Funding Sources:	stimated cost:	Timeline:		
		☐ Short Term (0-2 years)		
Capital Funds	ow to High	\Box Long Term (2-4+ vears)		
	on to their	X Ongoing		
Form Submitted by: Existing Action Item				
Priority: Medium		·····		

Wildfire #I*

Proposed Action Item:			Alignment with Plan Goals:		
		ough tha	Protect Life and Property; Enhance		
Coordinate wildfire mit	tigation action itoms the		Natural Systems; Augment		
Clockamas County Con	amunity Wildfire Protec	tion Plan	Emergency Services; Encourage		
Clackanias County Con	infunity whome riotec	ciona lan.	Partnerships & Implementation;		
		Promot	Promote Public Awareness		
Alignment with Existin	g Plans/Policies:		<u>al an </u>		
Clackamas County Con	nmunity Wildfire Protec	tion Plan (2018)			
2018 Status/Rationale	for Proposed Action Ite	m:			
The wildfire mitigation	action items provide di	rection on specifi	c activities that organizations and		
residents in Oregon Cit	ƴ can take to reduce wi	ldfire hazards.	a de la companya de		
2018 Status: CWPP upo	dated in 2018.				
Ideas for Implementation	on: CWPP Identified Fo	cus Areas and Pri	ority Actions		
Wildfire Risk Assessme	<u>nt (Ch. 4):</u>				
 Maintain and ι 	update the Fuels Reduct	ion (FR) and Com	munities at Risk (CAR) maps and		
databases.					
2. Continue to track structure vulnerability data throughout the County through structural triage					
assessments.					
3. Update the Overall Wildfire Risk Assessment as new data becomes available.					
Hazardous Fuels Reduction and Biomass Utilization (Ch. 5):					
1. Develop and m	naintain an inventory of	potential and suc	cessful FR projects by meeting with		
parks and natu	iral lands managers qua	rterly.	essenal ODE staff		
2. Continue secu	ring funding to impleme	ent projects/nire s	easonal ODF staff.		
Emergency Operations (Ch. 6):					
1. Develop and FDB Communications Works Group.					
2. Conduct a Conflagration Exercise.					
Education and Commu	nity Outreach (Ch. 7):				
1. Develop Firew	ise toolkit for CAR S.				
2. Create incentives for fuels reduction.					
3. Update and distribute the Burn Permitting and Fire Restrictions Brochure.					
4. Continue to improve address signage throughout the County.					
Structural Ignitability Policies and Programs (Cn. 8):					
Identify a D ID representative for the WFEPC.					
Integrate W/II	into Dian Man and inclu	de a public outre:	ach strategy		
		a District #1	ien strategy.		
-Coordinating Organiza	tion: Clackamas Fir	e District #1			
Internal Partners:		External Partners:			
Public Works, Community Development		Clackamas Fire Defense Board, ODF, U.S. Forest			
		Service, public I	and management agencies		
Potential Funding Sources:		Estimated cost:	Timeline:		
ODF, operating budgets		Low to High	□ Short Term (0-2 years)		
			□ Long Term (2-4+ years)		
		<u> </u>	X Ongoing		
Form Submitted by:	New Action Item				
Priority: High (CWPP identified priority actions listed above)					

* - High Priority Action Item

Wildfire #2*

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Proposed Action Item:	A	lignment with Plan Goals:
Complete periodic updates of the Water M	aster Plan. P N E	rotect Life and Property; Enhance atural Systems; Augment mergency Services; Encourage
Alignment with Existing Plans (Policies)	<u> </u>	
Mighter Distribution System Master Plan. Cla	ckamas County Comm	inity Wildfire Protection Plan
(2018). Comprehensive Plan	ickullus county comm	
2018 Status/Rationale for Proposed Action	Item:	And the second se
• <u>2018 Status</u> : The water master plan	n was last updated in 20)12.
of fire hydrants; and • Complete periodic rate studies and	implement rate increa	ses as necessary.
Coordinating Organization: Public Wo	rks	
Coordinating Organization: Public Wo	rks External Partners:	
Coordinating Organization: Public Wo Internal Partners: Community Development	rks External Partners: Clackamas Fire Di	strict #1
Coordinating Organization: Public Wo Internal Partners: Community Development Potential Funding Sources:	rks External Partners: Clackamas Fire Di Estimated cost:	strict #1 Potential Funding Sources:
Coordinating Organization: Public Wo Internal Partners: Community Development Potential Funding Sources: General Fund	rks External Partners: Clackamas Fire Di Estimated cost: Low to Medium	Strict #1 Potential Funding Sources: Short Term (0-2 years) Long Term (2-4+ years) X Ongoing
Coordinating Organization: Public Wo Internal Partners: Potential Partners: Community Development Potential Funding Sources: General Fund Form Submitted by:	rks External Partners: Clackamas Fire Dia Estimated cost: Low to Medium m	strict #1 Potential Funding Sources: Short Term (0-2 years) Long Term (2-4+ years) X Ongoing

* - High Priority Action Item

Wildfire #3

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Proposed Action Item:		Aligr	nment with Plan Goals:	
Promote fire resistant combustible roofing m recommendations to c noncombustible roofin	strategies and the use of nor aterials by evaluating and ma urrent code to encourage g standards in high fire-haza	n- Prot aking Natu Part rd areas. Pror	ect Life and Property; Enhance ural Systems; Encourage nerships for Implementation; note Public Awareness	
Alignment with Existing	g Plans/Policies:			
2018 Status/Rationale	for Proposed Action Item:			
 The City and City and City materials. They roofs. Programs focu <u>2018 Status</u>: The status of the status	ackamas Fire District #1 aire y also encourage neighborho s on fuel reduction and defen he Oregon City building code n the State Building Code upo	ady encourage the hod associations to nsible space. continues to be u dates.	o stop requiring cedar shake	
Ideas for Implementat • Require fuel be information or	ion: reaks in site plans, describe t the Oregon City website for	he procedures for public view;	ongoing maintenance, and place	
 Review street Review roofing roofing; Promote use on 	designs that facilitate the mo g standards and develop reco f sprinkler systems in resider	or mendations for ntial construction;	and urban interface	
Maintain awar				
Coordinating Organiza	tion: Community Develo	opment		
Internal Partners:		External Partners:		
Public Works		Clackamas Fire District #1		
Potential Funding Sources:		imated cost:	Timeline:	
General Fund		v	 Short Term (0-2 years) Long Term (2-4+ years) X Ongoing 	
Form Submitted by:	Existing Action Item			
Priority:	Medium			

ATTACHMENT B: PUBLIC INVOLVEMENT SUMMARY

Members of the HMAC provided edits and updates to the NHMP prior to the public review period as reflected in the final document.

To provide the public information regarding the draft NHMP addendum, and provide an opportunity for comment, an announcement (see text below) was announced in the city's newspaper/website [name] and a link was provided for public comment on the City's homepage.

During the public review period there were no comments provided.

Oregon City Planning Commission Hearing of September 23rd, 2019

RE: Testimony of Christine Kosinski, unincorporated Clackamas County

Agenda Item 3b - LEG19-0003 Beavercreek Rd Concept Plan - Geology

Oregon City is comprised of some of the most difficult and dangerous topography in the State. I continue to be shocked that the City would even consider using Holly Lane as a freeway for motorists to reach the I-205. This is being done to preserve Beavercreek Road, since it is at capacity, and the City has failed in the past to construct a grade separated intersection at Hwy 213 and Beavercreek Rd which would have been the solution to its capacity issues at this intersection. Because the City failed, they pulled out Plan B from their pocket and decided to use Holly Lane which is a small 2 land road that is riddled on both sides with landslides. The homeowners on Holly Lane have suffered previous landslides which demolished two homes and severely damaged four others. Their was NO insurance coverage when the slides occurred in 1996 and the homeowners had to pay hundreds of thousands of dollars to fix and re-build their homes.

Case in point, the City has failed to fulfill it's obligations to their people in providing adequate transportation infrastructure to support the large build out they are proposing, however using Holly Ln to carry some 70,000 plus vehicles per day is simply ludicrous. To make the people of Holly Lane pay for the errors of the City should never be done, rather the City must now go back to plan their way out of this difficult situation that they themselves have created.

Following are several Exhibits I am entering into the City record for the Beavercreek Rd Concept Plan. These exhibits show that poor planning on the part of the City has created these traffic problems.

EXHIBIT ONE – One page of a new article where Scott Burns, Professor of Geology, PSU, was being interviewed after the OSO, WA Landslide Disaster. This is the statement he had about the poor people losing everything, and there's no insurance covering them.

EXHIBIT TWO – This is the first sheet of an application for Landslide Insurance, NOTE the question "Is the building in a known landslide area or have there been any incidents of landslide within ONE MILE of the property? It doesn't matter if you answer yes or no since the insurance company will look up your address on lidar landslide maps. If there has been a previous landslide within one mile of your property you will not get insured.

EXHIBIT THREE – There are extensive exclusions, in fact so many, that even if you could get landslide insurance, it would virtually never pay out.

EXHIBIT FOUR – Here is a copy of the denial my Husband and I received when we tried to obtain landslide insurance in 2015.

EXHIBIT FIVE – An e-mail from Professor Scott Burns speaking to the concerns of the Thayer Road landslides and that the road will not take large amounts of traffic.

EXHIBIT SIX – Oregon City's Comprehensive Plan for Landslides. If the City approves the use of Holly Lane, as well as the approving both the North and South extensions of Holly, they will be going against their own Comprehensive Plan, as well as the requirements of the State and LCDC.

EXHIBIT SEVEN – Oregon City "Trail News

EXHIBIT EIGHT - DOGAMI's Lidar Landslide Map. The location of the BRCP is highlighted. I want you to note that this map includes an extensive area of Oregon City because NO ONE in this entire area will be able to obtain Landslide Insurance. Many of them will not know this when they are purchasing homes and/or property. They need to be told the truth if they are moving into a landslide area, they need to know there will be no insurance coverage if a landslide hits their property. **This is STATE LAW – Property Disclosure Law.**

The City should not be using the people of Holly Lane to try and fix it's planning problem where the grade separated intersection, which should have been built way back before three very large concept plans were proposed. The City was wrong in doing this, and now must, once again, re-consider the grade separated intersection which is what should have happened years ago. We ask and ask again and again, take Holly Lane out of your TSP. It is a dangerous street with high susceptibility to future landslides. A City should NEVER compromise the SAFETY of the people!

A Call For Landslide Insurance For Homeowners



By <u>DAVID HYDE (/PEOPLE/DAVID-HYDE)</u> & <u>MARCIE SILLMAN (/PEOPLE/MARCIE-SILLMAN)</u> • MAR 26, 2014

Twitter (http://twitter.com/intent/tweet?url=http%3A%2F%2Fwww.tinyurl.com%2Fk9hh9uk&text=A%20Call%



(http://mediad.publicbroadcasting.net/p/kuow/files/styles/x_large/public/201403/osomudslide-GovInsleeaerial1.jpg)

All those people who lost their houses in the Oso landslide have lost everything, and there's no insurance covering them. We lost lives. That is the worst thing. But then property is the second thing. Hopefully, this will be enough of an impetus to take us to the next level and put more pressure on insurance companies to possibly come forward with landslide insurance.



http://kuow.org/post/call-landslide-insurance-homeowners

6/15/2016



Building Information	
Foundation Type:	Crawl Space
Dwelling Type:	Owner Occupied Primary Residence
Year Built:	1971
Roof Update:	1998
Construction Type:	
Dwelling Value Declared at 100% Replacement Cost:	\$200,000.00
Total Square Footage:	1,410
Do you own this property?	res Single Family
Select the option that best describes the building:	Single-Family
Is this a split level home?	No
General Questions	No
Does the building have additions or extensions supported by posts, piers, or beams?	No
Is there existing cracking of wall or foundation?	Vos
Is there a garage attached to the building?	No
Is the sill plate permanently bolted to the foundation of the building?	1008
What year was the roof last updated?	1990
Earthquake Questions	
Have any buildings or personal property located on the premises been damaged from an incident of Earthquake	No
Shock	
Landslide Questions	
Is the building in a known landslide area or have there been any incidents of landslide within 1 mile of the	Yes
property?	
Have any buildings of personal property located on the premises been damaged were ensured and subsidence?	No

#2

H.Premises means the real property at the address shown on the Coverage Declarations.

I. Sinkhole collapse means the settlement or systematic weakening of the land supporting the building(s), when such settlement or systematic weakening results from movement or ravelling of soils, sediments, or rock materials into subterranean voids created by the effect of water on a limestone or similar rock formation.

III. Losses Excluded

- A. This Policy does not insure against:
 - 1. Loss or damage arising directly or indirectly out of nuclear reaction, nuclear radiation or radioactive contamination, however such nuclear reaction, nuclear radiation or radioactive contamination may have been caused.
 - Loss or damage arising directly or indirectly out of war, invasion, acts of foreign enemies, hostilities (whether war be declared or not) civil war, rebellion, revolution, insurrection, military or usurped power or martial law or confiscation or nationalization or requisition or destruction of or damage to property by or under the order of any government or public or local authority.
 - 3. Loss, damage or increased cost arising directly or indirectly out of enforcement of any ordinance or law regulating the use, reconstruction, repair or demolition of any **building(s)** insured hereunder, nor any loss, damage, cost, expense, fine or penalty which is incurred, or sustained by or imposed on you at the order of any governmental agency, court or other authority arising from any cause whatsoever.
 - 4. Loss or damage arising out of acts or decisions, including the failure to act or decide, of any person, group, organization or governmental body relating to faulty, inadequate or defective:
 - a. Planning, zoning, development, surveying, siting;



c. Materials used in repair, construction, renovation or remodelling; or



- 5. Loss or damage arising out of normal settling, shrinking or expansion of land, **buildings**, structures or foundations; or erosion, gradual subsidence or the processes of erosion that take place over time, or any other gradually occurring loss or damage whether caused by **earthquake shock**, flood or landslide or not, or any loss or damage which commenced prior to the inception of this Policy.
- 6. Loss or damage arising out of fire regardless of any other event which contributes concurrently or in any sequence to the loss or damage.
- Loss or damage arising out of exposure to weather conditions where any personal property is left in the open or not contained in buildings which are on permanent foundations and capable of secure storage.
- 8. Mysterious disappearance or inventory shortage, theft, fraud, or any kind of wrongful conversion or abstraction.
- 9. The costs for reconstruction of electronic data or other data.
- 10. Loss or damage arising out of cessation, fluctuation or variation in, or insufficiency of, water, gas or electricity supplies, or other public utility service supplying the **premises**.
- 11. Reduction in rental value, reduction in market value or the saleability of property insured by this Policy, or any costs or expenses related thereto.
- B. Notwithstanding any provision in this Policy to the contrary (or within any Endorsement which forms part of this Policy), this Policy does not insure:
 - 1. Any loss, damage, costs or expense, or
 - 2. Any increase in insured loss, damage, cost or expense, or
 - 3. Any loss, damage, cost, expense, fine or penalty, which is incurred, sustained or imposed by order, direction, instruction or request of, or by any agreement with, any court, government agency or any public, civil or military authority, or threat thereof, (and whether or not as a result of public or private litigation) which arises from "any kind of seepage or any kind or pollution and/or contamination," or threat thereof, whether or not caused by or resulting from a peril insured, or from



This exclusion applies regardless whether there is (i) any physical loss or damage to insured property; (ii) any insured peril or cause, whether or not contributing concurrently or in any sequence; (iii) any loss of use, occupancy, or functionality; or (iv) any action required, including but not limited to repair, replacement, removal, clean-up, abatement, disposal, relocation, or steps taken to address medical or legal concerns.

This exclusion replaces and supersedes any provision in the Policy that provides insurance, in whole or in part, for these matters.

- I. This Policy does not cover any costs and expenses, whether preventative, remedial or otherwise, arising out of or relating to change, alteration or modification of any computer system, hardware, program or software and/or any microchip, integrated circuit or similar device in computer equipment or non-computer equipment, whether the property of the insured or not.
- J. Notwithstanding any provision to the contrary within this insurance or any endorsement thereto it is agreed that this insurance excludes loss, damage, cost or expense of whatsoever nature directly or indirectly caused by, resulting from or in connection with any act of terrorism regardless of any other cause or event contributing concurrently or in any other sequence to the loss.

For the purpose of this Policy an act of terrorism means an act, including but not limited to the use of force or violence and/or the threat thereof, of any person or group(s) of persons, whether acting alone or on behalf of or in connection with any organization(s) or government(s), committed for political, religious, ideological or similar purposes including the intention to influence any government and/or to put the public, or any section of the public, in fear.

This also excludes loss, damage, cost or expense of whatsoever nature directly or indirectly caused by, resulting from or in connection with any action taken in controlling, preventing, suppressing or in any way relating to any act of terrorism.

If the underwriters allege that by reason of this exclusion, any loss, damage, cost or expense is not covered by this insurance the burden of proving the contrary shall be upon the insured.

In the event any portion of this endorsement is found to be invalid or unenforceable, the remainder shall remain in full force and effect.

IV. Property Excluded

- A. This Policy does not cover:
 - 1. Land, land values, soil, water, air, or any interest or right therein.
 - 2. Building(s) and other structures used in whole or in part for any commercial, farming or manufacturing purposes, other than residences on the **premises** held for rental.
 - 3. Mobile homes; but this exclusion does not apply to modular or manufactured housing permanently attached to foundations.
 - 4. Paved areas, including but not limited to parking lots, terraces, driveways, walkways, sidewalks, pavements, paths, curbing and swimming pools.
 - 5. Bridges, steps and stairs; wharves, piers and jetties, unless physically attached to any building(s).
 - Retaining walls whether or not necessary for the continuing stability of any part of the premises, and whether or not attached to any building(s).
 - 7. Fences; embankments and earthen structures, tanks, wells, ponds, dams, and dikes.
 - 8. Trees, shrubs, lawns, plants, landscaping costs, animals, birds or fish.

- 9. Any aircraft or other aerial device, watercraft and their trailers, motorized and non-motorized vehicles other than motorized equipment used to maintain the **premises**.
- 10. Accounts, bills, currency, money, medals, notes, credit cards, securities, deeds, bullion, books of account, evidences of debt or title, manuscripts, passports, tickets, stamps and valuable papers.
- 11. Jewellery, watches, precious stones, precious metals, silverware, silver-plated ware, gold-ware, gold-plated ware, and pewter ware, fine art, objects d'art, firearms, sculpture and statuary, furs and garments trimmed with fur.
- 12. Loss or damage to the basement and/or real property and **personal property** suffering loss or damage within the basement where the basement has not been declared within the Policy Application for this insurance.



From: Jackie Goodman <jackie@huggins.com>
To: britenshin <britenshin@aol.com>
Subject: RE: Landslide and earthquake quote
Date: Wed, Oct 28, 2015 11:20 am

Hello Christine and John,

I received a response from the Underwriter and I am sorry to tell you that your application has been denied. Unfortunately you are ineligible for landslide coverage at this time. The comments from the Underwriter indicate the risk is surrounded by 6 large landslides and a recent fan of debris. The Catcoverage.com market is the only market that we have available for this type of coverage.

I am so sorry that I am unable to assist you. If you have any questions or concerns, please let me know.

Kindly,

Jackie Goodman Account Manager Huggins Insurance Services Jackie@huggins.com



Subj: Re: Thayer Road in Oregon City Date: 11/19/2007 6:20:35 A.M. Pacific Standard Time From: To:

Christine - great to hear from you!! Keep working at getting the county to change - it takes time! The Thayer Road problem is a big one - that slide keeps creeping. The road will not take large amounts of traffic and they definitely should not build on the site! Thanks for keeping me up on these things! Good luck,

Scott Burns, PSU Geology

Quoting Britenshin@aol.com:

> Dr. Burns: I was speaking with Sha Spady last week regarding the large

> landslide area on Thayer Road which sinks every year. Sha told me that you

> were recently here to inspect this part of the road and that I should

> contact you

> for your thoughts and concerns about this area.

>

#5

areas of concern are shown on other city, county, state and federal maps. These publications are available at the Oregon City Planning Department.

Development and construction in areas with unstable soils require that special development standards be met on a site-specific basis to prevent or minimize damage caused by unstable soils. Maintaining existing vegetation or revegetating may be required for excavation and road slopes in areas designated as landslide-prone.

Landslides. Landslides include rockslides, mudslides, debris flows, earthflows, and slumping. These phenomena are natural geologic processes that occur principally when soils and rock in steep areas become saturated with water, increasing weight and lubricating the mass. Gravity pulls the affected areas downhill. Landslides can be exacerbated by adding fill material to a slope, removing vegetation, altering drainage and runoff patterns, and undercutting a slope. Landslides can be triggered by heavy rains, groundshaking from earthquakes and heavy traffic, and undercutting the lower edge of a slope, which can be caused by erosion along stream banks, and by development, such as cuts in road construction.

Areas most susceptible to landslides in Oregon City are those with slopes of greater than 25 percent. These areas have been mapped by DOGAMI and are shown in the *Oregon City Hazard Mitigation Plan* (1998). The Unstable Soils and Hillside Constraint Overlay District requires geotechnical surveys of other potential hazard areas and provides standards that are used to determine the potential risk of landslides on slopes with various degrees of steepness in relation to the development.

Seismic Activity

Although predicting seismic events is extremely difficult, some prediction is possible by looking at the history of a particular region. Oregon is in a region with a history of intense seismic activity, generated by the subduction of the Juan de Fuca Plate under the North American Plate and by the collision of the Pacific Plate with the North American Plate along the San Andreas Fault and associated faults in California. Known catastrophic subduction-zone seismic events in the Pacific Northwest, which have occurred every 300 to 800 years, have caused a down-drop of land, generated enormous tsunamis along the coast, and triggered major landslides throughout the region. The last such event took place in 1700.

Tectonic uplift of the entire Pacific Northwest region, driven by subduction of the Juan de Fuca Plate far offshore, has spawned many faults throughout the region, including the West Hills Fault along the axis of the toe of Portland's West Hills. An earthquake in March of 1993 near Molalla just south of Oregon City, dubbed the "Spring Break Quake," had a magnitude of 5.6 on the Richter

46
Oregon City Planning Commission hearing of September 23rd, 2019

OREGON CITY TRAIL NEWS

Since April of 1996 until the Fall issue of this year, 2019 – There have been many articles in the Trail News on.....

City Sewers City Streets National Night Out City Heritage Day Water Safety Stormwater Master Plan Update Construction Projects Many articles on living in the flood plain Many articles on flood insurance Many articles on the BRCP The Pioneer Center

BUT NEVER ONE ARTICLE EVER IN THE PAST 23 YEARS ABOUT LANDSLIDES!!!!!!

Both Land Use Goals 7 and 2, as well as Oregon Statutes Chapter 195 – Local Government Planning Coordination – Section 195.260. All of these State laws call for local governments to educate their people about the risks of Landslides.

The people of Oregon City must know who to call, where to go for help when noticing things like cracks in their foundations, windows that won't go up or down due to shifting, cracks appearing in their ceilings, floors that begin to tilt and become unlevel. The people of Oregon City must be educated in reading the DOGAMI Lidar Landslide Maps, if they have questions, the City must be ready with answers and with help.

This is simply awful that Oregon City, with some of the worst topography in the State, has not reached out to their people through the Trail News, through newspaper articles, through mailers, through classes held within the community on the dangers of Landslides, Earthquakes and they must know about Emergency preparedness and the fact that Landslide Insurance does not exist at this time in the U.S. and that the Homeowner is responsible for all damages.

Oregon City has been derelict in it's duties to protect the lives and property of it's people, and must, by State law, begin an intensive plan to educate their people into the dangers and hazards of living in a landslide area, of which Oregon City is highly comprised of – difficult topography.

Christine Kosinski

vidp II UIII DUGAIMIS SLIDU VIEWEI olly Ln & Hwy 213 Landslides

r general information only; not to be used for planning purposes. http://www.oregongeology.org/slido Sat Aug 27 2016 09:53:25 PM.

#8

Planning Commission Meeting of Oct. 14, 2019-10-14

Testimony from Elizabeth Graser-Lindsey

I am grateful the Planning Commission requested further delving into cottage industry as the city commission requested some years ago and I appreciate the research and thought the staff has given the issue.

Oregon City is a middle-sized city, the county seat, the home of Clackamas Community College, a large and growing education center and a bedroom city for the region. Most residents have to commute to cities with more abundant jobs since Oregon City has a particularly-low jobs-to-housing ratio. All this driving by Oregon City commuters and people living further out to get to distant jobs causes traffic congestion. Because, currently the city's home occupation code is very limiting, it leads to potential city entrepreneurs, who are starting urban-connected businesses, to live in the rural area where the conditional use code is more permissive when the city won't let them in. This restrictiveness also leads to business income benefitting other local governments rather than Oregon City. The city should not lack a neighborhood where people can be industrious and start a business from their home. You'd fill a pad of paper with all the homeoccupation permits issued outside the city for city-related jobs. In my area

Oregon City needs to give its motivated and talented residents of ordinary means the opportunity to innovate, be productive, generate wealth, and grow a successful business in the spectrum of urban activities that serve cities. Even the proposed changes -- to establish a unique Beavercreek Road Concept Plan area home occupation code -- just cracks the door open a little. It still leaves many occupations for people to pursue somewhere else. This includes the would-be up-and-coming landscapers, the forklift business, the dump truck business, the caterer, the welder, the car repairer, the construction contractor, the gutter installer, the plumber, and so forth. The Beavercreek Road Concept Plan area was brought into the Urban Growth Boundary for industry, to solve the shortage of family-wage jobs in the city and region; LUBA's remand confirmed that this is true. Oregon City still needs the jobs; it still needs the business revenue; and it needs relief from excess commuting impacts on its roads whether from its own residents or commuters from further out passing through to the good jobs. It's not enough to try to attract successful businesses to Oregon City.

Fully open up Oregon City to the city's own residents being the spark plugs of innovation, productivity and wealth-generation that power the city into the future.

These people need all the opportunities it takes to operate varied businesses – a few employees, a bit of sales and traffic, storage, business vehicles, out-growing invisibility. Instead of seeing industry and its evidences as a problem, embrace industry and see how code needs to be addressed to make industry a good neighbor. Maybe there can be a place for a bit of sound and storage, especially when all the buyers are attracted to the opportunity. Why doesn't the city interview its own citizens participating in business to see what is necessary for success for a range of businesses? Maybe the Chamber of Commerce could help. The Thimble Creek Concept Plan name has the advantages of being unique and connecting with the common thimble berry of our area.



Comments on BRCP for Elisabeth Grover-Cindle, 1-13-2020 Because the goal of the time occupation / altage industry unde changes 13 to get nove jubs - esp. home-grown jobsin' O'regon City & for nearer committing imparts in the crowded roads in the area please confider Insteador 1.7.54, 120 m Home occur parting and (obtage) novitrie of the fellowing in and shall comply with all having m shall be the form of the forming in That is, inshears a reallined, " shakke the development d'ype." Was the original park factor Sacres with a conceptereding total parkarea of 20 acres Ishit iF yord to locep a larger parle avea of 28 nevers ruther than decreasing to Wareves with the Factor of of

To: Planning Commission From: Nancy Broshot, Ph.D. Natural Resources Committee Chair RE: Beavercreek Road Concept Plant Implementation Upland Habitat – Draft Planning Commission Recommendations Date: February 12, 2020

In November 2019, the Natural Resources Committee (NRC) recommended additional protection for upland habitat in the Beavercreek Road Concept Plan. In particular, Areas 3 and 4 were of concern to the NRC because they are part of and contiguous with a much larger forested area.

I was somewhat dismayed by the Planning Commission's recommendation that no additional land be protected during the development of this property. Allowing development and tree removal in these two areas will contribute to forest fragmentation. I am submitting these comments personally and not on behalf of the Natural Resources Committee.

Forest fragmentation is one of the major documented negative impacts of urbanization and is an insidious threat to natural areas. Large intact areas of forest contribute to species diversity (both plant and animal), help remove pollutants from the air, mitigate climate change, and protect water quality. Development chips away at forests edges, reducing interior habitat until the land no longer functions ecologically as forest habitat. The increased edge, while attractive to many species, is not suitable habitat to many important species such as woodpeckers, owls and other raptors, and many migratory songbirds. As edge habitat increases, the remaining forest has a different climate, increased invasive species, and increased predators and nest parasites, all of which leads to a decline in abundance of forest interior species of plants and animals. Large intact forested areas serve as a refuges for specialized species; the loss of large forests due to fragmentation leads to localized extinction of species.

I recognize the importance of additional housing in our area, but I feel we need to balance development with protection of important natural resources, that once gone cannot be replaced. Areas 3 and 4 are important natural resources. Houses adjacent to forested areas have higher property values. Setting aside Areas 3 and 4 would have tremendous economic value to the future property owners. An idea that would allow these areas to be preserved while development occurs would be to have the houses adjacent to these areas have yards with conservation easements that would protect the intact forest. This type of development has occurred in many areas of Portland adjacent to Forest Park; those parcels have exceptionally high values now as many people want to live in the forest. I realize that this would require the need for general density transfers so the development could produce the level of housing required. I believe the ecologically valuable intact forest habitat in Areas 3 and 4 are well worth preserving for future Oregon City residents.

I appreciate your returning to this topic and implore you to protect the valuable large intact forested area in Areas 3 and 4 that is now rare in Oregon City.



698 Warner Parrott Road | Oregon City OR 97045 Ph (503) 722-3789 | Fax (503) 722-3880

- To: Planning Commission
- From: Natural Resources Committee
- RE: Beavercreek Road Concept Plan Implementation Upland Habitat

Date: November 13, 2019

The Natural Resources Committee reviewed a presentation by Christina Robertson-Gardiner, Senior Planner at the October 9, 2019, NRC meeting, which provided background on upland habitat areas in the adopted Beavercreek Road Concept Plan.

While a fair amount of the area identified as upland habitat in the adopted plan is already protected by OCMC 17.49 Natural Resources Overlay District, OCMC 17.44 Geologic Hazards and OCMC 17.41 Tree protection, we feel that there is a need for additional protection to retain high-value habitat directly abutting protected water features. The Natural Resources Committee believes that new code should be created to address these areas as part of the Beavercreek Road Concept Plan Zoning and Code Amendments.



Areas 3 and 4 as identified in the city map below are of specific interest to this committee as they are contiguous to large habitat areas. We support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 may merit additional protection if analysis shows enough tree area located outside of the Natural Resource Overlay District.

We look forward to working with city staff on any proposed code amendments.





MEMO	To: cc:	Laura Terway, Community Development Director, Oregon City files
	From:	Joseph D. Eskew, Engineering Manager
	Date:	7/12/2019
	RE :	Beavercreek Road Concept Plan – CRW Comments

Thank you for this opportunity to provide comments regarding the Beavercreek Road Concept Plan and how Clackamas River Water (CRW) will be affected.

The area of interest (the Area) is located east of Beavercreek Rd, south of Thayer Rd and north of Henrici Rd. The area lies wholly within the Urban Growth Boundary (UGB) and partially within City limits.

Portions of the Area extend into current CRW jurisdictional territory that is served by CRW. Regarding these portions of the Area, CRW provides the following summary comments:

- 1. Existing CRW customers within the UGB and/or City limits, will remain customers until such time that the City has infrastructure and can provide water service.
- 2. CRW owns service mains that traverse through the Area to territory outside the UGB. Water mains must remain in service to provide water to customers outside the UGB. CRW is open to discussions regarding alternatives for maintaining service to customers outside the UGB.
- 3. Territory that is annexed to the City must be withdrawn from CRW and served by Oregon City services to the extent practicable.
- 4. An Intergovernmental Agreement between CRW and Oregon City, dated October, 13 2016 provides a mechanism to serve CRW water within Oregon City limits, on a limited basis, through a master meter for water sales to Oregon City. The IGA is focused specifically to provide interim water service for the proposed "Villages at Beavercreek" development. This agreement is in force and will be honored.
- 5. CRW lacks required storage and infrastructure to increase the amount of water sales for additional development over the flow rate designated in the IGA.
- 6. CRW assumes that future development will, in large part, be guided and coordinated consistent with the concepts provided in the Joint Engineering Study, June 11, 2018, by Murraysmith.

From:	Paul Edgar
To:	<u>Mike Mitchell; Laura Terway; Christina Robertson-Gardiner; Dayna Webb</u>
Cc:	Christine Kosinski; Bob La Salle; Paul Savas - County Commissioner; Bezner, Mike; Karen Buehrig - CC Trans Planning Sup; Rachel Lyles Smith;
	Frank ODonnell - OC City Commissioner
Subject:	Fwd: RE: Oregon City intersection analysis Highway 213 and Beavercreek Road (Please include this as part of the record with the current Beavercreek Road Concept Plan Updates)
Date:	Tuesday, November 19, 2019 11:10:14 AM
Attachments:	<u>gfhiefaknelkamip.png</u>

FYI, This below email was initially sent out, October 14th 2016 to the owners of the Beavercreek Road, and that is Clackamas County and it was later copied to others like Dayna Webb within Oregon City.

This can has been kicked down the road and in doing so it is a disservice to everyone, for the failure to be honest. This paragraph is in the text of this email from October 14th, 2016.

"It is effectively impossible to use Holly Lane as an alternative route. Holly Lane has some of the highest susceptibility to Landslides and Land Movement as per DOGAMI. To me it is similar to the County "owned" Road section of South End Road, which is a nightmare to the county, with maintenance and how to stop the land movement, where the road is breaking off. Therefore there appears to be little or NO effective ability to mitigate Beavercreek Road congestion, using Holly Lane as it surely cannot be expanded or improved without overcoming heroic contingencies at great cost."

The understanding that were forged with ODOT on "Alternative Mobility Standards", now 3 years later, we now see that they cannot be justified. Virtually within any case and "in particular" the assumption of the use of Holly Lane to provide enough trip diversion generation case, whereby the Volume over Capacity does not exceed the physical capacity of this Beavercreek Road & Highway 213 intersection, cannot be made.

The physical improvements proposed to to the Highway 213 & Beavercreek Road intersection are less than Band-Aids, and do great harm, within the failure of getting the needs of this Hwy 213 & Beavercreek Road Intersection into Long-Term Transportation Planning with the only real solution, which is a true Fly-Over Interchange. We need funding and help from JPACT, Metro, Clackamas County and ODOT, and when we tell everyone to not worry, its OK and then we all experience this collapse and it is 10 years out to pull together the coordination of funding and design!! Everyone that needs a free flowing Highway 213 & Beavercreek Road will be trapped and effective screwed.

We cannot go ahead, in my opinion with virtually any development, with job's and housing as is outlined in the Beavercreek Concept Plan, with "Faulty and Unrealistic Assumptions".

From the time of these initial studies and when the understanding with ODOT were being put into place, to where we are today, we are seeing/experiencing exponential growth in incidences of travel (trips) on Beavercreek Road and Highway 213 and these incidents of travel are exceeding all previous estimates, with most all coming and going to places not in Oregon City.

The failure to not take this into consideration with what is being said and done now in November 2019 with this update to the Beavercreek Concept Plan and forward, is a great/significant error in judgement. Holly Lane "Trip Diversion" is just smoke and mirrors and it is unethical in how it is being used in the Oregon City Planning and within the Oregon City Beavercreek Concept Plan. I also wrote this in this in the below forwarded October 14th 2016 email.

"Can anyone tell me what alternative mobility methods off of the top of your heads that can be deployed, that can take a intersection that has had historically a LOS "F" congestion "Failure" ranking, whereby you can mitigate/change those conditions with PED, Bike and Bus, where none of these Alternative Mobility Methods are applicable at this intersection. Even if they were, how can you measure their effect."

Paul Edgar, is a former member of the Clackamas County Transportation Committee that created the Clackamas Country - Transportation Systems Plan (TSP)

----- Forwarded Message ------

From:18 2016 <> X-Account-Key:account5 X-UIDL:129459.R9GilxFlA6+e7BT5yxvOHOO,Nqs= X-Mozilla-Status:0011 X-Mozilla-Status2:00000000 X-Mozilla-Keys:

Return-Path:lterway@ci.oregon-city.or.us Received: from mx05.guartz.synacor.com (LHLO mx.g.com) (10.30.2.125) by md07.quartz.synacor.com with LMTP; Tue, 18 Oct 2016 12:04:43 -0400 (EDT) Return-Path:<lterway@ci.oregon-city.or.us> X-BINDING:md07.quartz.synacor.com X_CMAE_Category:0,0 Undefined, Undefined X-CNFS-Analysis:v=2.1 cv=WqkSb7vv c=1 sm=0 tr=0 a=nwg76Yf4jCL8wlizhv0e+w==:117 a=lIJVXv4sUK5e/i0YYuq2Xg==:17 a=L9H7d07YOLsA:10 a=9cW_t1CCXrUA:10 a=s5jvgZ67dGcA:10 a=CH0kA5CcgfcA:10 a=KpaU3UxXAAAA:8 a=3j4BkbkPAAAA:8 a=JqEG_dyiAAAA:8 a=BM2Wo2QsAAAA:8 a=T5HSUoLx3muAmMVJ2-wA:9 a=pILNOxqGKmIA:10 a=QcFbqNxIIukA:10 a=nVkBABlCRf0A:10 a=PgDlZEv3bI4A:10 a=8MVci7SqnS8A:10 a=yMhMjlubAAAA:8 a=SSmOFEACAAAA:8 a=os0hFrgPDNheSMT3IK0A:9 a=uZFkAUkUSHefBgIl:21 a=gKO2Hq4RSVkA:10 a=UiCQ7L4-1S4A:10 a=hTZeC7Yk6K0A:10 a=frz4AuCg-hUA:10 a=BN5W2Bj2V5kA:10 a=boZfa2IjewisnGKM3DUA:9 a=slxPrwhBx0S2TBWR:18 a=KQqxNPgzF0kA:10 a=h2GoCumHSn29AYrRmP0i:22 a=sJh6Skxnaek REti9G3X:22 a=U04FSIGNRx3ScUM3zguK:22 a=40Plxwh93XKqUFvxvECO:22 a=BKKCjISod1eDJeS0ORpz:22 a=zjWhRoSqWz9hl55Hdlzg:22 X-CM-Score:0 X-Scanned-by: Cloudmark Authority Engine Authentication-Results:mx05.quartz.synacor.com smtp.mail=lterway@ci.oregon-city.or.us; spf=pass; senderid=pass Authentication-Results:mx05.quartz.synacor.com header.from=lterway@ci.oregon-city.or.us; sender-id=pass Received-SPF:pass (mx05.quartz.synacor.com: domain ci.oregon-city.or.us designates 63.128.21.181 as permitted sender) Received: from [63.128.21.181] ([63.128.21.181:41399] helo=us-smtp-delivery-181.mimecast.com) by mx.q.com (envelope-from ttps://www.envelope-from (ecelerity 2.2.2.40) (ecelerity 2.2.2.40) r(29895/29896)) with ESMTP id EA/A2-09793-B1846085; Tue, 18 Oct 2016 12:04:43 -0400 Received: from Exchange.orcity.org (host-198-236-193-107 [198.236.193.107]) (Using TLS) by ussmtp-1.mimecast.com with ESMTP id us-mta-16-MBQZXbAYO6Ss9AkO9A8QZg-2; Tue, 18 Oct 2016 12:04:36 -0400 Received: from exchange.orcity.org ([10.61.1.27]) by Exchange ([10.61.1.27]) with mapi; Tue, 18 Oct 2016 09:04:29 -0700 From:Laura Terway ttps://www.eterway@ci.oregon-city.or.us **To:**pauloedgar@q.com <pauloedgar@q.com> CC:Dayna Webb <a href="https://www.ec.us/ce.edu/deci.org/ce.ed Date: Tue, 18 Oct 2016 09:04:27 -0700 Subject:RE: Oregon City intersection analysis Thread-Topic:Oregon City intersection analysis Thread-Index:AdImb0Wre+sZd7scTPebG5Amz7RMkQC6eMQw Message-ID:<79182DEA2A9EBD459F20AD5CB90FEAA55F9A33EB51@Exchange> References: <7b5a26e7c2cf416197b7d5e0e91c20e3@Mail01.county.ds.clackamas.us> <0e842335-<u>114a-a962-deeb-e0950f55a65c@q.com></u> In-Reply-To:<0e842335-114a-a962-deeb-e0950f55a65c@q.com> Accept-Language:en-US Content-Language:en-US X-MS-Has-Attach:yes **X-MS-TNEF-Correlator:** acceptlanguage:en-US MIME-Version:1.0 X-MC-Unique:MBQZXbAYO6Ss9AkO9A8QZg-2 Content-Type:multipart/related; boundary=" 004 79182DEA2A9EBD459F20AD5CB90FEAA55F9A33EB51Exchange "; type="multipart/alternative"

Paul,

Thank you for your email. I have copied Dayna Webb and Kelly Reid on this reply, as they will be managing the project.



Laura Terway, AICP Community Development Director Planning Division City of Oregon City PO Box 3040 221 Molalla Avenue, Suite 200 Oregon City, Oregon 97045 Direct - 503.496.1553 Planning Division - 503.722.3789 Fax 503.722.3880

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From: Paul Edgar [mailto:pauloedgar@q.com]
Sent: Friday, October 14, 2016 4:04 PM
To: Bezner, Mike
Cc: Karen Buehrig - CC Trans Planning Sup; Laura Terway
Subject: Re: Oregon City intersection analysis

Mike, Karen & Laura,

Highway 213 and Beavercreek Road intersection needs to be a full interchange and Beavercreek Road needs to be expanded out to 5-lanes (two in each direction and a turn lane) with a separate bike and PED Path, out to Henrici Road.

With Volume to Capacity determinations as to how to measuring congestion (at this intersection) within "Alternative Mobility Standards" to determine what can mitigate this congestion, we are truly embarking on a case study.

It is effectively impossible to use Holly Lane as an alternative route. Holly Lane has some of the highest susceptibility to Landslides and Land Movement as per DOGAMI. To me it is similar to the County "owned" Road section of South End Road, which is a nightmare to the county, with maintenance and how to stop the land movement, where the road is breaking off. Therefore there appears to be little or NO effect ability to mitigate Beavercreek Road congestion, using Holly Lane as it surely cannot be expanded or improved without overcoming heroic contingencies at great cost.

I would like to be part of this of this TAC group, as someone who is very knowledgeable in most all aspects.

We need quantifiable understandings, that create measurable methods of all Deploy-able - Mitigation within "Alternative Mobility Methods" to come out of this effort.

If a suite is filled, asking for "Concurrency Ruling" to stop all future development within the Beavercreek Road Concept Plan Area, this could be part of this Case Study.

To me, it would sure be nice to come out of this, with positive case law - ruling, that limit wheel spinning and help all of us move forward and get things done that need to be done.

State Highway 213 is listed within the Comprehensive Plan as a Strategic Urban Freight Route and critical to the county for a lot more reasons, than just freight. Just ask the commuters that rely on it to get to work, as well as those who depend on free movement to all important services.

I could say much the same thing about Beavercreek Road.

Can anyone tell me what alternative mobility methods off of the top of your heads that can be deployed, that can take a intersection that has had historically a LOS "F" congestion ranking, whereby you can mitigate/change those conditions with PED, Bike and Bus, where none of these Alternative Mobility Methods are applicable at this intersection. Even if they were,

how can you measure there effect.

Paul Edgar

On 10/10/2016 5:33 PM, Bezner, Mike wrote:

Paul:

I talked with Karen Buehrig about your concerns that you expressed at the BCC meeting a couple of weeks ago about the Oregon City Beavercreek Road Alternate Mobility Standards project. The County will have an employee on the project's Technical Advisory Group (TAG). As a member of the TAG, we intend to be looking out for the interests of freight movement, unintended alternative routes, and maintaining the route access for emergency vehicles.

Yes, the project will be looking at the standards used to evaluate the Beavercreek/213 intersection, and will study alternatives. But it will also hopefully identify some feasible projects that might be affordable that can improve mobility.

Thanks,

Mike Bezner | Assistant Director of Transportation

Clackamas County Department of Transportation and Development | 150 Beavercreek Road | Oregon City, OR 97045 | 🖀 : 503-742-4651 My office hours: Monday thru Thursday, 7AM-6PM.

On 12/13/2019 6:17 PM, John M. Lewis wrote:



Paul.

Your requests for a building permit review is not something I would take on via an email but if you would like to complete a public records request your welcome to pursue this and the right staff would be assigned to do the work. I recommend that you articulate very clearly your request for information otherwise the work effort to complete the request may be costly and require you to pay for staff time. Public record requests can be made online through the City's website.

Here is a screen shot from the City's public GIS system (OCMap) which includes DOGOMI's latest mapping of Canemah. I have all the geologic hazard layers on but for specifics on each individual layers the OCMap system can be manipulated any way you wish to use it. Beyond that your email request is lengthy and it's the kind of thing you could better ascertain from a pre-application conference. I recommend that you pursue a pre-application conference and get the most complete answers. In a pre-application conference you are afforded the right staff and the appropriate code references. Pre-application conferences can be arranged via the Planning Department.



Thanks again and I wish you a Merry Christmas and Happy New Year.



John M. Lewis, P.E. Public Works Director City of Oregon City PO Box 3040 625 Center Street Oregon City, Oregon 97045 503.657.0891 phone 503.793.2255 cell email: jmlewis@orcity.org City web site: www.orcity.org Bid/RFP site: http://bids.orcity.org/

From: Paul Edgar [mailto:pauloedgar@q.com]
Sent: Monday, December 2, 2019 11:42 AM
To: John M. Lewis <jmlewis@orcity.org>
Cc: britenshin@aol.com; Mike Mitchell <mike.k.mitchell@gmail.com>; Raymond Rendleman
<Rendleman@clackamasreview.com>; Laura Terway <lterway@orcity.org>; Jim Nicita - Home/office
<james.nicita@gmail.com>; Jesse A. Buss <jessebuss@gmail.com>; Rachel Lyles Smith <rlsmith@orcity.org>;
Denyse McGriff <dmcgriff@orcity.org>; Dr. Scott Burns - PSU Geology <burnss@pdx.edu>; Bill Burns, Ph.D. - DOGAMI <Bill.Burns@dogami.state.or.us>

Subject: Re: What Is: 'The Best Course of Action to be Taken'??

Thank you John Lewis and everyone on this email, our current OCMC Codes appear to not restrict in adequate manner, the issuing of building permits in DOGAMI identified by LIDAR slopes and conditions that have "High Susceptibility of Landslides". In Canemah, John please prepare a detailed DOGAMI - LIDAR Map of the Canemah Neighborhood reflecting "High Susceptibility of Landslides" and overlay this map with the DOGAMI Map and the Canemah Neighborhood map reflecting lots. Lets also look at all of the building permits issued over the last 20 years or from when you took Public Works over from Nancy Kraushaar.

I know that there was a small landslide on some of my property Block 50 of the Canemah Plat, from below my house that left a debris field in 4th Avenue ROW and Ganong Street, as it happened when Grandma was living in our house. What does a Landslide that occurred like this mean, and how does it restrict future building and development ?? Are we restricting building in what ways??, as an example the number of houses that can be built on hazardous Block if DOGAMI - LIDAR reflects "High Susceptibility of Landslides" ??

My wife and I also own Lots on Block 17 of the Canemah Plat and one house has been built on this Block 17, are there any conditions that could prohibit us from building of house on our privately held property ??

If some NROD or Hazardous Slopes Conditions come in conflict with OCMC Codes and State Wide Codes, would the City of Oregon City have to buy my property or compensate my wife and I from having our right to develop on our our property, and could that be taken from us ??

If myself or someone else, is given the OK of a building permit, even with questionable Susceptibility to Landslide conditions and it is in parameters of being on or near an immediately a Landslide which has been identified by DOGAMI Map and it subsequently results with a actual Landslide with significant losses to multiple property and peoples, what then ??

What is this Liability and Responsibility for finding justification to go around all responsible inclusive restrictions, that should have made (in some peoples mind) it impossible for that building permit to have been issued, to where this would have not resulted in significant losses, including that of life to have happened, what then ??.

With effectively NO Landslide Insurance being available to protect anyone and with that knowledge

and within issuing Building Permits, where and within identification conditions of High Susceptibility of Landslides existing, we all need to have a Critical Thinking review of all criteria, that would go into how decisions would be made to issue Building Permits??

Please list off each specific items/codes within that applies or evaluated against in how decisions are arrived at and made within how we evaluate and apply all codes, within all of the decision making process of issuing Building Permits with conditions, when we have this knowledge of existence of Landslides at the site ??

Thanks, Paul Edgar, Friends of Canemah

On 11/30/2019 12:15 PM, John M. Lewis wrote:

Thank you Paul.

You have articulated this in a way much different than I have considered it in the past. You are correct that we have a standard covenant of release and indemnity form that goes along with approvals to work in a geologic hazard area (attached). We also use it for ROW encroachments. This is a standard form and it's my recollect that agency protections in the form of a covenant release and indemnity forms are an industry standard. I've also attached the DLCD and DOGAMI presentation from October and on slide 6 they specifically highlighted this as a program strength. But given your email and the email audience I have asked our Attoney to help me better understand the history/origins of the form.

As you know geologic hazard areas across Oregon City vary in their susceptibility to landslide. The State has done some amazing work with LIDAR and their geologic research and yet the susceptibility for landslide on a particular parcel must go much deeper, which is what our Geohazard Code strives to achieve. We definitely have steep slopes which often are emphaised on Lidar maps because these maps highlight those areas with drastic topographic changes (Canemah Bluffs). We also have areas with much less slope that are also susceptible to landslide due to the makeup of the soil (Newell Canyon). Both deserve detailed and site specific analysis but I would also argue both have development potential using the right engineered solutions.

But I took away two specific questions from your email which I will pursue and provide a written response.

- 1. What is the reason for this Declaration Of Covenant of Release And Indemnity and is there a conflict of interest that City Officials require execution of such a form?
- 2. Does the City Code and development regulation go far enough to regulate development in areas highly susceptibility to landslide conditions?

My schedule is such that I have scheduled myself to reply via email on 12/12/19.

Thanks.

From: Paul Edgar [mailto:pauloedgar@q.com]

Sent: Tuesday, November 26, 2019 12:52 PM

To: Rachel Lyles Smith <<u>rlsmith@orcity.org></u>; Denyse McGriff <<u>dmcgriff@orcity.org></u> Cc: <u>britenshin@aol.com</u>; Mike Mitchell <<u>mike.k.mitchell@gmail.com></u>; Raymond Rendleman <<u>RRendleman@clackamasreview.com></u>; Laura Terway <<u>lterway@orcity.org></u>; John M. Lewis <<u>jmlewis@orcity.org></u>; Jim Nicita - Home/office <<u>james.nicita@gmail.com></u>; Jesse A. Buss <<u>jessebuss@gmail.com></u>

Subject: What Is: 'The Best Course of Action to be Taken'??

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When the City of Oregon City, appears to disregard, The State of Oregon's - Department of Geology and Mineral Industries (DOGAMI) and what DOGAMI has learned from Light (Lazier) Detection and Ranging (LIDAR), mapping of bare earth for High Susceptibility of Landslides, that cannot otherwise be seen and where (The City of Oregon City) has decided to allow questionable development, is this **'The Best Course of Action to be Taken'??**

In allowing this development, it requires the developer and/or land owner **"To Sign a Covenant of Release and Indemnity"**, and this to me is a WOW! When the City knows that there is <u>'High Susceptibility to Landslides'</u> on subject property that is being reviewed for development, and this document shows that a significant part of their concern is about themselves.

There is a realization that when the Land Slide occurs, our City Attorney's do not want the people within the Oregon City Administration, who authorized building in known Landslide Area's to be sued. These City Attorney's also know that there is <u>'NO Landslide Insurance is Available for</u> <u>Anyone'</u>, and when there is a Landslide and it results in significant losses of Material Assets and Life its self, and if knowledgeable people know of these predetermined conditions, where there is this very <u>'High Susceptibility to Landslides'</u> and there can be this identifiable appearance that they did not take appropriate action in <u>'Preventing the Loss of Life and Property'</u>, and as a result, they could be sued, are these conditions we want are they Win - Win??

Again and again, there is this appearance from citizens like myself and others that there is a greater concern within City Officials about the recourse and law suites that could be taken against them, if they were to turn down development and how could they justify those actions. Their actions appear to be, <u>'Not About Stopping Very Questionable Development in Known</u> Landslide Area's', it appears to be more about how to prevent re-course on or against them. No-one in Oregon City Administration is ignorant about this and that LIDAR reveals within these <u>'DOGAMI Maps - Real High Susceptibility of Landslides Conditions'</u> and it appears that they see the best action to be taken is to <u>'Covering your Ass - from Law Suites'</u>.

So in doing this it is scary, just the appearance to those of us who question is this solutions, that of (those people associated with Oregon City Codes, Regulations and Oversight) turning collective backs and putting the general public which is unknowingly being put into jeopardy, where significant property losses and the loss of life its self could result. The developer gets the permit, signs the document, builds the house, sells the house, and we have a earthquake and a resultant Landslide and People Die, in the house and below the house, where is the win - win in this??

Is this appropriate, when Oregon City Administrations know in advance, that they may be placing unknowing people into real jeopardy and it appears that the best thing that they can do is to protect themselves, from Law Suites??

Please help us understand if that is the reason for this "Declaration Of Covenant of Release And Indemnity", and if this is what the citizenry want and need in the Oregon of City, and from our City Officials??

I question all of this, 'Is This the Best Option, the Right Solution'??

When the City of Oregon City knows in advance that their decisions can have or aggregate a "Higher Probability" of Creating Conditions and Results", that bring about the Significantly Greater Loss of Material Assets and that of Lives of Living People, and what appears to be, "Within this Cover your Ass - Document", this scares me.

The additional question is: <u>'Aren't There Other Choices'</u>, like creating enhanced codes and regulations that lead to <u>'Not Permitting'</u> some of this development in <u>High Susceptibility to</u> <u>Landslide Conditions</u>, in the first place??

From:	Ray Atkinson
To:	Dayna Webb; John M. Lewis; Christina Robertson-Gardiner
Subject:	Widening Beavercreek Road
Date:	Sunday, November 24, 2019 1:41:06 PM
Attachments:	DKS Associates Analysis (August 6 2019).pdf
	Staff Memo.pdf

Good Afternoon,

I watched <u>this recording</u> of the November 12 City Commission Work Session and read the attached memos. Even though both memos state that induced demand would reduce (many studies show it will negate) any long-term congestion reduction from widening Beavercreek Road, I heard Mayor Holladay at about 41 minutes into the Work Session respond to Dayna's explanation of induced demand. He did not agree that induced demand would cause the widened Beavercreek Road to become congested. Instead, he believes that future drivers from new development in the Beavercreek Concept Plan Area would cause the widened Beavercreek Road to become congested. While I know induced demand and future drivers will both contribute to congestion if Beavercreek Road is actually widened, it appears Mayor Holladay is saying that induced demand would not happen. Did either memo analyze whether induced demand or future drivers would likely be the main cause for the widened Beavercreek Road to become congested?

Even though the City Commission supported widening Beavercreek Road, I am thankful that both memos state that widening Beavercreek Road will make this road less inviting and safe for pedestrians and cyclists. Since the Beavercreek Road Concept Plan encourages walking and biking, I hope the City Commission realizes that widening Beavercreek Road likely will discourage walking and biking and encourage more people to drive.

Thank you,

Ray Atkinson Master of Urban and Regional Planning | Class of 2016 Portland State University Vice-Chair, Clackamas County Pedestrian and Bikeway Advisory Committee Member, City of Oregon City Transportation Advisory Committee Member, Transportation Choices Alliance Advisory Council Phone: (704) 787-5859 | Email: gismap1@gmail.com Hi Christina,

I see in the transportation analysis for Beavercreek Road that it does not include correct transit data. TriMet and CCC operate transit at the Beavercreek Road and Highway 213 intersection. Is there time to correct the data issues?

Thanks,

Ray Atkinson

From: Christina Robertson-Gardiner <crobertson@orcity.org>
Sent: Tuesday, November 19, 2019, 10:56 AM
To: Ray Atkinson
Subject: Beavercreek Road Concept Plan- Code and Zoning Amendments- (Beavercreek Road Design, Transportation Analysis, Speed Zones within the Concept Plan)

Planning Commission Hearing

November 25, 2019

Planning Files: LEG 19-00003 -Beavercreek Road Concept Plan-Code and Zoning Amendments-(Beavercreek Road Design, Transportation Analysis, Speed

Zones within the Concept Plan)

The November 25, 2019 Planning Commission Agenda is now available for review at <u>https://oregon-</u> <u>city.legistar.com/Calendar.aspx</u>. Meetings may be attended in person, viewed *Live on Comcast Channel* 28 or on the City's website via streaming video.

The Planning Commission is reviewing the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the late summer and fall of 2019. Each meeting will be broken into 1-3 topics to allow the Planning Commission, staff and the public time to focus their energy. Planning Commission comments and direction as well as public comments will be tracked throughout the hearings and topics may be added to future meetings if new items are identified or issues have not been resolved. Please refer to the updated calendar attached to each Planning Commission packet for meeting topics. **Please note that public comment at any meeting is not limited to the identified topic and may be on any issue related to LEG 19-0003.**

The following topics were identified either by public comment or the Planning Commission for the November 25, 2019 Hearing. Staff will provide background on the following issues and will provide a recommendation if warranted.

- 1. Beavercreek Road Design
- 2. Beavercreek Road Concept Plan- Transportation Analysis
- 3. Speed Zones within the Concept Plan

There will be additional opportunities to comment. A list of all past meetings and future meetings can be found below and are subject to change.

August 12, 2019 Background on Project, Open Record August 26, 2019: Introduce Tracking Matrices, An Overview Of 8.13.19 City Commission Work Session, Identify Future Topics /Calendar September 9, 2019: Beavercreek Zones & Maps, Home Occupation September 23, 2019: Master Planning Requirement, Upland Habitat, Geologic Hazards October 14, 2019: Parks, Renaming Concept Plan, Home Occupation/Cottage Industry November 18, 2019 PC Meeting- Parks Home Occupation/Cottage Industry November 25, 2019: Transportation Roadway Width, Roundabout, Holly Lane, Local Street Speed December 16, 2019 or January 13, 2019: Parks, Home Occupation/Cottage Industry, Tentative Planning Commission Recommendation January 27, 2020: Formal Planning Commission Recommendation to City Commission February/March 2019: 1st City Commission Review of Planning Commission Recommendations

Other Meetings

November 12, 2019 - City Commission Beavercreek Road Design Work Session-

August 29, 2019 Parks and Recreation Advisory Committee (PRAC)- Initial Presentation October 9, 2019 Natural Resource Committee Upland Habitat

November 13, 2019 Natural Resource Committee Upland Habitat

TBD- Parks and Recreation Advisory Committee (PRAC) Recommendation To The Planning Commission

October 2019 - Additional Public Outreach on Transportation Questions





From:	Diane Maxon
To:	Christina Robertson-Gardiner
Subject:	Re: ADV: Beavercreek Road Concept Plan- August 12, 2019 Planning Commission Agenda
Date:	Saturday, August 10, 2019 12:11:56 PM

I went to a planning meeting a few months ago & since that time, I've had many thoughts about it, most of them not good. What good is there coming to any planning meetings when the plan is already done. I wasn't in Beavercreek in 2002 when this started so I couldn't protest then. Planning people seem to think that all growth is for the good, but it isn't. When this started, did anyone think of all the people who live south of the "plan" & will have to go through the additional traffic? The 1600 new residences will bring approximately 3000 new vehicles, let alone those coming to work at all the businesses that have been planned. Have you driven on our roads lately? They are already crowded & yet more & more large housing units are being put all over the place! Most of us came here slowly, one at a time, & we came to live in a country setting, so we will be losing what we came for. Was that given any thought? What about all the will be displaced by 584 acres of people? Why would anyone want this to become a big city? I am just horrified by all the changes that planning type people think the rest of us want. We really don't. So, roads are already crowded, schools are already crowded and you can hardly get into the O.C. post office. Is there even an upside to those of us who live here already? I have not seen one, nor have my neighbors.

I see now that there is a meeting to decide which of 3 plans for traffic control is best. NONE! Going through Holly Lane sounds fine, but would you want all that extra traffic coming through your once quiet neighborhood? And roundabouts are just plain confusing & dangerous when crowded.

I'm having trouble not saying awful things, so I think I'll quit. I'm sure you've gotten my thoughts & feelings. Diane Maxon

On Aug 5, 2019, at 5:56 PM, Christina Robertson-Gardiner <<u>crobertson@orcity.org</u>> wrote:

Beavercreek Road Concept

Plan

LEG 19-0003

1st Planning Commission

Meeting

August 12, 2019

The August 12, 2019 Planning Commision Agenda is now availlable for review at <u>https://oregoncity.legistar.com/Calendar.aspx</u> and can be downloaded <u>here.</u>

Any interested party may testify at the hearings or submit written comments at or prior to the public hearings while the record is open. Public coments can be mailed to City of Oregon City| PO Box 3040| Oregon City, OR 97045 or vial email to Christina Robertson-Gardiner, AICP, Senior Planner at

crobertson@orcity.org

LEG 19-00003 - Amendments to various Chapters of the Oregon City Municipal Code, Zoning Map and Comprehensive Plan Map and ancillary documents to the Comprehensive Plan to implement the Beavercreek Road Concept Plan.

How Many Hearings will the Planning and City Commission Hold for this Project? This is the 1st Planning Commission hearing date for LEG 19-00003. The number of hearings is at the discretion of the Planning and City Commissions- though it is anticipated that each hearings body will hold a couple of hearings each on this matter. The first hearing on this item will consist of a staff presentation of the project, public comments and Planning Commission questions. Staff has requested a continuance to August 26, 2019 when the staff report will be presented and staff will request approval by the Planning Commission.

Beavercreek Road Concept Plan Project- Zoning and Code Amendments

The Beavercreek Road Concept Plan (BRCP) is a guide to the creation of a complete and sustainable neighborhood in southeast Oregon City. The acknowledged BRCP provides a framework for urbanization of 453 acres within the urban growth boundary including a diverse mix of uses (an employment campus north of Loder Road,mixed-use districts along Beavercreek Road, and two mixed-use neighborhoods), all woven together by open space, trails, a network of green streets, and sustainable development practices. This spring and summer, the City of Oregon City will embark on a process to amend the Comprehensive Plan Map, Zoning Map and Oregon City Municipal Code (OCMC) to allow planned housing, employment and mixed-use development within the Concept Plan Area. <u>www.orcity.org/Beavercreekroadconceptplan</u>



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