City of Redmond Plan Annex

Introduction

The City of Redmond is the seventh most populous city in King County and the sixteenth most populous city in the State of Washington, with a residential population of approximately 64,291 as of 2017. It encompasses an area of over 17.14 square miles and is located less than 20 miles east of downtown Seattle at the north end of Lake Sammamish.

The city prides itself for its high quality of life with good schools, a healthy economic base, a parks system that provides a variety of active and passive recreational opportunities, diverse offerings for shopping and dining, safe neighborhoods, and an emphasis on quality development and protection of the natural environment.

The City of Redmond is committed to promoting a culturally inclusive community. As a global city that attracts residents from around the world, the city values its' diversity and prides itself on being a welcoming community. Redmond recognizes that fostering a welcoming environment for all individuals enhances Redmond's cultural fabric, economic growth, global competitiveness, and overall prosperity for current and future generations.

The city is a center of technology and home to some of the major high-tech firms in the country, including Microsoft, Nintendo, and Physio-Control. The Sammamish River and Bear Creek pass through the City. The Cascade Range, a 1,000-mile long chain of volcanic mountains, which extends from Northern California to southern British Columbia, Canada is about 40 miles north of Redmond. WA State Highway 520 runs through the City. Cities bordering Redmond include Bellevue on the southwest, Kirkland on the west and Sammamish with a small border to the southeast.

Redmond Profile

The city of Redmond is governed by a Mayor and seven-member City Council. The city consists of 8 departments. Mayor, Police, Fire, Public Works, Parks, Finance, Planning and Human Resources. The current population is 64,291 as of 2017, but according to the Puget Sound Regional Council Redmond's population grows by 105 percent during the workday.

Development Trends

According to census data between 2016 and 2017 the population of Redmond grew 2.44% and its median household income grew from $107,341 to $115,300, a 7.41% increase. Regional growth around the Eastside will continue to impact Redmond as more people and businesses are attracted to the area.

The City of Redmond developed a Comprehensive Plan to anticipate the next 20 years for the city starting in 2010. The plan consists of a vision for the city in 2030. The plan indicates the city will guide its actions through the lens of sustainability principles and maintaining a sustainable community.

According to the City's Comprehensive plan a sustainable community means:

• Having a shared community identity that is special and unique, based on Redmond's beautiful natural environment, its vibrant employment areas and diverse community of residents;

• Having equitable access to goods, services and employment;

• Having housing choices that are accessible to residents with various incomes, ages and abilities;

• Valuing environmental quality and supporting choices that minimize impacts to the environment;

• Recognizing the importance of community awareness, education and engagement; and

• Having a strong local economy.

The largest industry in Redmond, WA is Professional, Scientific, & Technical Services (10,935 people) due to Microsoft being in Redmond. Retail Trade (3,473 people), and Manufacturing (3,056 people) are the other major industries in the city. The highest paying industries are Professional, Scientific, & Technical Services ($114,732), Information ($113,364), and Professional, Scientific, & Management, & Administrative & Waste Management Services ($105,747).

With the city of Redmond's continued growth and its' attraction of a diverse populous, the Emergency Management Team for the City of Redmond will have to plan for a large populous in a smaller geographical area with a diverse background consisting of multiple languages and cultures. Also, the values of Redmond of continuing a sustainable community will mix housing and business with natural surroundings that could leave Redmond vulnerable in case of a natural disaster or human caused incident.

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Redmond Risk Summary

Hazard Risk and Vulnerability Summary

HAZARD	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
Avalanche	Redmond is not at risk for avalanches.		
Earthquake	The City of Redmond is near the Seattle Fault line and the South Whidbey Fault line.It will also be impacted by the Cascadia Subduction Zone. A large magnitude earthquake could devastate the city and its infrastructure. An earthquake consists of shaking and trembling from underneath the earth. This violent shaking can cause damage to buildings, roads, bridges, and other man-made structures. Redmond is in a liquefaction zone which causes the ground to be more susceptible to the shaking from an earthquake, leading to more severe damage to the city.	The City of Redmond sits on a liquefaction zone. Liquefaction occurs when strong earthquake shaking causes an immediate weakening of soils such that the soils take on properties like quicksand. Liquefaction most often occurs in artificial fill, and in highly saturated loose and sandy soils, such as low-lying coastal areas, lakeshores and river valleys. During an earthquake the parts of the city in a liquefaction zone would face great damage with full buildings collapsing and infrastructure under the ground rising due to the severe shaking. City services such as Fire, Police, and Public Works are vulnerable to liquefaction. In the event of an earthquake many of the city's bridges could be destroyed making transportation of goods and people difficult.	An earthquake that happened near Redmond was the Nisqually Earthquake in 2001 which had a moment magnitude of 6.8, impacted the City of Redmond. The costs to city buildings and infrastructure did not exceed 7,000. The earthquake happened 60 miles from Redmond. Another recent earthquake was the 2019 Monroe earthquake that was felt in Redmond. Monroe is 20 miles away from Redmond. While the earthquake was a 4.6 magnitude earthquake, it was a firm reminder of the unpredictability of earthquakes in the region.
Flood	Three large bodies of water coupled with a high-water table pose a risk of flooding in Redmond. The presence of valuable buildings, infrastructure, natural environment, and people make the City vulnerable to riverine and seepage flooding. Flooding occurs along the Bear Creek and Sammamish River Trails and Lake Sammamish. Downtown lies within the 100-year floodplain.	Areas regularly flooded include parts of the Sammamish River and Bear Creek trail systems, portions of the City's Municipal Campus, condominium developments along Lake Sammamish and an area near Bear Creek's Friendly Village Mobile Home Park. There are 166 buildings located within the 100-year floodplain. Of these 116 are single-family and 50 are multi-family units.	In 2007, extended rainfall caused the Sammamish River to flood. There was over-bank inundation near NE 85th St. The drainage system and storm water flooded 150th Ave NE and in the Overlake area. Most recently

Landslide	Landslide hazard areas in Redmond are identified as slopes greater than thirty degrees and the areas within a fifty-foot buffer above and below such slopes. Steep slopes in Redmond are located primarily on the western and southeastern portion of Education Hill and along Redmond's northwestern border in the Willows/Rose Hill neighborhood. Landslides occur during unusual heavy seasonal rains or during an earthquake.	Redmond's natural geologic slopes and development on or near steep slopes make the built environment vulnerable. Approximately 10% of the residential structures in Redmond are in the landslide hazard zone. About 9.5% of the non-residential (commercial and public) buildings are also within the designated buffer. Winter storms annually converge on the city with significant rain fall and wind events as soils become saturated and wind impacts vegetation the risk from landslides increases. Redmond faces erosion issues due to large rainfalls combined with wind due to the topography in the city. Redmond has continuous erosion issues when continuous rain cannot be dealt with by the storm drains.	In January 1997, a severe winter storm cause localized flooding and overwhelmed storm drains and culverts in several locations in the city. A substantial landslide occurred on the southwest side of town when a hillside gave way due to excessive water overflowing storm drains and culverts at the top of the hill. The landslide caused a road to be washed out. In 2017 in the city of Renton which is 16 miles south of Redmond, had a landslide which closed multiple lanes of traffic near the I-405 interchange.
Severe Weather	Storms in Redmond are likely to have a severity of low to moderate. Historically, storms have been relatively short and have had mostly localized impacts. The main concern about a severe storm in Redmond is the potential to isolate citizens and businesses if roads are blocked by snow or ice. Severe weather can include unseasonable rain, snow, ice, cold, and high winds.	Microclimates within the city may increase the vulnerability in specific areas. Narrow culverts are vulnerable to ice jams and hilltops are subject to lightning. The hill and valley topography create several wind tunnels. Steep slopes increase the likelihood that Rose Hill and Education Hill will experience more adverse effects of a severe storm. Climate change will also affect the sever weather Redmond and the region experience. Storms will increase in severity and scope as well as unpredictability. From stronger windstorms to longer rainstorms increasing the chance of flooding, climate change will be an increasing factor in severe storms.	In 2006 a severe windstorm affected the City of Redmond. In the Seattle region, hundreds of thousands of homes lost power for several days. Microsoft had to shut down a large portion of its Redmond campus. Most recently in December 2018 a windstorm with wind gusts of up to 45 mph hit the Puget Sound region. Puget Sound Energy reported 150,000 people without power across 800 locations.

Severe Winter Weather	Although Redmond does experience some days with temperatures below freezing and receives some snow, severe winter weather is not typical of Redmond winters. The proximity to the Puget Sound keeps the climate moderate, with some incidents of snow.	Due to typically mild climate, Redmond is vulnerable to severe winter storms. Ice, snow and strong winds can damage infrastructure, isolate citizens and limit access to essential services. Although storms may cause some structural damage, the main vulnerabilities to a severe winter storm are systems and populations that may not be able to withstand temporary isolation or limited transportation.	In 2019 the city of Redmond (along with the rest of Puget Sound) experienced a large snowfall that lasted 9 days and dropped over 20 inches of snow. The governor of the State of Washington declared a state of emergency with the severity of the snow storm.
Tsunami/Seiche	The city of Redmond sits along the northern part of a seven-mile-long, one-half mile wide Lake Sammamish. A Seattle fault surface rupture in the lake bed, and/or a significant landslide could create a lake tsunami known as a seiche.	Redmond's vulnerability to a seiche event is concentrated in communities which are in the Lake Sammamish shoreline. This communities include Viewpoint, Southeast Redmond, and Marymoor Park.	In 2002 Lake Union (which is 14 miles from Redmond) encountered a seiche after the Denali earthquake in Alaska.
Volcano	Washington state has five active stratovolcanoes, capable of significantly altering daily life for months to years after eruption. The main hazards associated with volcanoes are lahars (volcanic mudflows) and volcanic ashfall. Lahars can travel a significant distance from the volcano and fill valleys with mud tens of feet thick. Ashfall eruptions pose a significant hazard to aircraft and human repository health.	Due to the distance the City of Redmond is from these active volcanoes the major concern is the Ashfall. Depending on the severity of the eruption there can be a few inches of Ashfall in the city of Redmond disrupting traffic, causing low visibility, and affecting people's respiratory health.	The most recent major eruption that occurred was on May 18, 1980 when Mt. Saint Helens erupted. The eruption had national impact on air travel and air quality. Fifty-seven people died when Mt. Saint Helens erupted.
Wildfire Urban Interface	How a fire behaves primarily depends on available fuel, weather conditions, and terrain. Weather plays a role in	Within the city of Redmond, a major value the city has is a green environment. This value consists of living in proximity to a natural landscape which consequently makes our buildings be in proximity to	Although the city has not experienced a significant WUI fire in more than a decade, the risk continues and due to increased density and vertical

	the forms of strong wind storms and low precipitation totals. Terrain is also a factor in the spread of a wildfire as the topography of a region can determine where a fire spreads and how fast it travels. Other elements like barriers and land elevation as highways and lakes can affect spread of fire, as can an uphill/downhill orientation, as fire spreads more easily as it moves uphill.	green spaces and other vegetative lands that are vulnerable to wild land fires. Theses areas include ground plants to mature trees and a risk of a WUI fire is often dependent upon the time of year weather and humidity as well.	construction the risk of a structure fire invading green space increases as well.
Civil Disturbance	The city of Redmond is quite diverse with many different types of belief systems, cultures, languages, and ethnicities. At times civil disturbances begin as nonviolent gatherings of groups with a common agenda. These gatherings can turn into targeting of a specific racial or religious minority.	According to data from the Redmond Police Department, there have been 4 incidents of "Malicious Mischief" which have been categorized as religion-based hate crime. All 4 incidents have occurred in the Muslim Association of Puget Sound (MAPS), 17550 NE 67 Ct.	All four of the aforementioned "Malicious Mischief" incidents have occurred within the last 3 years (2016-2019) here in the City of Redmond.
Cyber Attack	Like other city governments, Redmond relies on critical technologies to conduct everyday business. Redmond's critical assets that use computer programs include transportations system (intelligent transportations system like stoplights), water sewer systems (Scada systems), waste water, and drinking water. Also, computer systems that the city uses to serve citizens like the	These computer systems all face the hazard of a cyber-attack. The systems are also vulnerable to an earthquake if there happens to be no electricity then these systems go offline, disrupting critical city functions and transportation systems.	A recent cyber-attack happened in the city of Sammamish (which is 7 miles south east of Redmond) which was hacked. During the cyber-attack the city of Sammamish had no communication, no business systems, work computers had no access to the city systems. It took the city a few months to recover from the attack, but during the incident the city employees went back

	city's permitting system, and the 911 dispatch (NORCOM) which are used by public safety and fire.		to pen and paper to conduct daily tasks. The Sammamish cyber-attack was a phishing attempt which led to the city getting hit with ransomware.
Dam Failure	Although there are no dams closer than 4 miles from Redmond, Welcome Lake Dam is cause for concern. Welcome Lake Dam is privately owned. The HOA that owns it is responsible for its upkeep. If the dam were to fail Redmond would be in the path of the water.	In case of an earthquake big enough to damage Welcome Lake Dam the City of Redmond would have 45 minutes before a 9-foot wall of water ran through the east side of the city. This would damage hundreds of homes and businesses.	There are no recent dam failures that have affected the city of Redmond.
Hazardous Materials Incident	Although there are numerous sites in Redmond that contain sizable amounts of hazardous materials, the stringent regulations for handling, storage, transport, and recording of hazardous materials and related facilities limit the vulnerabilities. However, the presence of toxic chemicals does present a great risk to the human population and the environment. Also, car fires and structural fires can also leak hazardous materials into the ground and storm drains. Individuals can also spill hazardous materials in their home and not be aware of the dangers.	According to Fire Department records there are currently over 70 locations in the city of Redmond that have hazardous materials stored on site. Aero Jet alone has 7 buildings where Hazardous materials are stored. AT&T has 12 sites. If multiple sites had a Hazardous Materials Incident where there was a spill, Redmond's resources would be spread thin depending on the severity and scale of the incidents.	In February of 2017 there was a spill of roofing glue which 35-40 gallons of the material were spilled. This spill happened on Redmond Way west of 520. Redmond Way was closed for 10 hours due to the spill. In 2018 20-50 gallons of sulfuric acid were spilled onto the ground at Honey Comb near Fire Station 12 in the City of Redmond. Most recently in October 2019 a car fire leaked harmful chemicals onto the ground, the foam used to combat the fire was spilled onto the ground as well. Fortunately, none of the chemicals reached the storm drains.
Public Health Emergency	All of Redmond could be vulnerable during a PHE. The disease agents responsible for a PHE	Redmond could be vulnerable to a pandemic and outbreaks of other communicable diseases, as well as chronic diseases that	According to the Washington State Department of Health in 2019 the state had 2

	are more likely to be transmitted in areas with a high human-to-human or human-to-animal contact. The consequences from a PHE can be direct or indirect and can affect the community's health and Redmond's health infrastructure.	affect the health of the community already. An increase in deaths resulting from a PHE may overflow morgues. Medical staff may become ill, resulting in staff shortages. The CDC estimates, 540,000 infections in King County could occur during a severe 1918-level flu outbreak.	outbreaks of measles that totaled 86 cases. Twelve of those cases happened in King County, while 72 of those cases happened in Clark County. The majority of those cases (53) happened to children ages 1 to 10.
Structure Fire	Like any other City in the country Redmond has a vulnerability of a structural fire, whether it is human error or an electrical problem there is a possibility of a structure catching flames. However, a dedicated Fire Prevention department in the City focuses efforts to reduce fire hazards. The City of Redmond also does not have buildings above 6 floors, so responding to a structure fire in the City does not impose the challenge of getting people out of high-rise buildings.	In the city of Redmond there are designations for buildings that were built with new updated codes which include a sprinkler system. The newest buildings all must include a sprinkler system. The oldest structures in the city do not have a fire alarm system nor have a sprinkler system. The oldest buildings that do not have either an alarm system nor a sprinkler system are categorized as high risk. Additionally the City of Redmond is routinely going vertical with what are called Type V over Type I construction, which is wood framed on top (up to 6 stories) with concrete commercial structures on the bottom.	Sprinkler building fires are most often controlled with 1 or 2 sprinkle heads activated. These buildings are reoccupied within a couple of weeks. The non-sprinkler non-alarmed buildings often take more than a year after a significant fire to rebuild and reoccupy.
Terrorism	With such a diverse populace with all types of ethnicities and religions, the City of Redmond is vulnerable to domestic terrorism in which an individual target a specific race or religious group. Active shooters targeting a group of individuals or at times shooting at random can be a threat to the city of Redmond. As the FBI recently stated; "Violent	During large community events sponsored by the city such as Derby Days there is a large concentration of people in a small area that could be an easy target for a terrorist attack. There are no fences/barriers preventing people from entering the events held by the city which increase the hazard of a terrorist attack since anyone can enter with a weapon to an event. Events like these are called "soft targets, due to limited security and many entry points.	According to police data there have been multiple recent reports of white nationalism, race based hate crimes in the city of Redmond. The local mosque is at risk for such incident. Other threats to individuals include an Asian American citizen in a local business in the Overlake District. The second was an assault on a Latin-American

	extremists could become inspired by these and previous high-profile attacks to engage in similar acts of violence," as more incidents happen in the country other individuals could try and engage in similar attacks.		Citizen that also happened in a local business in the Overlake District. The third happened in Bear Creek Park and Ride which the police also classified as a white nationalism, race-based hate crime.

Hazard and Asset Overview Map(s)

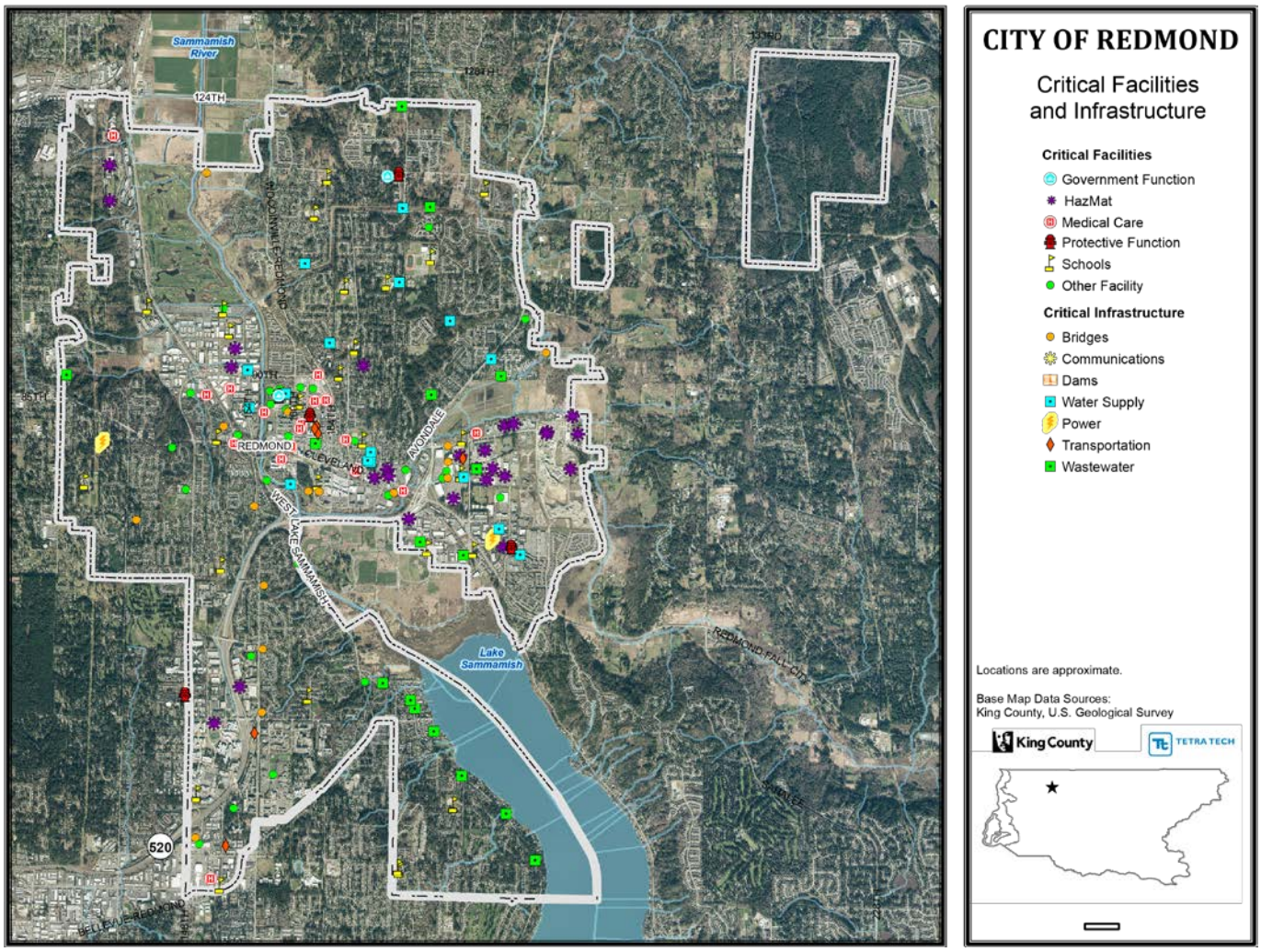

Figure 1: Critical Facilities and Infrastructure.

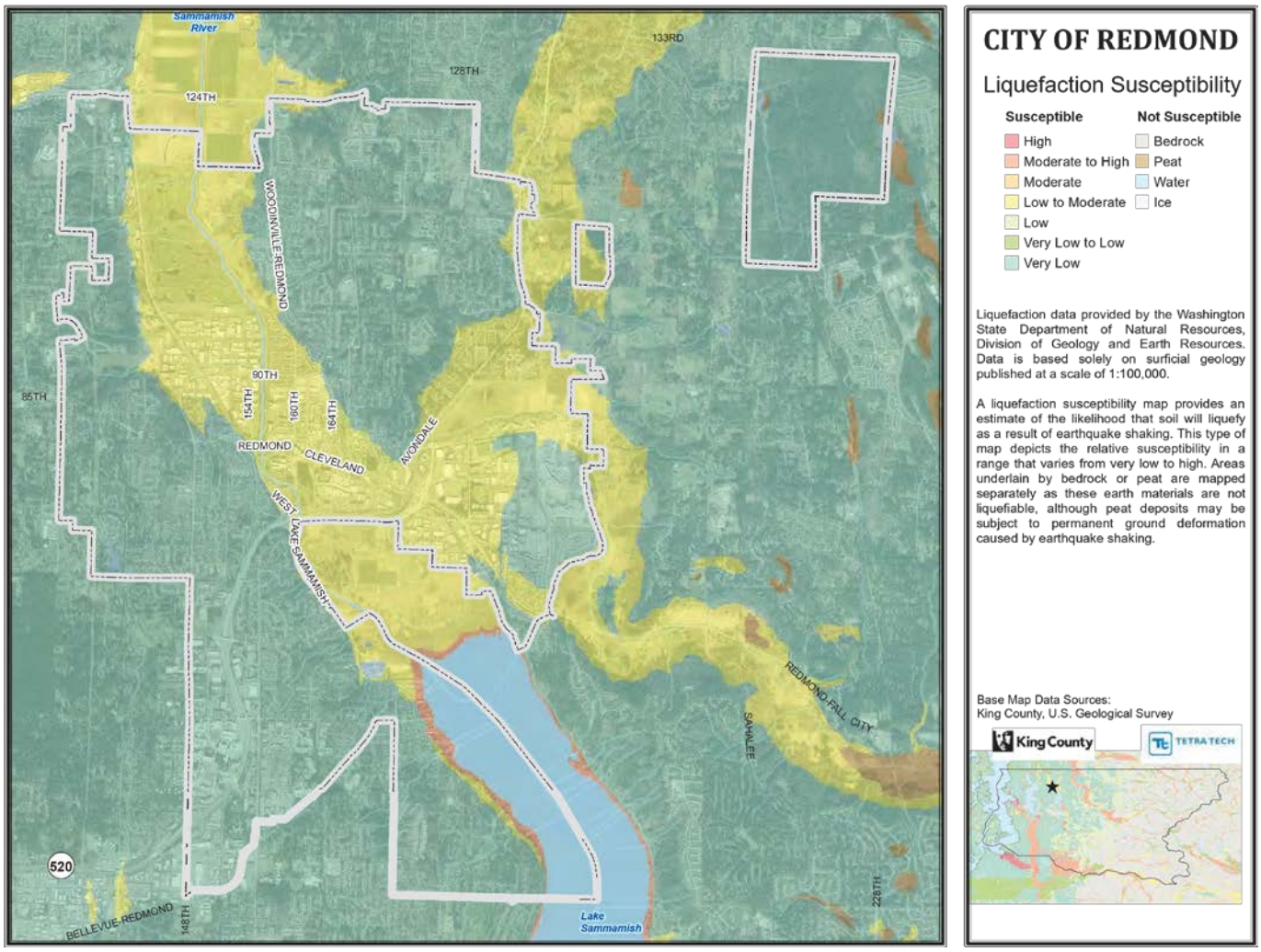

Figure 2: Liquefaction Susceptibility.

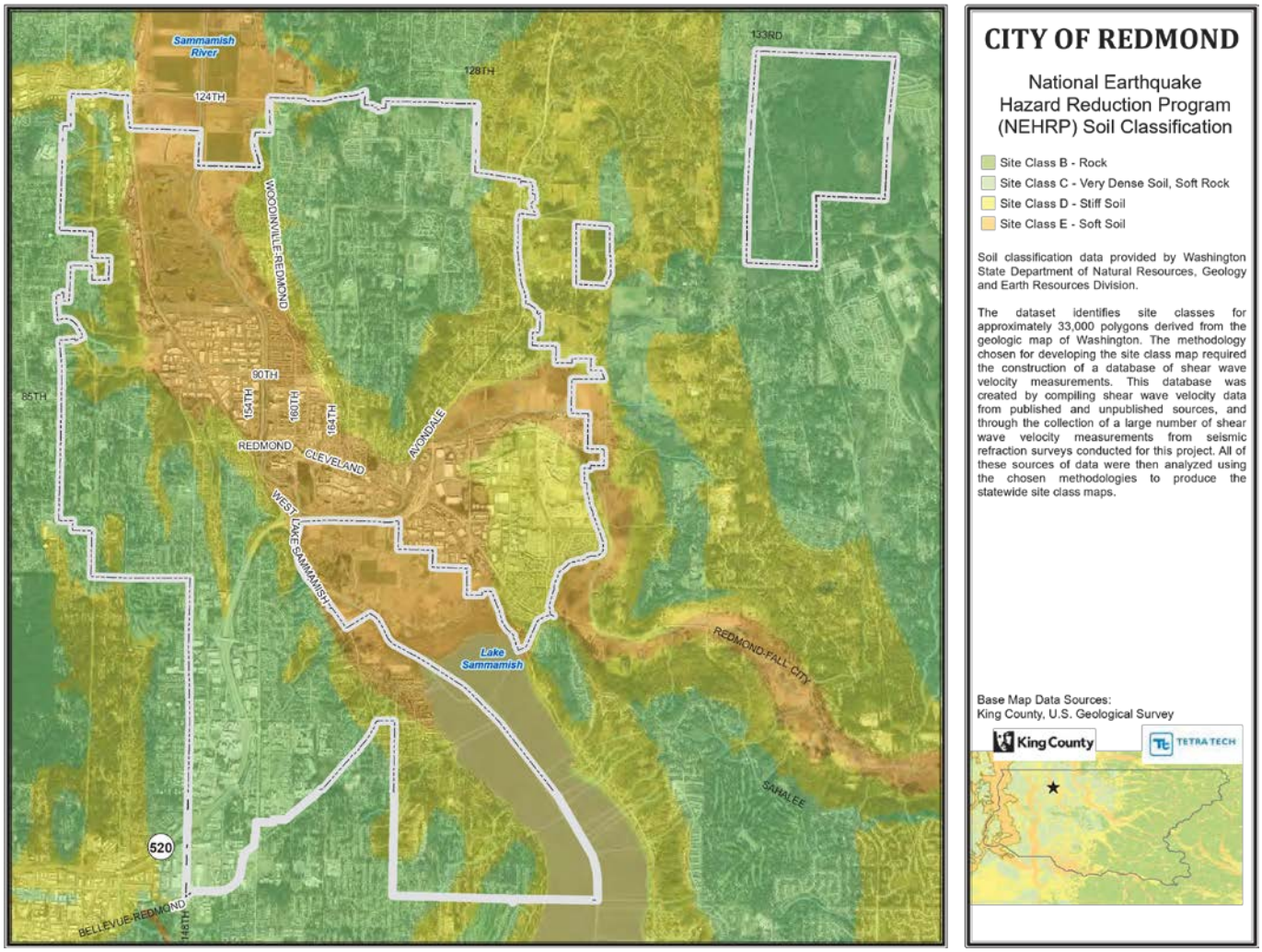

Figure 3: Soil Classification

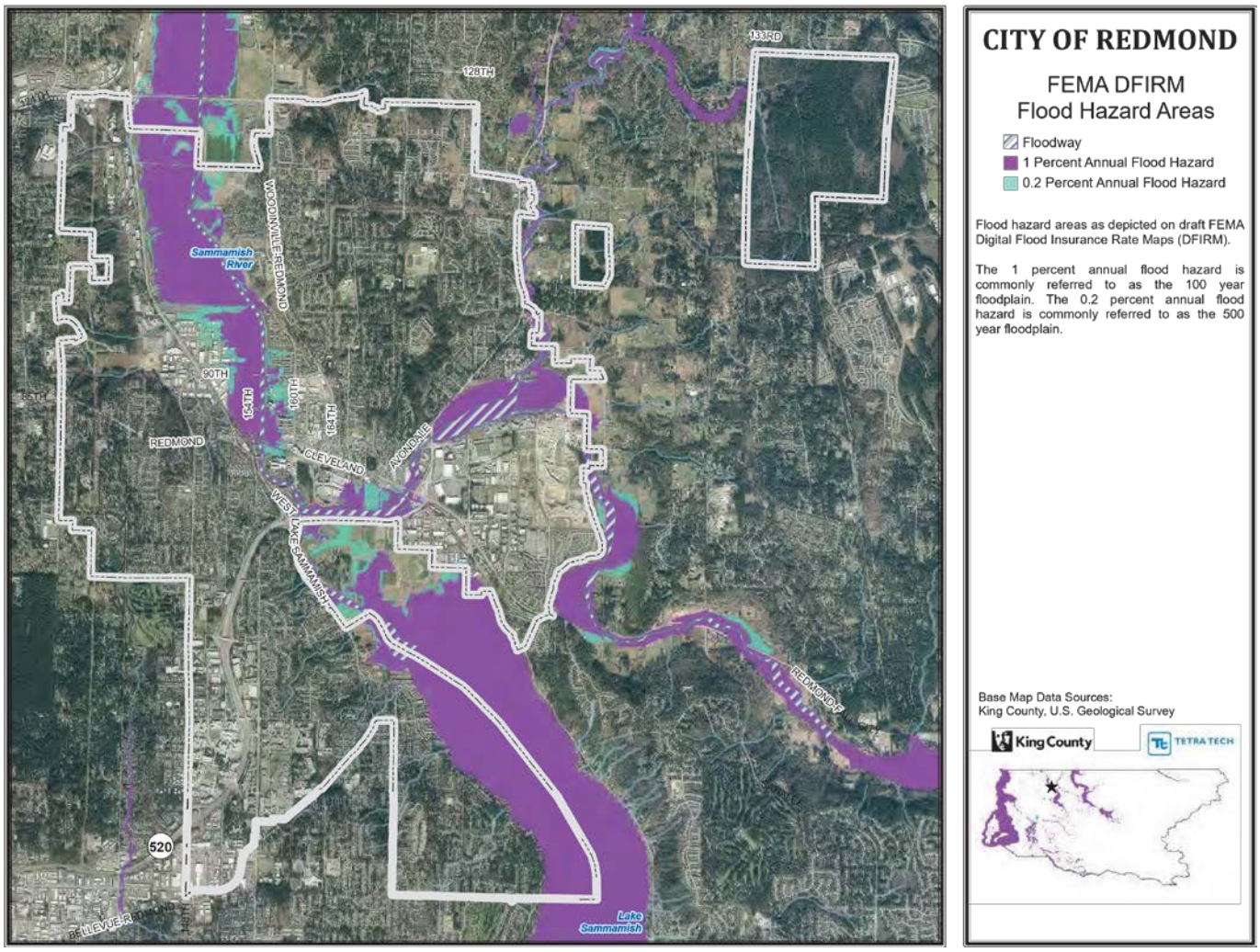

Figure 3: Flood Hazard Areas

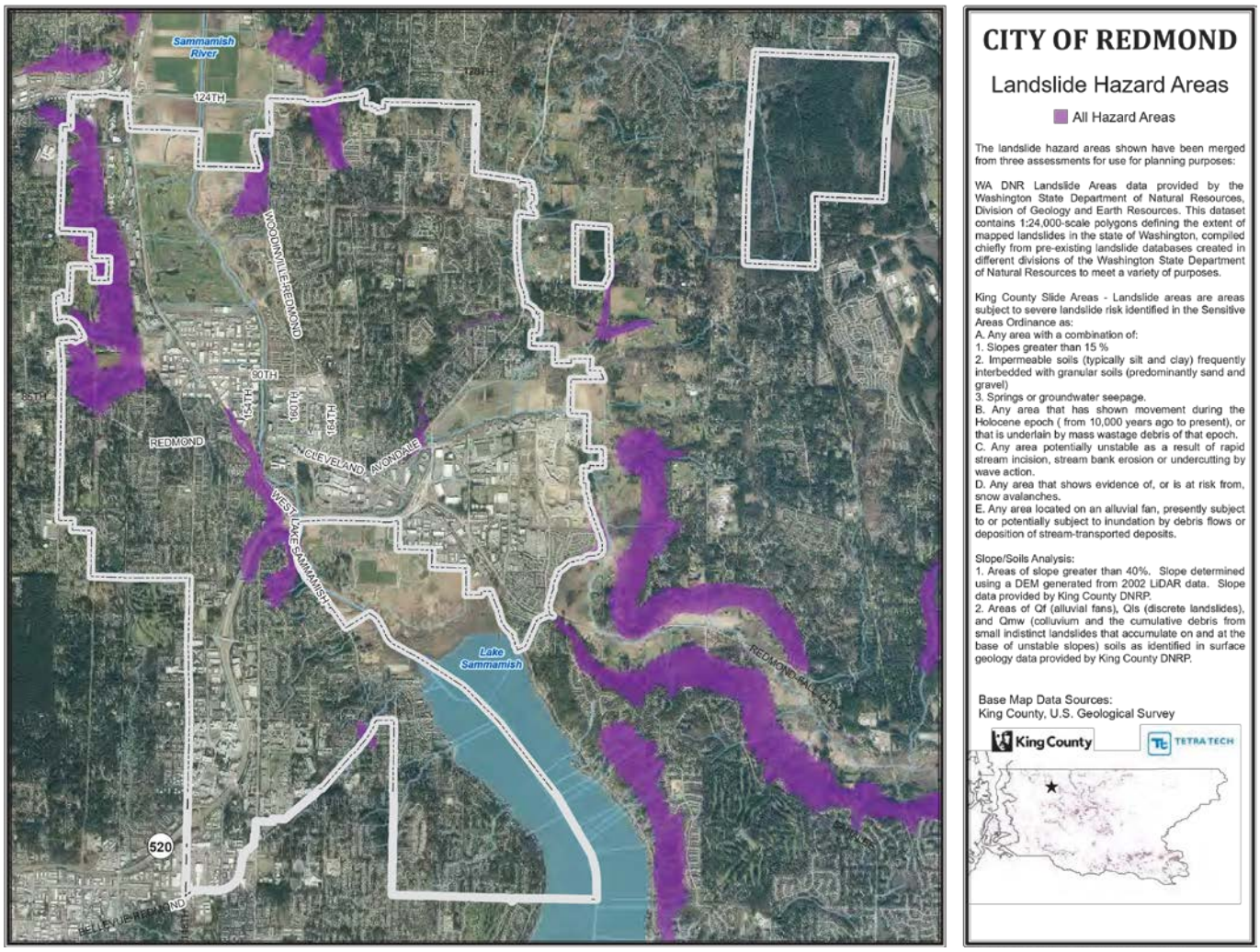

Figure 3: Landslide Hazard Areas

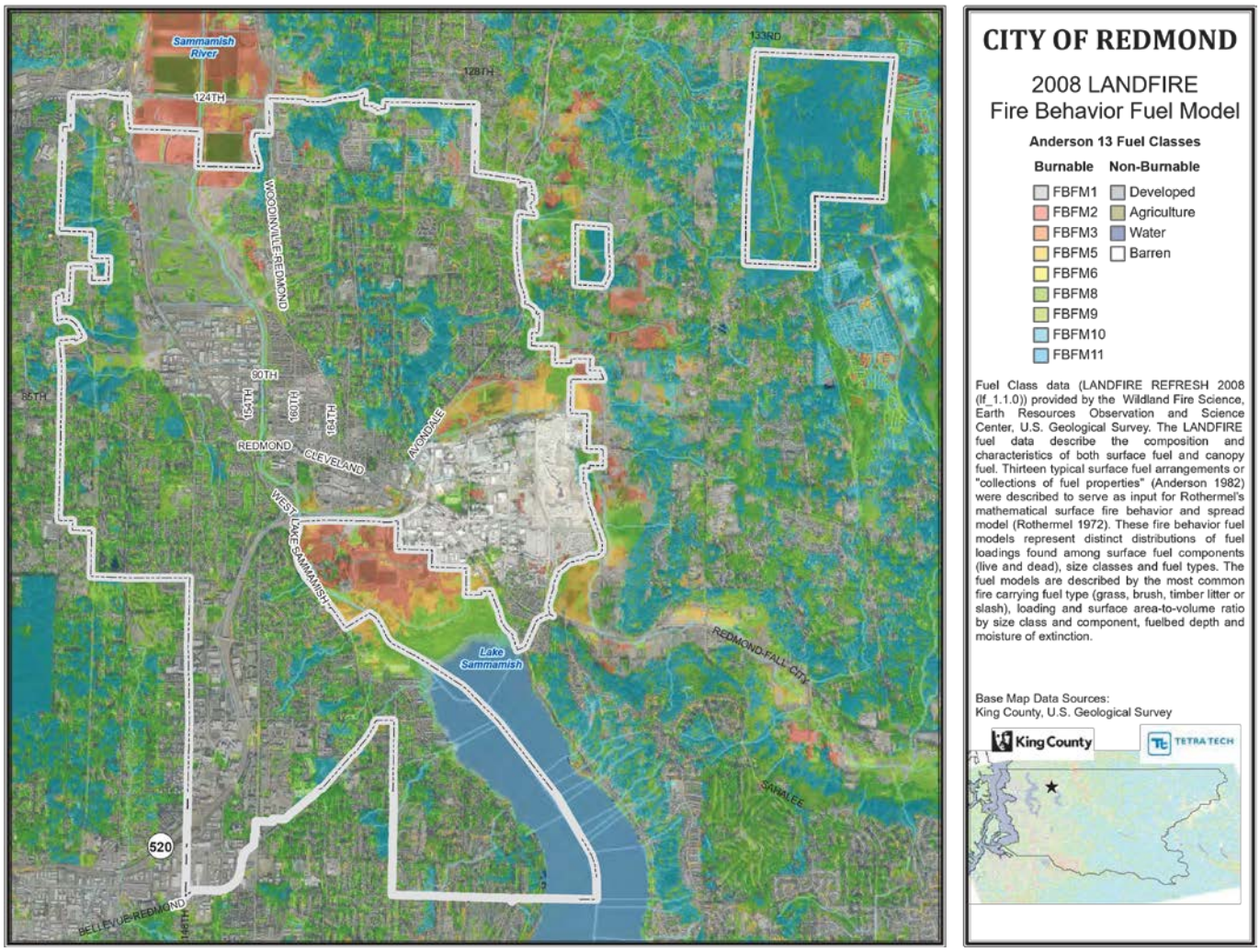

Figure 3: Fire Behavior Fuel Model

According to the US Census over 24,000 (as of 2017) people in the city of Redmond were born outside of the USA. This means that a large portion of the population here in Redmond speak English as an additional language. In an emergency management standpoint this means being able to disseminate critical information in a multitude of languages. Whether that information is emergency notifications or producing preparedness materials in different languages to reach as many residents as possible in their preferred language. Currently Redmond recognizes that there are 5 languages (besides English) spoken in the city by at least 1 percent of the population. Those 5 languages are Spanish, Chinese, Hindi, Russian, and Arabic.

According to the US Census 22 percent of the citizens of Redmond are under the age of 18 and 7 percent are under the age of 5. Those under the age of five are another vulnerable population which by themselves cannot understand warnings or emergency alerts without adult supervision. In the case of separated children during an incident the emergency management team needs to plan for and be able to assist that population incase they are not accompanied by an adult.

While the median household income in Redmond is 115,300 there is still a population living in poverty here in Redmond. According to the US Census as of 2017 6 percent of the population here in Redmond lives in poverty. According to the U.S. department of health and human services the U.S. poverty guideline is a median household income of 25,100 for a family of 4. This 6 percent of the Redmond population might not have an alternate place to go in case of an evacuation order, or they might not have the means to evacuate if they do not have a mode of transportation besides public transit.

Plan Update Process

The Emergency Management Program Coordinator, Rafael Corrales, led the most recent revision of the City of Redmond's Annex to the King County Regional Hazard Mitigation Plan and will maintain the document in cooperation with the King County Office of Emergency Management.

The process began with the Redmond Emergency Management team attending the kick-off meeting in November of 2018 which was hosted by King County and attended by other King County cities and agencies.

In July 2019, Rafael Corrales met with Derrick Hiebert of King County to discuss the hazard mitigation planning process and what factors needed to be addressed in the plan.

Also, in July 2019 Rafael Corrales and Pattijean Hooper attended the King County Hazard Mitigation strategy workshop. With the help of King County staff, Derrick Hiebert, and other jurisdictions that attended the workshop a hazard mitigation strategy was developed addressing seismic retrofitting of critical bridges in the city.

A planning team composed of planning participants and technical advisors (see Redmond Planning Team for names and contribution) provided subject matter expertise and input for the annex development and served as points of contacts for different city departments. The planning team helped address the hazard vulnerabilities found in the city of Redmond, and recent and relevant data pertaining to each hazard. The planning team met either over the phone or in person and discussed hazards over email.

The residents of Redmond were also able to provide comments on participating in this process. Information was

provided during community outreach events in the months of July through October (see Community Outreach events).

The City utilized the King County HIVA Hazard Analysis which identifies all the likely natural and technological hazards that might or have occurred within the county. The city reviewed all hazards and addressed those that affect the city in the Hazard Risk and Vulnerability Summary.

Redmond Planning Team

NAME	TITLE	ORGANIZATION	CONTRIBUTION
Rafael Corrales	Emergency Management Program Coordinator	Redmond EMD	Project Lead
Pattijean Hooper	Emergency Manager	Redmond EMD	Emergency Manager and plan reviewer
Mark Freymuth	Battalion Chief	Redmond Fire	Fire representative assisted with structural fire, wild fire, and landslide hazards.
Simrat Sekhon	Security and Compliance Manager	TIS Security	TIS representative assisted with cyber-attack hazard.
Ryan Spencer	Customer Experience Manager	Parks and Admin	Parks representative assisted with winter weather hazard.
Jenna Barnes	Police Program Coordinator	Redmond Police	Police representative assisted with terrorism and civil disturbance.
Matthew Peterson	Fire Lieutenant	Redmond Fire	Provided subject matter expertise regarding hazardous materials incidents.
Eric Chen	Fire Support Admin Assistant	Fire Prevention	Provided list of Tier 2 facilities with hazardous materials.
Seethu Babu	Sr. Storm Water Engineer	Redmond Planning Department	Assisted with NFIP compliance.

Plan Update Timeline

PLANNING ACTIVITY	DATE	SUMMARY	ATTENDEES
Kick-off Meeting	11/28/18	King county introduces the regional hazard mitigation planning process and timeline.	Janeen Olson, Pattijean Hooper
Hazard Mitigation Meeting	07/15/19	Met with Derrick to discuss Redmond's Hazard Mitigation Plan Annex to the King County Hazard Mitigation Plan	Rafael Corrales Derrick Hiebert
King County Hazard Mitigation Strategy Workshop	07/25/19	Worked on mitigation strategies with King County staff and	Rafael Corrales Pattijean Hooper

		interacted with other emergency managers in the region. Developed strategy of seismic retrofit of bridges in the city of Redmond.	
Incorporation of previous Hazard Mitigation plan	07/29/19	Reviewed previous Hazard Mitigation plans from 2007 and 2015 from the City of Redmond and incorporated relevant data.	Rafael Corrales
King County Hazard Mitigation Funding Workshop	08/22/19	Attended a mitigation strategy funding workshop held by King County with guest speakers from the Washington State Emergency Management Division.	Rafael Corrales
Hazard discussion (Winter Weather)	09/30/19	Discussed the past winter storm and Mr. Spencer provided data for the city of Redmond.	Rafael Corrales Ryan Spencer
Hazard discussion (Terrorism, Civil Unrest)	10/04/19	Discussed crimes that were reported in Redmond regarding terrorism and civil unrest. Ms. Barnes provided data on crime statistics.	Rafael Corrales Jenna Barnes
Hazard discussion (Cyber-Attack)	10/08/19	Discussed cyber-attacks and the vulnerabilities in Redmond. Mr. Sekhom provided detailed information regarding cyber-attacks.	Rafael Corrales Simrat Sekhon
Hazard discussion (structure fire, wild fire, landslide)	10/23/19	Discussed structure fires, wild fires, and landslides. Mr. Freymuth provided detailed information regarding the three topics.	Rafael Corrales Mark Freymuth
Hazard discussion (Hazardous Materials)	10/24/19	Discussed Hazardous materials and Mr. Chen provided information on sites that store Hazardous Materials.	Rafael Corrales Eric Chen Matthew Peterson
NFIP Compliance	11/07/19	Discussed NFIP Compliance question portion of Hazard Mitigation Plan.	Rafael Corrales Seethu Babu

Public Outreach

Public Outreach Events

EVENT	DATE	SUMMARY	ATTENDEES
Redmond Derby Days	7/13/19	Gave out critical planning information to community members as well as other emergency preparation materials. Discussed community members concerns regarding hazards in the city.	CERT volunteers, ARES volunteers, Fire Program Coordinators, members of the community.
Public Outreach – National Night Out	08/06/19	The EMD team along with CERT volunteers attended multiple community neighborhood gatherings and discussed hazards in the community with the attendees.	CERT Volunteers, EMD Team, Community Members
Public Outreach - Muslim Association of Puget Sound (MAPS)	09/20/19	Set up booths at the MAPS preparedness meeting and handed out information to community members regarding preparedness with the city's different hazards.	CERT Volunteers, Rafael Corrales, Janeen Olson, Community Members
Public Outreach – Microsoft Giving Campaign	10/22/19	Staffed a preparedness booth advertising Redmond Citizen Corp Council and gave Microsoft employees information on the Hazard Mitigation Plan and ways they could be involved in preparedness.	ARES volunteer, Rafael Corrales

Redmond Hazard Mitigation Program

Hazard mitigation strategies were developed through a two-step process. Each jurisdiction met with an internal planning team to identify a comprehensive range of mitigation strategies. These strategies were then prioritized using a process established at the county level and documented in the base plan.

Hazard mitigation strategies in the City of Redmond are managed through a collaborative process involving the Emergency Management team and other city departments including public works, Redmond Fire, Redmond Police, and TIS department. Strategies involving community resiliency and community education on emergency preparedness are managed by the City's Emergency Management team with input from established volunteers including ARES and CERT volunteers.

Redmond's future mitigation efforts were established based on previous city plans as well as information provided by the City's own subject matter experts from different city departments. Each of the initiatives in this plan was identified as necessary to meet the goals and objectives of the City as they relate to level of service, preservation, health, and safety.

Plan Goals

1. Access to Affordable, Healthy Food
2. Access to Health and Human Services
3. Access to Parks and Natural Resources
4. Access to Safe and Efficient Transportation
5. Affordable, Safe, Quality Housing
6. Community and Public Safety
7. Early Childhood Development
8. Economic Development
9. Equitable Law and Justice System
10. Equity in Government Practices
11. Family Wage Jobs and Job Training
12. Healthy Built and Natural Environments
13. Quality Education
14. Strong, Vibrant Neighborhoods

Plan Monitoring, Implementation, and Future Updates

King County leads the mitigation plan monitoring and update process and schedules the annual plan check-ins and bi-annual mitigation strategy updates. Updates on mitigation projects are solicited by the county for inclusion in the countywide annual report. As part of participating in the 2020 update to the Regional Hazard Mitigation Plan, every jurisdiction agrees to convene their internal planning team at least annually to review their progress on hazard mitigation strategies and to update the plan based on new data or recent disasters.

As part of leading a countywide planning effort, King County Emergency Management will send to the City of Redmond any federal notices of funding opportunity for the Hazard Mitigation Assistance Grant Program. Proposals from partners will be assessed according the prioritization process identified in this plan and the county will, where possible, support those partners submitting grant proposals. This will be a key strategy to implement the plan.

The next plan update is expected to be due in April 2025. All jurisdictions will submit letters of intent by 2023, at least two years prior to plan expiration. The county will lead the next regional planning effort, beginning at least 18 months before the expiration of the 2020 plan.

Continued Public Participation

The City of Redmond already maintains substantial public outreach capabilities, focusing on personal preparedness and education. Information on ongoing progress in implementing the hazard mitigation plan will be integrated into public outreach efforts. During training opportunities for the public, feedback will be requested on mitigation efforts the city is conducting. Other outreach activities will be conducted during city sponsored events where the Emergency Management Team can man an information booth and request public feedback. This will provide Redmond residents, already engaged in personal preparedness efforts, with context and the opportunity to provide

feedback on the city's progress and priorities in large-scale mitigation. In the vertical integration of risk-reduction activities from personal to local to state and federal, it is important that the public understand how its activities support, and are supported by, larger-scale efforts.

The outreach and mitigation teams will also continue to work with media and other agency partners to publicize mitigation success stories and help explain how vulnerabilities are being fixed. When possible, public tours of mitigation projects will be organized to allow community members to see successful mitigation in action.

Hazard Mitigation Authorities, Responsibilities, and Capabilities

Plans

PLAN TITLE	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
Comprehensive Emergency Management Plan	Emergency Management	Pattijean Hooper	The Hazard Mitigation Plan provides the risk profiles that support the development of the CEMP.
Hazard Mitigation Plan Update (2007)	Emergency Management	Pattijean Hooper	Referenced for previous hazards faced by the city of Redmond.
Redmond Comprehensive Plan	Redmond Planning Branch	Judy Fani	Helped build mitigation strategies.
Information Security Incident Response Plan	Redmond TIS Department	Simrat Sekhom	Helped identify hazards. Currently under development.

Programs, Policies, and Processes

PROGRAM/POLICY	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
Building Codes	Redmond Planning Department	Erika Vanderbrande	Building codes ensure that new construction and substantial improvement meets international standards and standards implemented by the city.
Fire Code	Fire Prevention	Angela Brown	Fire regulations for example, new developments are required to have a sprinkler system.
Emergency Management Program	Redmond Emergency Management	Rafael Corrales	Plan Coordination/POC
National Flood Insurance Program	Planning	Seethu Babu	The NFIP insures properties in and around the floodplain in Redmond.

Redmond Zoning Code	Redmond Planning Department	Erika Vanderbrande	Regulates land use in the city of Redmond.

Entities Responsible for Hazard Mitigation

AGENCY/ORGANIZATION	POINT OF CONTACT	RESPONSIBILITY(S)
Emergency Management	Rafael Corrales	Composer
Public Works and Administration	Ryan Spencer	Contributor
Redmond Fire	Mark Freymuth	Contributor
Redmond Police	Jenna Barnes	Contributor
Fire Prevention	Eric Chen	Contributor
TIS	Simrat Sekhon	Contributor
Planning Department	Seethu Babu	Contributor

National Flood Insurance Program

National Flood Insurance Program Compliance

What department is responsible for floodplain management in your community?	This is a shared responsibility that includes: The Emergency Management Division in the Fire Department, the Development Engineering and Review Division the Planning Department, and Environmental and Utility Services Division in the Public Works Department.
Who is your community's floodplain administrator? (title/position)	Seethu Babu, PE
What is the date of adoption of your flood damage prevention ordinance?	RMC 15.04 was first adopted 1979. Last updated in 2014
When was the most recent Community Assistance Visit or Community Assistance Contact?	We had a Community Ratings System Audit in 2018
Does your community have any outstanding NFIP compliance violations that need to be addressed? If so, please state what they are?	No.
Do your flood hazard maps adequately address the flood risk within your community? If so, please state why.	We are required as per our Critical Areas Ordinance 20D.140.10-040 (7) Critical Areas Maps to map Frequently Flooded Areas.
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of training/assistance is needed?	We are continually looking for training opportunities. We would appreciate efforts to keep us appraised of opportunities so that we can determine if they suit our needs.
Does your community participate in the Community Rating System (CRS)? If so, what is your CRS Classification and are you seeing to improve your rating? If not, is your community interested in joining CRS?	Yes—we have Class 5 status.

How many Severe Repetitive Loss (SRL) and Repetitive Loss (RL) properties are located in your jurisdiction?	SRL: None RL: None
Has your community ever conducted an elevation or buy out of a flood-prone property? If so, what fund source did you use? If not, are you interested in pursuing buyouts of flood prone properties?	I am not aware of any purchases of this sort.

Hazard Mitigation Strategies

2015 Hazard Mitigation Strategy Status

STRATEGY	DESCRIPTION	PRIORITY	STATUS
Community outreach programs	To mitigate impacts involved with isolation following a severe hazard event, Redmond will develop outreach activities to enable Redmond residents, businesses and visitors to survive in-place for more than three days.	High	Long term – Ongoing The community outreach programs continue with the CERT and Accessible CERT trainings provided by the EMD team; as well as first aid and CPR trainings.
Alternative service centers	Future development will concentrate in both the Downtown and Overlake Urban centers. Overlake is away from the liquefaction zone.	Moderate	Ongoing Alternative service centers are continuing for community resiliency. Fire Station 17 went into service in 2012, and future projects will concentrate away from the liquefaction zone.
Resilient Transportation Networks	To mitigate against the loss of major transportation facilities in and around the City, Redmond will invest resources in building more resilient transportation networks.	Moderate	Ongoing Resilient transportation networks will continue with Sound Transits project on the light rail system. The project is set to finish in 2024.

2020 Hazard Mitigation Strategies

STRATEGY	LEAD AGENCY/POC	TIMELINE	PRIORITY
Seismic Retrofit of Fire Station 16	City of Redmond/Tom Langton	2020 - 2023	High

Resilient Transportation Networks	City of Redmond/Rafael Corrales	2021-2025	Moderate
Seismic Retrofit of Critical Bridges	City of Redmond/Rafael Corrales	2020-2024	Moderate
Community outreach programs	City of Redmond/Janeen Olson	Ongoing	High

Resilient Transportation Networks

Lead Points of Contact	**Partner Points of Contact**	**Hazards Mitigated / Goals Addressed**	**Funding Sources and Estimated Costs**
Rafael Corrales Fire Program Coordinator	Kirkland Renton Seattle Sound Transit	Earthquake Safe and Efficient Transportation Economic Development Community and Public Safety	178 million City Funds Sound Transit

Strategy Vision/Objective

Reduce travel times around King county. Develop a transportation system that will alleviate traffic congestion with a growing population. Follow reasonable earthquake standards so in case of an emergency there is an alternative transportation method, if roads are not passible.

Mitigation Strategy

Due to the fact the city of Redmond's population doubles during the work day, traffic congestion makes commuting to and from work difficult. Commuting times often double with traffic congestion. There are also multiple bridges on major roadways that could be affected in case of an earthquake. Traffic's reliance on these bridges could be a hazard if an earthquake would to hit the city. These bridges could be impacted as well as the roads making evacuation and commuting impossible. With a new light rail system built to earthquake standards, the city would have an alternate mode of transportation to get people out, and responders and resources into the city.

2-Year Objectives	5-Year Objectives	Long-Term Objectives
Construction and testing will be conducted.	Down town and Southeast Redmond will be under construction and testing.	A light rail system that is frequently used as an alternative transportation system will be available incase of an emergency occurs in the city of Redmond.

Implementation Plan/Actions

The city of Redmond is currently preparing for the arrival of four light rail stations which are as follows; Overlake Village and Redmond Technology Stations which will be open in 2023, and the Southeast Redmond and Downtown Redmond Stations which will be open in 2024. As construction continues the public transit system can be utilized for emergency plans regarding evacuation, or transportation of resources.

Performance Measures
Reduction of traffic congestion and many daily users that can use the light rail comfortably in case of an emergency.

Seismic Retrofit of Critical Bridges

Lead Points of Contact	**Partner Points of Contact**	**Hazards Mitigated / Goals Addressed**	**Funding Sources and Estimated Costs**
Rafael Corrales Fire Program Coordinator	Kirkland Renton Seattle Sound Transit	Earthquake Safe and Efficient Transportation Economic Development	City Funds Hazard Mitigation Grant 10 million dollars

Strategy Vision/Objective

Strengthen bridges by reinforcing them around Redmond so that during an earthquake of large magnitude, transportation routes are not disrupted for a long period of time.

Mitigation Strategy

Due to large numbers of commuters in and out of the city, there is a need to reinforce bridges that are critical to the communities' daily commute. An assessment of the bridges in Redmond would help determine if and how these bridges need to be reinforced.

2-Year Objectives	5-Year Objectives	Long-Term Objectives
Identify what bridges can be reinforced with more trusses and start construction.	Identify which bridges need to be elevated and begin construction.	Identify state and federal bridges and have them reinforced by respective authority.

Implementation Plan/Actions

Investigate bridge building codes. If codes need to be updated with new data get codes approved. Finding out when bridges are due for an update. Speaking with finance to determine if the city has enough money to make the bridges more resilient. Investigation which bridges are owned by which authority would also be beneficial. Once bridges are inspected, figuring out what type of reinforcement is needed; is elevation needed or can trusses be tightened? If a bridge needs to be rebuilt there would need to be a determination of what materials to use.

Performance Measures
Solution is resilient to earthquakes and will prevent Redmond from being isolated during an incident.

Community Resiliency

Lead Points of Contact	Partner Points of Contact	Hazards Mitigated / Goals Addressed	Funding Sources and Estimated Costs
Rafael Corrales Fire Program Coordinator	Janeen Olson Pattijean Hooper	All Hazards Community Public Safety Strong and Vibrant Neighborhoods	General Fund Grants Citizen Corp Council

Strategy Vision/Objective

A community that understand and prepares for the hazards faced while living in the city of Redmond. A community that also understands the limitations faced by responders and other government response agencies and understands how individuals can support one another.

Mitigation Strategy

Continue providing emergency management preparedness training to the Redmond community with Redmond Ready trainings and CERT classes. Conduct public and private partnerships to assist local businesses in preparedness training as well.

2-Year Objectives	5-Year Objectives	Long-Term Objectives
Conduct 2 CERT trainings. Conduct one Accessible CERT training.	Conduct 5 CERT trainings and 3 Accessible CERT trainings. Include 2 HOA is the Map your neighborhood program.	A prepared and resilient community.

Implementation Plan/Actions

Continue providing the community with Community Emergency Response Team trainings as well as offer accessible CERT trainings for members of the community that identify with a disability. Continue working with Washington School District to conduct High School CERT trainings. Meet with members of the community and of businesses to promote emergency preparedness. Continue promoting and training HAM radio operators to support response operations. Continue supporting Redmond Citizen Corps Council activities.

Performance Measures

Annually increase the number of community members trained in emergency management preparedness and response efforts.