



# South King Fire and Rescue Plan Annex

## Introduction

South King Fire and Rescue (SKFR) is fire district under RCW Title 52. SKFR provides fire suppression, emergency medical, technical rescue, emergency marine response, surface water rescue and hazardous materials response. Additionally, SKFR provides public information, education, investigation, and risk reduction inspections services to preserve and protect lives and property within the communities of Des Moines, Federal Way and a portion of unincorporated King County.

A five-member Board of Commissioners (comprised of elected officials) is responsible for the oversight of SKFR. Funding for SKFR comes primarily through property taxes and other sources of revenue.

The SKFR service area is located in the western part of Washington State and is approximately 20 miles south-west of Seattle in urban / suburban King County. The City of Des Moines is 8 miles south of the Seattle-Tacoma International Airport; 19 miles north of the Port of Tacoma, and just 13 miles south from the Port of Seattle, the closest deep-water port to Alaska and the far East. State Highways 18, 516, and 99 (Pacific Highway) bisect the service area, connecting to Interstate 5, the west coast's primary north-south freeway system.

## Development Trends

SKFR serves the communities of Des Moines, Federal Way and a portion of Unincorporated King County. The two member cities have comprehensive plans that encourage growth in their designated light commercial and residential land use zones. The cities are seeing an increase in building and business permits, and it is expected that population growth will over the next several years. The member cities have also seen dramatic growth in residential and commercial housing. Recently, the area has seen a significant increase in large assisted living facilities and senior housing. In tandem, it is expected that the SKFR call volume will increase at the same rate as the population growth (across all demographics) based on historical data. SKFR expects that additional fire stations and response equipment will be necessary to keep up with the growing population, expansion of the service area and the growing call volume.

### Jurisdiction Profile

#### South King Fire and Rescue

- **Population Served:** **164,408** (97,044 for Federal Way; 32,364 for Des Moines, 2018 Census; ~35,000 for Unincorporated King County)
- **Land Area Served:** 44 square miles

### Jurisdiction Point of Contact:

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## Jurisdiction Risk Summary

### *Hazard Risk and Vulnerability Summary*

HAZARD	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>Earthquake</b>	The entire service area is at risk for earthquakes, with the largest regional fault lines capable of earthquakes that induce damages ranging from 2.8% (M9.0 Cascadia Earthquake) to 7.4% (M7.1 Tacoma Fault) of total buildings and contents.	Stations #61, #63, #64, #66 and #67 have all undergone seismic retrofitting / hardening. However, apparatus and staff vehicles parked inside any of the N=8 stations are vulnerable to damage from falling debris during and after an earthquake.  Per existing contracts, station #60 and #65 will undergo seismic retrofitting / hardening in the coming year or two. It is anticipated that station #62 will undergo the same processes in the near future.	If apparatus were to become damaged or trapped inside under debris, life-saving response operations would be severely affected (delayed or not delivered).
<b>Flood</b>	While much of the service district is at risk for minor coastal flooding (along the Puget Sound), the vast majority of the district is on high ground. Due to the elevation of the area, flooding would be very localized, and would not likely result from meteorological hazards (i.e., flooding would result from burst pipes or other accidental causes).	While there are a few areas in the service district that are at flood risk (according to the FEMA 100 year flood maps), none of the N=8 fire stations are at risk for flooding.	Though none of the fire stations are at risk for flooding, the delivery of services could potentially be affected if infrastructure (i.e., transportation routes) are blocked or damage due to flooding (meteorological or man-made).
<b>Landslide</b>	A small portion of the land area in the service district is susceptible to landslides. The majority of significant slide events in King County have occurred during / shortly after extreme weather events.	Due to proximity to hill areas, station #61 is at risk for minor damage from a landslide. The remaining stations are not at risk for landslides.	Responding station #61 could be damaged by landslides, which would remove several apparatus from service, or delay normal services out of this station. Though none of the other fire stations are at direct risk for landslides, the delivery of services could potentially be affected if



			infrastructure (i.e., transportation routes) are blocked or damaged due to landslide-related debris.
<b>Severe Weather (meteorological hazards)</b>	The overall service area is susceptible to a variety of (seasonal) severe weather (meteorological) events including: snowstorms, ice storms, hail storms, blizzards, windstorms and extreme cold.	All SKFR fire stations are built to sustain damage from severe weather. Stations #63 and #66 have been additionally fortified to withstand extreme weather.	While fire stations are not at risk for damage during severe weather events, any damage to transportation infrastructure could delay service delivery. For example, heavy snow and thick ice can restrict apparatus access to certain areas, and windstorm associated debris can block transportation routes.
<b>Liquefaction</b>	While the service district is at risk for some degree of soil liquefaction, most of the area is in a “very low to low” risk for soil liquefaction.	<p>The SKFR stations that have undergone seismic retrofitting / hardening (#61, #63, #64, #66 and #67) have also been modified to withstand a certain degree of soil liquefaction. The stations that have yet to undergo such seismic retrofitting / hardening (#60, #62, #65 and #68) will have similar strengthening against soil liquefaction, once remodels occur.</p> <p>Stations #62 and #68 are at the most risk for damage from soil liquefaction, as both stations have yet to undergo seismic retrofitting / hardening, and both stations are in a “low” risk soil liquefaction zone. While the risk is “low” for stations #62 and #68, station #62 is the SKFR headquarters, and hosts the fire chief, the administrative staff, and is by far the most valuable brick and mortar fire station (financially).</p>	If station #62 were to be damaged due to soil liquefaction, response capabilities would be dramatically affected, as would many administrative and communications (IT infrastructure) functions.



<b>Tsunami</b>	The service district is not at risk for oceanic tsunami events. However, if there were an event in the Puget Sound (i.e. under water event) or on Vashon Island (i.e., island coastal landslide), a smaller tsunami may manifest along the Des Moines coastal area.	None of the N=8 fire stations are in the path of tsunami damage.	While none of the fire stations are at direct risk for tsunami damage, any damage to transportation infrastructure related to a tsunami in the county could delay service delivery.
<b>Volcano</b>	Historical eruptions of Mt. Rainier have resulted in lahar flows through the Auburn Valley floor. Given the altitude of the majority of the SKFR service district, volcanic threats such as Pyroclastic density currents, lahars, debris flow, lava flows are unlikely.	Only station #61 is at risk for lahars or other debris flows (volcanic hazards), due to the elevation and proximity of the station in relation to the Auburn Valley floor.	Responding station #61 could be damaged by lahars, which would remove several apparatus from service. However, lahars generally flow at a speed in which advanced warning is issued. Therefore, the risk of loss of apparatus is low (assuming timely apparatus evacuation).
<b>Wildfire</b>	The service area has limited wildland urban-interface areas, as the majority of the western edge of the district is the coastal Puget Sound. The service area is at the same risk for wildfires as the rest of the county and general region.	None of the SKFR fire stations are at risk for wildfires.	While none of the fire stations are at direct risk for wildfire damage, any damage to transportation infrastructure could delay service delivery.
<b>Cyber Attack</b>	SKFR relies on a variety of digital systems, services and devices (internal and external networks) to conduct operations. These digital networks are vulnerable to intentional incidents (cyber-attacks) and unintentional incidents (accidental release of information or access to sensitive information).	Stations #62 and #67 are at high risk for cyber-attacks, as the majority of SKFR's IT infrastructure (i.e., servers) are stored at these stations. However, all stations are at risk for remote attacks via hardware and software (i.e., laptops, desk tops and other internet-connected hardware).	The unintended release of sensitive information to unknown parties could lead to public safety / security issues. Too, SKFR could lose the ability to provide payroll and other administrative services.
<b>Hazardous Materials Incident</b>	There are no major manufacturing entities in the area.	All SKFR stations are at equal risk for HazMat incidents during material / substance transportation.	Any HazMat-related damage to SKFR fire stations (excluding #60 and #68) would greatly affect response activities. Too, any related damage to or closure of transportation infrastructure could delay service delivery.
<b>Health Incident</b>	A public-health related incident could involve a number of transmissible pathogens. The	Regarding public health incidents involving transmissible pathogens,	A major public health incident could potentially affect essential services by causing



	<p>most likely outcomes of such pathogens include measles, mumps, influenza, or other severe respiratory infections.</p> <p>While many regional natural disasters obviously pose a threat to physical human safety, volcanic explosions (Mt. Rainier) are of particular risk to human health due to the gaseous nature of such an incident (i.e., inhalation of ash and toxic gases).</p>	<p>all personnel are at risk. First responders (i.e., non-administrative staff) are at particularly high risk of infection, due to the patient-facing nature of the job.</p> <p>Due to proximity of Mt. Rainier, personnel for all fire stations are at risk for volcanic ash and gas release.</p>	<p>high levels of absenteeism. If high levels of absenteeism were reached for the first responding personnel at SKFR, it is possible that reduced service levels could also affect morbidity and mortality rates across the region (i.e., less basic life support providers to respond). Absenteeism could apply to administrative staff at the SKFR as well, delaying or incapacitating the administrative functions of the agency.</p>
<p><b>Terrorism</b></p>	<p>For the purposes of this plan, terrorism will be defined as intentional acts that have the potential to cause damage to SKFR infrastructure, physical resources and harm to staff health and safety.</p> <p>The most realistic threats to the fire stations and personnel include: active killer threats (active shooter, or assailants with deadly weapons) or explosives-related incidents.</p>	<p>All N=8 fire stations are at risk for terrorism (active killer threats, explosives, and other) due to the public and open nature of fire stations (walk-ins welcomed). However, station #62 (headquarters) is at elevated risk, due to the visibility of the agency headquarters and administration staff.</p> <p>Station #62 is at heightened risk for such incidents, because this station hosts the most staff (5-25 people during the day). The remaining stations are at lower risk for such incidents, due to the fact that staff levels are very low (3-8 people on a 24 hour basis), and access to staff areas is limited.</p> <p>Regarding explosives related incidents, all stations are at equal risk as a target. However, similar to the active killer threat, staffing at</p>	<p>An active killer threat (or confirmed incident) at any of the fire stations would disrupt response services. Such a threat or incident at station 62 (headquarters) would affect response activities and administrative functions.</p> <p>Similarly, an explosives based incident at any of the stations would greatly disrupt response services. Such an incident at station 62 (headquarters) would affect response activities and administrative functions.</p>



		<p>station #62 increases the risk for loss of life and human injury. As for damage to SKFR infrastructure and resources, all responding stations (#61, #62, #63, #64, #65, #66 and #67) are heightened risk, due to the fact that such stations host responding apparatus and resources.</p>	
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### Hazard and Asset Overview Map(s)

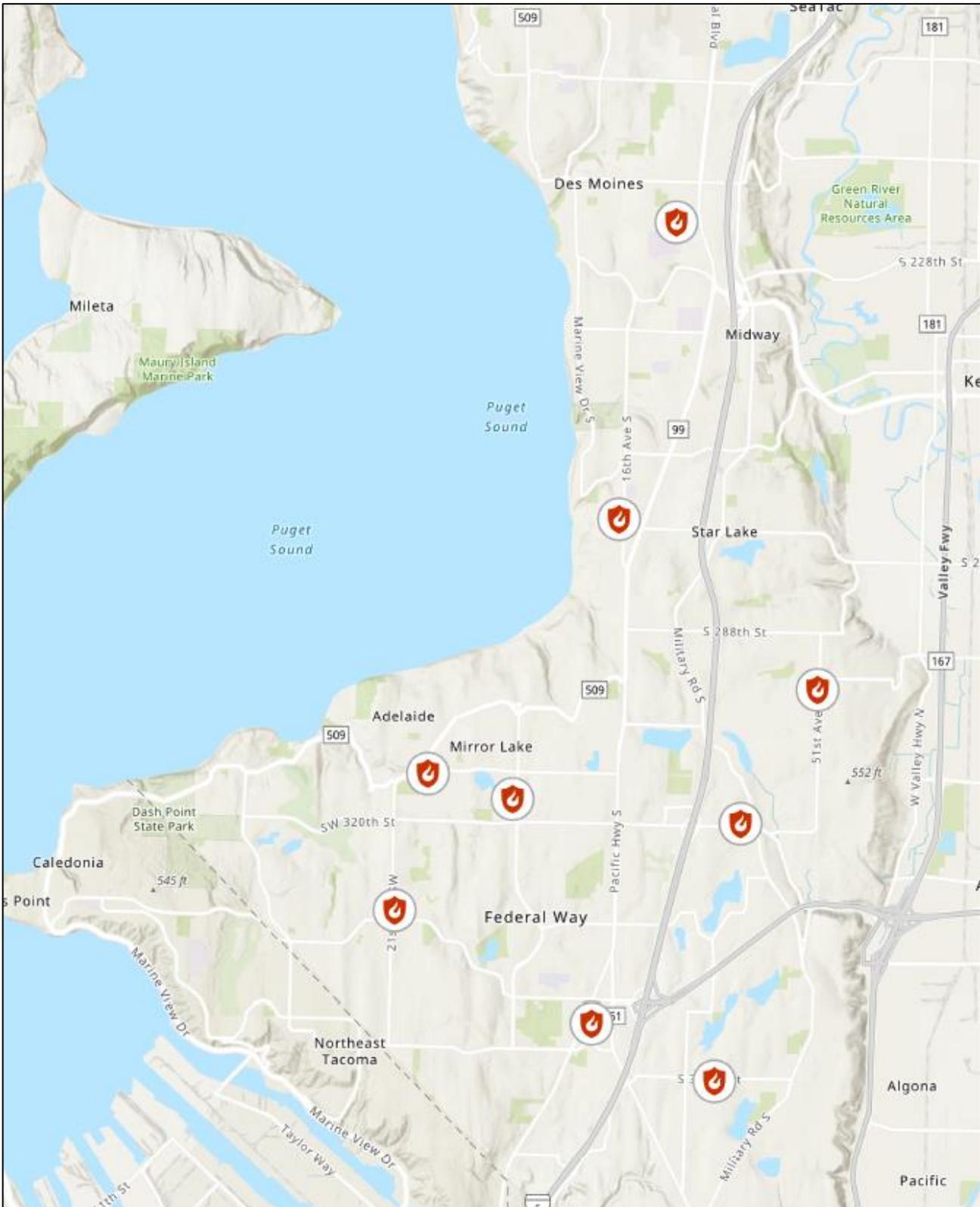


Figure 1: South King Fire and Rescue Facilities

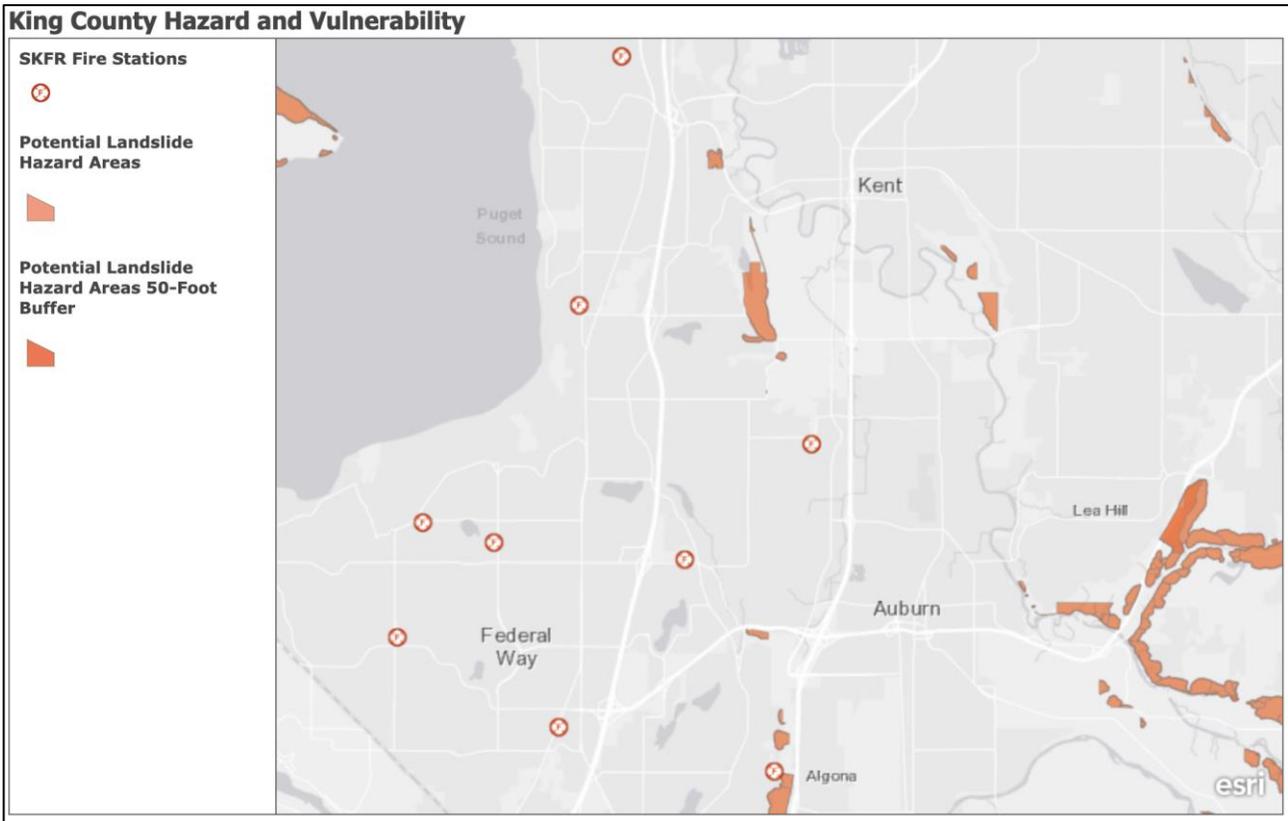


Figure 2: South King Fire and Rescue Landslide Hazard Areas



### King County Hazard and Vulnerability

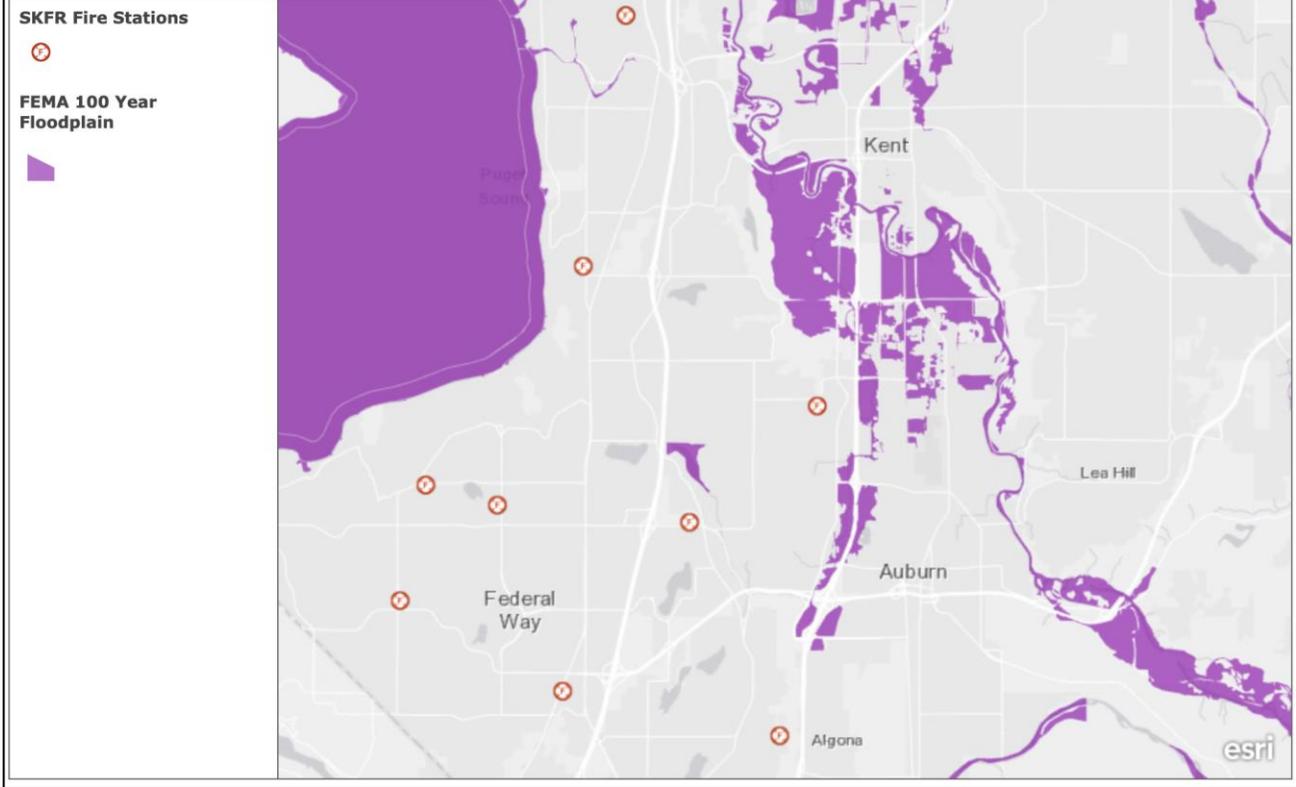


Figure 3: South King Fire and Rescue Flood Hazard Areas

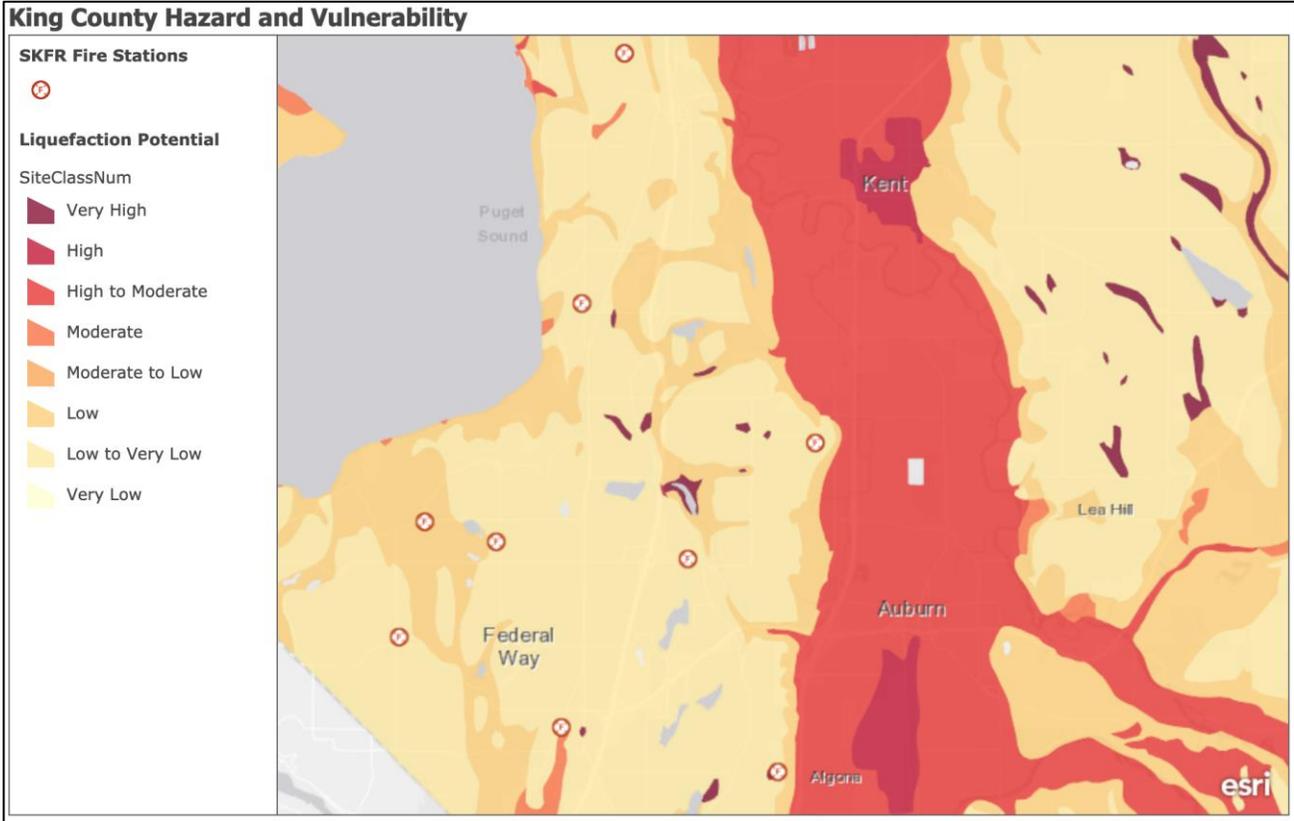


Figure 4: South King Fire and Rescue Liquefaction Hazard Areas

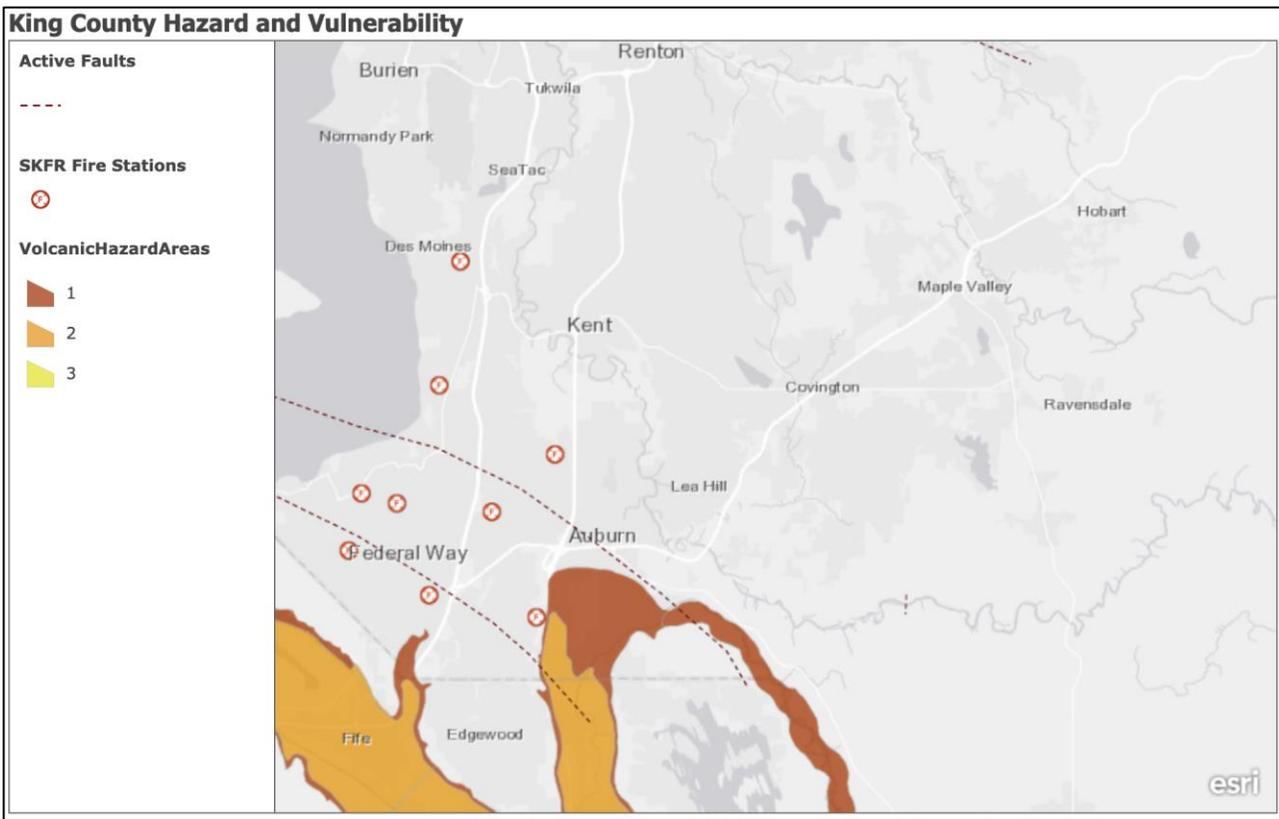


Figure 5: South King Fire and Rescue Volcanic / Labor Hazard Areas



### Assets at Risk

ASSET	VALUE (\$)	HAZARD SUMMARY	VULNERABILITY SUMMARY	IMPACT SUMMARY
<b>Facility #60 and contents*<sup>1</sup></b>	\$7.5 Million <sup>2</sup>	Facility #60 is at risk for earthquakes, minor liquefaction and severe weather (meteorological hazards).	This facility is currently being seismically hardened. No staff are working out of this facility, but the SKFR disaster medical cache is still staged at this location.	As a non-responding facility, damage to this facility is of no impact to the operational capacity of the agency. The economic impact of damage from any hazards would vary based on the level of damage to the facility and the contents.
<b>Station #61 and contents*</b>	\$2,940,400	Station #61 is at risk for earthquakes, landslides and for lahars (low risk).	This station has been structurally strengthened to withstand some ground shaking (geological hazards). This station is built to withstand severe weather.	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.
<b>Station #62 and contents*</b>	\$5,120,670	Station #62 is at risk for earthquakes and heightened risk for terrorism.	This station has yet to be seismically hardened, so the structure is at a higher risk for damage from geological hazards than other stations. This station is built to withstand severe weather.  Of all the SKFR fire stations, this station hosts the most apparatus, personnel and the battalion chief (and the B/C vehicle). Too, this station hosts the administrative staff, and most of the SKFR IT infrastructure.	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel. In addition, administrative functions and IT-based communications / functions could be delayed or disrupted.
<b>Station #63 and contents*</b>	\$2,772,750	Station #63 is at risk for earthquakes.	This station has been structurally strengthened to withstand some ground shaking (geological hazards).	If this station were to be damaged, response activities could be delayed due to trapped apparatus,

<sup>1</sup> “And Contents” includes furnishings, breathing air compressors, IT networks and equipment, fixed emergency power generators and more.

<sup>2</sup> Estimated total value for when facility #60 is fully renovated (projected for 2020-2021).



			However, in the face of extreme ground shaking (Magnitude 8+), the building would likely sustain some damage. This station has also recently undergone additional hardening for extreme weather events.	damaged apparatus, and/or injured personnel.
<b>Station #64 and contents*</b>	\$3,604,670	Station #64 is at risk for earthquakes.	This station has been structurally strengthened to withstand some ground shaking (geological hazards). However, in the face of extreme ground shaking (Magnitude 8+), the building would likely sustain some damage.	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.
<b>Station #65 and contents*</b>	\$2,1566,500	Station #65 is at risk for earthquakes and liquefaction	This station has been structurally strengthened to withstand some ground shaking (geological hazards). However, in the face of extreme ground shaking (Magnitude 8+), the building would likely sustain some damage, particularly from liquefaction.	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.
<b>Station #66 and contents*</b>	\$3,100,000	Station #66 is at risk for earthquakes.	This station has been structurally strengthened to withstand some ground shaking (geological hazards). However, in the face of extreme ground shaking (Magnitude 8+), the building would likely sustain some damage. This station has also recently undergone additional hardening for extreme weather events.	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.
<b>Station #67 and contents*</b>	\$2,566,500	Station #67 is at risk for earthquakes.	This station has been structurally strengthened to withstand some ground shaking (geological hazards). However, in the face of extreme ground shaking	If this station were to be damaged, response activities could be delayed due to trapped apparatus, damaged apparatus, and/or injured personnel.



			(Magnitude 8+), the building would likely sustain some damage.	
<b>Station #68 and contents*</b>	\$1,260,630	Station #68 is at risk for earthquakes and liquefaction.	This station has yet to be seismically hardened, so the structure is at a higher risk for damage from geological hazards than other stations. This station is built to withstand severe weather. This station is where some training is conducted, and where fleet and facilities is located.	If this station were to be damaged, certain activities could be delayed. If fleet and facilities services were delayed or not available, damaged apparatus, support vehicles and staff vehicles may not be repaired in a timely fashion (further delaying response capabilities).
<b>Fire engine pumpers and contents</b>	\$4,395,500	Fire engines (when not in service) are staged inside fire stations. Therefore, the engines are protected from the elements (meteorological hazards). However, the engines (while inside the apparatus bay) are at risk for damage from ground shaking events (falling debris, apparatus bay door malfunction etc.).	Depending on the fire station where each engine is stored, the risk for damage varies. For engines at stations #61, #63, #65, #66 and #67, engines are better protected due to the structural enhancements that have been accomplished. For engines at station #62, engines are at higher risk for structural damage from ground shaking. Station #68 does not host fire engines, unless the engines are undergoing maintenance, and there is no engine at station #64.	If any of the SKFR fire engines were to sustain damage or become trapped from extreme ground shaking or man-made incidents (terrorism), response operations would be affected.
<b>Ladder trucks and contents</b>	\$3,792,570	Ladder trucks (when not in service) are staged inside station #64. Therefore, the ladder trucks are protected from the elements (severe storms) and terrorism. However, the ladder trucks (while inside) are at risk for damage from ground shaking (falling debris, apparatus bay door malfunction etc.).	Station #64 been structurally strengthened to withstand some ground shaking (geological hazards). However, in the face of extreme ground shaking (Magnitude 8+), the building would likely sustain some damage, and both ladder trucks could be damaged.	If the two SKFR ladder trucks were to sustain damage or become trapped from extreme ground shaking or man-made incidents (terrorism), response operations would be severely affected (fire suppression).



<b>Ambulances / aid cars and contents</b>	\$1,326,475	Aid cars (when not in service) are staged inside fire stations. Therefore, the aid cars are protected from the elements (severe storms) and terrorism. However, the aid cars (while inside) are at risk for damage from ground shaking (falling debris, apparatus bay door malfunction etc.).	Depending on the fire station where each aid car is stored, the risk for damage varies. For aid cars at stations #61, #64 and #67, cars are better protected due to the structural enhancements that have been accomplished. For aid cars at station #62, cars are at higher risk for structural damage from ground shaking.	If SKFR aid cars were to sustain damage or become trapped from extreme ground shaking or man-made incidents (terrorism), emergency medical response operations (basic life support) would be greatly affected.
<b>Command vehicles and contents</b>	\$621,530	All command vehicles are kept parked outdoors, and are at risk for severe weather, and some are at risk for liquefaction.	Command vehicles parked outdoors are vulnerable to extreme weather. However, vehicles parked at stations #61, #65, and #68 are at heightened risk (comparatively) for damage from liquefaction incidents.	If command vehicles were to sustain damage or become trapped from extreme ground shaking or man-made incidents (terrorism), response operations would be affected.
<b>Support staff vehicles and contents</b>	\$953,750	Support staff vehicles are kept both outdoors and inside, depending on the day. Generally, the vehicles are kept outside, meaning they are risk for severe weather.	Staff vehicles parked outdoors are vulnerable to extreme weather. However, vehicles parked at stations #61, #65, and #68 are at heightened risk (comparatively) for damage from liquefaction incidents.	If staff vehicles were to sustain damage or become trapped from extreme ground shaking or man-made incidents (terrorism), response operations would be affected.
<b>Regional emergency medical equipment cache</b>	\$501,000	These supplies are staged at facility #60, meaning that the supplies are at risk for earthquakes, minor liquefaction and severe weather.	Facility #60 has not been seismically hardened, so the structure is at a higher risk for damage from geological hazards than other stations.	If Facility #60 were to become damaged, the medical cache may become inaccessible (facility structural instability) or damaged. If these emergency medical supplies were to become inaccessible or damaged, it is difficult to estimate the overall impact. However, it is probable that SKFR would need to lean heavily on regional Zone 3 partners for emergency medical equipment during large-scale events, such as a mass casualty event.



<b>Fuel Dispensing Equipment and Tanks</b>	\$280,000	Fuel storage and dispensing equipment are always located outside of buildings, usually in an employee parking area that is access controlled. Such resources are exposed to meteorological hazards like severe storms and geological hazards like earthquakes.	Fuel dispensing equipment and tanks are located on SKFR property at all fire stations (except facility #60), and are access controlled. Many if not all of the fuel tanks are protected by bollards, as all are at risk for human-caused damage (i.e., vehicular contact). These resources are fortified for metrological hazards, but are vulnerable to geological hazards.	Generally, all fuel dispensing equipment is fortified against all-hazards events. However, if there were extreme ground shaking (i.e., Magnitude 8+), there is potential for damage to the resources, limiting access for re-fueling on site. However, SKFR has access to dozens of regional third party fuel providers.
<b>HazMat trailer and contents</b>	\$145,000	Zone 3 HazMat resources are located at various staging points across the zone. SKFR hosts a HazMat trailer, for use by the Zone 3 HazMat teams. This trailer is generally staged inside (versus outdoors in a parking lot). Station 61 faces heightened risk of lahars and landslides, due to the elevation and proximity to Mount Rainier.	The HazMat trailer for Zone 3 is staged inside station #61. Short of major damage to the fire station, the trailer is at limited risk for damage.	The HazMat trailer is stored inside the fire station, making it susceptible to damage only if the station sustains damage from a lahar, landslide or earthquake / liquefaction. If the trailer were inoperable, a large strain would be placed on the Zone 3 HazMat mobilization process.
<b>Marine vessel and contents</b>	\$207,796	The marine vessel is staged at the Des Moines marina, inside the breakwater. This vessel is vulnerable to severe weather, and terrorism.	On average, the marine vessel is utilized for surface water rescue incidents for approximately 1-3 incidents per year. When not being used, the vessel is staged in the Des Moines Marina and access is controlled.	If the marine vessel were to be damaged (from the elements, accidentally or from terrorism), surface water rescue operations would be delayed. In this case, SKFR would have to utilize MOA/MOU with other jurisdictions to conduct surface water rescue operations.
<b>IT network and equipment</b>	\$2,000,000	The IT Infrastructure (servers, hardware, software, other equipment etc.) are located at stations #62 and #67, and are at risk for all hazards associated with those stations.	Stations #62 and #67 are at high risk for geological hazards (among other hazards). Therefore, the IT infrastructure could be compromised due to unforeseeable hazards (geological hazards).	Disruption or damage to the IT infrastructure located would definitely affect administrative functions and overall communications capabilities of the agency. The implications of such an outage would be



				immediate, and could last for days or weeks.
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## Plan Update Process

SKFR hazard mitigation planning began with participation in the multi-jurisdictional planning process led by King County Office of Emergency Management. The SKFR Emergency Management Coordinator (EMC) attending training and briefings, learning about the process and requirements for completion of the plan. Then, the EMC worked with the Assistant Chief of Special Operations and Emergency Management, to develop a plan to complete the SKFR annex to the Regional plan.

Next, a hazard risk analysis was conducted, evaluating the potential risks within the service district. Past SKFR mitigation-related documents were reviewed, as were King County hazard mitigation-related plans, and similar plans for the City of Des Moines and City of Federal Way. SKFR resources were assessed to evaluate the potential impacts on SKFR response capabilities, economic stability, life safety, communications, administrative functions and other functions of each type of regional hazard. This information was considered as the Hazard Mitigation Strategies were developed in an effort to mitigate the hazards as identified.

### *Jurisdiction Planning Team*

NAME	TITLE	ORGANIZATION	CONTRIBUTION
<b>Sarah Nuss</b>	Emergency Management Coordinator	South King Fire and Rescue	Plan development
<b>Dave Mataftin</b>	Assistant Chief of Special Operations and Emergency Management	South King Fire and Rescue	Plan development
<b>Rick Chaney</b>	Assistant Chief of Fleet and Facilities	South King Fire and Rescue	Plan development
<b>Joe Ganem</b>	Chief Financial Officer	South King Fire and Rescue	Asset evaluation
<b>Victor Pennington</b>	Fire Chief	South King Fire and Rescue	Supervisory
<b>Shannon Kirchberg</b>	Emergency Management Assistant	City of Des Moines	Plan development, asset evaluation

### *Plan Update Timeline*

PLANNING ACTIVITY	DATE	SUMMARY	ATTENDEES
<b>SKFR Internal planning meeting</b>	7/7/2019	Reviewed assets, hazard vulnerability / risk assessment, meeting schedule.	Dave Mataftin (SKFR), Sarah Nuss (SKFR)
<b>SKFR Internal planning meeting</b>	8/20/2019	Outlined estimated value of assets, developed hazard maps.	Dave Mataftin (SKFR), Sarah Nuss (SKFR), Victor Pennington (SKFR)
<b>SKFR Internal planning meeting</b>	9/3/2019	Planned public outreach event and reviewed data.	Dave Mataftin (SKFR), Sarah Nuss (SKFR)
<b>External planning meeting</b>	9/10/2019	Reviewed draft of risk assessment, planned public outreach events.	Shannon Kirchberg (city of Des Moines Emergency Management), Sarah Nuss (SKFR)
<b>SKFR Internal planning meeting</b>	9/17/2019	Reviewed work completed and discussed goals.	Dave Mataftin (SKFR), Sarah Nuss (SKFR)
<b>SKFR Internal planning meeting</b>	10/29/2019	Developed final goals and final edits to the document.	Dave Mataftin (SKFR), Sarah Nuss (SKFR)



### Public Outreach Events

EVENT	DATE	SUMMARY	ATTENDEES
<b>Public booth at the Des Moines Farmers Market</b>	Saturday 9/21/2019	<p>For this public outreach event, a “SKFR Hazard Mitigation Planning Process” informational booth was staged at the Des Moines weekly farmers market. This booth was staged adjacent to the booth for the City of Des Moines Emergency Management Division’s booth for Hazard Mitigation Planning.</p> <p>For the SKFR booth, there were large informational posters describing: soil liquefaction, hazard mitigation activities at SKFR (completed and planned), and hazard risks for each SKFR fire station. There were also free handouts provided for disaster preparedness, hazard mitigation planning and activity books for children.</p> <p>In addition, a “public polling” game was set up, in order to collect resident input on the most pressing hazard threats to the service area. Visitors to the booth were encouraged to vote if they lived in the service area (voting was optional), by choosing N=2 “tickets”, each ticket being associated with one of seven regional hazards (earthquakes, severe weather, flooding, landslides, tsunamis, liquefaction, drought). Voters were asked to place the ticket for the hazard that they considered to be the <i>number one hazard threat</i> to the area in one voting box (#1 hazard ticket box), and to do the same for the ticket for <i>the second most pressing area hazard threat</i> in a similar voting box (#2 hazard ticket box). Voters were given a small SKFR “swag” item for participating in the game.</p> <p>Game findings: When it came to voting for the #1 hazard to the service area, voters chose the following hazards: 45%- earthquake, 16%- severe weather, 13%-landslides, 10%-tsunami, 6%-flooding, 6%-liquefaction and 4%-drought. When it came to voting for the #2 hazard to the service area, voters chose the following hazards: 31%- landslide, 26%-earthquake, 17%-severe weather, 9%-tsunami, 9%-flooding, 6%-liquefaction and 3%-drought.</p>	Sarah Nuss, Shannon Kirchberg (City of Des Moines Emergency Management), Derrick Hiebert (KCOEM), and community residents.



## Jurisdiction Hazard Mitigation Program

Hazard mitigation strategies were developed through a two-step process. First, SKFR developed an internal planning team to identify a comprehensive list of mitigation strategies for agency assets. These strategies were then prioritized using a process established at the county-level and documented in the King County base plan.

The established hazard mitigation strategies at SKFR center around: fortifying the fire stations and apparatus (fire engines, ladder trucks, aid cars); safeguarding support and staff vehicles; protecting the life safety of personnel; protecting the natural environment and strengthening the overall capabilities of the agency to continue to deliver services to the community and to personnel (payroll etc.).

### Plan Monitoring, Implementation, and Future Updates

Overall, King County Emergency Management leads the mitigation plan monitoring and update process and schedules the annual plan check-ins and bi-annual mitigation strategy updates. As part of participating in the 2020 update to the Regional Hazard Mitigation Plan, SKFR agrees to convene the internal planning team at least annually to review progress on hazard mitigation strategies and to update the plan based on new data or recent disasters. The next plan update is expected to be due in April 2025, and SKFR will submit letters of intent to participate by 2023.

### Continued Public Participation

SKFR and its member cities (Des Moines and Federal Way) already maintain public outreach capabilities, focusing on personal preparedness, education and related trainings. Information on ongoing progress in implementing the hazard mitigation plan will be integrated into ongoing public outreach efforts. This will provide residents, already engaged in personal preparedness efforts, with context and the opportunity to provide feedback on progress and priorities in local-scale mitigation efforts.

### Integration into Other Planning Mechanisms

This updated mitigation plan will be the primary source for the 2019 SKFR Disaster Preparedness, Response Plans. Two new additions, are the Highly Infectious Disease (HID) Plan, and Intradepartmental Reconstitution Plan. In brief detail, the HID Plan provides direction to department members in how to respond to and deal with HID's. Like the rest of the world, COVID 19 required SKFR to develop a comprehensive response plan that provided direction to personnel to effectively deal with HID situations. It also shows consistency with the King South King Fire and Rescue Hazard Mitigation Plan

#### King County Overall 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



County Pandemic plan. The SKFR Reconstitution Plan is focused on the daily operations of the department’s personnel. If operating under some type of HID or Pandemic posture this plan provides direction to duty crews that need to make adjustments in how they “live” in a fire station. Three separate phases of operation have been identified with guidance for each.

## Hazard Mitigation Authorities, Responsibilities, and Capabilities

### Plans

PLAN TITLE	RESPONSIBLE AGENCY	POINT OF CONTACT	RELATIONSHIP TO HAZARD MITIGATION PLAN
<b>City of Des Moines Comprehensive Emergency Management Plan (release in 2020)</b>	City of Des Moines	Ken Thomas, Police Chief (206) 870-7604	The CEMP is directly related to the Hazard Mitigation Plan in that the CEMP: outlines regulations, the protection of vulnerable areas of the natural environment, geological hazard areas, flood risk areas and planning considerations for meteorological hazards.
<b>City of Federal Way Comprehensive Emergency Management Plan (2014)</b>	City of Federal Way	Ray Gross, Emergency Manager (253) 835-2712	The CEMP is directly related to the Hazard Mitigation Plan in that the CEMP: outlines regulations, the protection of vulnerable areas of the natural environment, geological hazard areas, flood risk areas and planning considerations for meteorological hazards.
<b>SKFR Capital Facilities Plan</b>	South King Fire & Rescue	Sarah Nuss, Emergency Management Coordinator (253) 347-8186	The Capital Improvement Plan is directly related to the Hazard Mitigation Plan in that any plans to modify or develop new physical infrastructure of the agency is included in the Plan. This plan is reviewed by agency leadership and the Board of Commissioners for funding considerations.
<b>SKFR Disaster Preparedness Plan (2019-2021)</b>	South King Fire & Rescue	Sarah Nuss, Emergency Management Coordinator (253) 347-8186	The SKFR Disaster Preparedness Plan relates to the Hazard Mitigation Plan in that it outlines hazard-specific mitigation activities for the SKFR facilities, apparatus, vehicles, personnel and more.
<b>SKFR Disaster Response Protocols (2019-2021)</b>	South King Fire & Rescue	Sarah Nuss, Emergency Management Coordinator (253) 347-8186	The SKFR Disaster Response Protocol document relates to the Hazard Mitigation Plan in that the document outlines response protocols by position (within SKFR), and builds upon the sister document, particularly the Hazard Mitigation elements of that document (the SKFR Disaster Preparedness Plan).

The above references support the hazard mitigation strategies of South King Fire and Rescue. Because of the agency’s status as a first responder, the infrastructure from which services are delivered are vital to agency’s mission and the safety of the community.

## Hazard Mitigation Strategies

SKFR was not a signatory on the 2015 King County Hazard Mitigation Plan, meaning that there were no previous hazard mitigation strategies (goals) to build upon. Therefore, the mitigation strategy development process began by developing new strategies for SKFR (“new” meaning that the strategies within this SKFR annex are “new” to the county-wide plan). Moving forward, SKFR leadership will consider the strategies as future budgets are developed and will work with regional partners to leverage funding options for accomplishing strategies that require funding considerations. For strategies that do not involve the need for additional funding (i.e., “support the implantation, South King Fire and Rescue Hazard Mitigation Plan



monitoring and maintenance of this plan”), job duties will be assigned to the appropriate staff, so that ongoing plan (and overall mitigation strategy) maintenance is established, accounted for and sustainable



### 2020 Hazard Mitigation Strategies

STRATEGY	LEAD AGENCY/POC	TIMELINE	PRIORITY
<b>SKFR 1:</b> Support public education programs and preparedness strategies consistent with county and local preparedness and mitigation goals.	South King Fire & Rescue	SKFR emergency management strives to develop, implement and support programs and strategies that are consistent with regional partners, in order to promote consistent messaging, activities and a more resilient community.	Medium
<b>SKFR 2:</b> Support the implementation, monitoring, maintenance and updating of this plan.	South King Fire & Rescue	This annex will be reviewed on an annual basis, or as needed to meet any 2020 mitigation goals. On a 5-year basis, this annex will be updated, as a part of the overall county-wide update process.	Medium
<b>SKFR 3:</b> Remodel facility #60 into two structures, to become a new fire station and an adjacent SKFR support facility.	South King Fire & Rescue	For facility #60, the retrofit process has already begun. For this facility, a large portion of the facility is being transformed into a “new” response-focused fire station. The other portion of the facility is also being updated, as a support facility. The remodel process includes retrofitting to meet current code, and to fortify the two portions of the facility to withstand a certain degree of ground shaking and liquefaction.	High
<b>SKFR 4:</b> Remodel fire stations #65 and #62, to include modifications to reduce impacts from ground shaking.	South King Fire & Rescue	For station #65, funding has been acquired and allotted. Retrofitting construction will likely begin in January of 2020, and ideally be completed by the end of 2020.  For station #62, funding sources and mechanisms are currently being investigated. The goal is to begin the remodel for this station within the next two years (as construction winds down for facility #60 and station #65).	High



## Hazard Mitigation Strategy

**Strategy #1: Support public education programs and preparedness strategies consistent with county and local preparedness and mitigation goals.**

<p>Lead Points of Contact (Title)</p> <p>South King Fire and Rescue, Emergency Management Coordinator</p>	<p>Partner Points of Contact (Title)</p> <p>City of Federal Way, City of Des Moines, King County Office of Emergency Management, Valley Regional Fire Authority.</p>	<p>Hazards Mitigated / Goals Addressed</p> <p>All-hazards</p>	<p>Funding Sources and Estimated Costs</p> <p>Costs: Staff time Funding Source: None</p>
<p>Strategy Vision/Objective</p> <p>The objective of this strategy is to develop, implement and support educational programs, preparedness strategies and other hazard mitigation related activities that are consistent with city and county level strategies /activities.</p>			
<p>Mitigation Strategy</p> <p>In order to create and provide accurate, consistent and well-planned activities / education related to emergency management (and specifically hazard mitigation), the SKFR emergency management division is dedicated to working closely with local (city and county) agencies. In 2018, SKFR hired a full time emergency management coordinator, with the intent to dedicate a full time employee to maintaining relationships with and working in coordination with local public emergency management entities. Moving forward, the emergency management coordinator will continue to work closely with local public agencies to ensure that all related such activities are parallel, and are designed to work towards the same goal of whole community preparedness and internal agency preparedness.</p>			
<p>2-Year Objectives</p> <ul style="list-style-type: none"> <li>Coordinate regularly with regional partners and stakeholders, in regards to preparedness and mitigation planning activities</li> </ul>	<p>5-Year Objectives</p> <ul style="list-style-type: none"> <li>Coordinate regularly with regional partners and stakeholders, in regards to preparedness and mitigation planning activities</li> </ul>	<p>Long-Term Objectives</p> <ul style="list-style-type: none"> <li>Coordinate often with local public agencies in regards to emergency management activities</li> </ul>	
<p>Implementation Plan/ Actions</p> <p>On a quarterly basis, the emergency management coordinator (or relevant staff) will identify (via the Zone three emergency management sector) which programs, activities, strategic planning initiatives or other projects should involve SKFR representation and support.</p> <p>As SKFR develops new plans, updates old plans, or enters into new cooperatives, the emergency management coordinator will connect with local public agencies to ensure the materials, program, implementation and other factors are consistent with regional planning activities and messaging.</p>			
<p>Performance Measures</p> <ul style="list-style-type: none"> <li>Participate in regional workgroups, projects and initiatives</li> <li>Reach out to regional partners to evaluate new or updated SKFR specific emergency management plans, programs, educational materials etc.</li> </ul>			



- Assist (as requested) regional partners with emergency management related activities and plan development

**Strategy #2: Support the implementation, monitoring, maintenance and updating of this plan.**

Lead Points of Contact (Title) South King Fire and Rescue, Emergency Management Coordinator	Partner Points of Contact (Title) City of Des Moines Emergency Management team; City of Federal Way Emergency Manager.	Hazards Mitigated / Goals Addressed  All-hazards	Funding Sources and Estimated Costs  Costs: staff time Funding Source: None
<b>Strategy Vision/Objective</b>  The objective of this strategy is to ensure that this annex is implemented, monitored, maintained and updated in a timely and organized fashion.			
<b>Mitigation Strategy</b>  SKFR will strive to meet all strategies outlined in this annex, in a timely fashion. The overall King County Hazard Mitigation Plan will be reviewed at least annually, to ensure that SKFR strategies are being accomplished in coordination with regional and local strategies.			
<b>2-Year Objectives</b> <ul style="list-style-type: none"> <li>• Consider mitigation funding through the annual SKFR budget review process</li> <li>• Continue participation at county and city level mitigation related events / activities</li> </ul>	<b>5-Year Objectives</b> <ul style="list-style-type: none"> <li>• Participate in the county-wide update process (every 5 years)</li> <li>• Identify evolving hazard threats and mitigation needs (internally)</li> </ul>	<b>Long-Term Objectives</b> <ul style="list-style-type: none"> <li>• Ensure that this plan is used regularly as a hazard mitigation planning tool</li> <li>• Strengthen collaboration and relationships with regional partners</li> </ul>	
<b>Implementation Plan/Actions</b>  SKFR will participate in future King County and Pierce County Mitigation efforts through attending meetings, staffing exercises and drills, and participating in plan development or update. The SKFR EMC will continue to provide educational trainings and events, in order to educate and prepare the public in regards to hazard mitigation and overall disaster preparedness. Finally, SKFR will support regional partners and stakeholders in the implementation and update of their mitigation activities, as relevant and as capabilities/ time allow.			
<b>Performance Measures</b> <ul style="list-style-type: none"> <li>• Annual progress reports to King County Office of Emergency Management (regarding the SKFR annex to the county-wide plan)</li> <li>• Feedback from regional partners and stakeholders</li> </ul>			





**Strategy #3: Remodel facility #60 into two structures, to become a new fire station and an adjacent SKFR support facility.**

<p>Lead Points of Contact</p> <p>South King Fire and Rescue, Assistant Chief of Special Operations and Emergency Management</p>	<p>Partner Points of Contact</p> <p>None</p>	<p>Hazards Mitigated / Goals Addressed</p> <p>Geological hazards, meteorological hazards</p>	<p>Funding Sources and Estimated Costs</p> <p>Costs: \$4.2M Funding Source: N/A</p>
<p>Strategy Vision/Objective</p> <p>The objective of this strategy is to modify an existing SKFR facility, to create a “new” responding fire station, and to modify the remaining structure into an adjacent facility (purpose TBD).</p>			
<p>Mitigation Strategy</p> <p>Agency leadership has identified that with the rise in call volume over the past few years, coupled with an increase in population and senior longevity, more SKFR response “coverage” will be needed in coming years. Essentially, more fire stations, apparatus and staff will be needed to deliver the level of response that is currently offered. In order to meet the coming needs, a “new” fire station will be strategically built, to increase the SKFR standards of cover in the service area. The mitigation benefits of an additional in-service fire station include more apparatus to respond if other SKFR apparatus are trapped or damaged, more personnel to backfill positions as needed, and an additional all-hazards fortified structure that can be used for an alternate SKFR Department Operations Center (or for other asset staging). Too, considerations will be made regarding the physical location of this new station, in order to stage a facility in a location that is of minimal risk for all-hazards incidents.</p>			
<p>2-Year Objectives</p> <ul style="list-style-type: none"> <li>• Finalize construction on the “new” fire station</li> <li>• Finalize construction on the adjacent facility</li> <li>• Hire staff for fire station</li> <li>• Acquire apparatus for the fire station</li> </ul>	<p>5-Year Objectives</p> <ul style="list-style-type: none"> <li>• Maintain the fire station to meet modern code and to physically withstand evolving threats (natural or manmade)</li> <li>• Establish function and purpose of the adjacent facility, and staff the facility as needed.</li> </ul>	<p>Long-Term Objectives</p> <ul style="list-style-type: none"> <li>• Maintain the fire station and adjacent facility to meet modern code and to physically withstand evolving threats (natural or manmade)</li> </ul>	
<p>Implementation Plan/Actions</p> <p>Remodel construction is already underway for the fire station portion and the adjacent support portion of the facility. The agency is in the process of identifying how many new hires may be needed to either staff the new station or backfill positions if existing staff is relocated to this station. Once construction of the fire station portion of the facility is completed, it will be fully staffed (to include new apparatus and/or new support vehicles) and will begin response operations. The agency is in the process of identifying the end-purpose of the adjacent support facility. As that determination is made, new staff will be hired or current staff relocated to meet the needs of the facility.</p>			
<p>Performance Measure</p> <ul style="list-style-type: none"> <li>• Completion of “new” fire station construction / remodel</li> <li>• Complete construction / remodel of adjacent facility</li> <li>• Purchase of apparatus and/or support vehicles</li> <li>• Hiring of new firefighters and other staff</li> </ul>			



**Strategy #4: Remodel fire stations #65 and #62, to include modifications to reduce impacts from ground shaking.**

<p>Lead Points of Contact (Title)</p> <p>South King Fire and Rescue, Assistant Chief of Special Operations and Emergency Management</p>	<p>Partner Points of Contact (Title)</p> <p>None</p>	<p>Hazards Mitigated / Goals Addressed</p> <p>Geological hazards, meteorological hazards</p>	<p>Funding Sources and Estimated Costs</p> <p>Costs for #65: \$1.3M Est. Costs for #62: \$4.6M Funding Source: N/A</p>
<p>Strategy Vision/Objective</p> <p>The objective of this strategy is to remodel / modify stations #65 and #62.</p>			
<p>Mitigation Strategy</p> <p>Because of the age of the stations, these two stations have been prioritized for remodel. The mitigation benefits of modifying these stations include additional hardening against geological hazards and meteorological hazards. Too, a remodel at station #62 will involve an improved SKFR Department Operations Center.</p>			
<p>2-Year Objectives</p> <ul style="list-style-type: none"> <li>Complete modifications to station #65</li> <li>Activate station #65 for full response operations</li> <li>Identify sources of funding for station #62 remodel</li> </ul>	<p>5-Year Objectives</p> <ul style="list-style-type: none"> <li>Acquire approval of funding for station #62 remodel</li> <li>Complete remodel of station #62</li> <li>Activate station #62 for full response operations (and administrative functions)</li> </ul>	<p>Long-Term Objectives</p> <ul style="list-style-type: none"> <li>Maintain stations #62 and #65 to meet modern code and to physically withstand evolving threats (natural or manmade)</li> </ul>	
<p>Implementation Plan/Actions</p> <p>For station #65, funding has been acquired and allotted. Retrofitting construction will likely begin in January of 2020, and ideally be completed by end of 2020. Once completed, existing staff will be assigned to work out of this station and existing apparatus will be restaged.</p> <p>For station #62, funding sources and mechanisms are currently being investigated. The goal is to begin the remodel for this station within the next two years (as construction winds down for facility #60 and station #65). Considerations for additional firefighters and/or support staff is also underway. Once completed, this station will continue to serve as SKFR headquarters (HQ), and as the location of the primary DOC.</p>			
<p>Performance Measures</p> <ul style="list-style-type: none"> <li>Completion of station #65 remodel</li> <li>Activation of station #65 as a responding fire station (i.e., fully staff with personnel, apparatus, supplies, equipment)</li> <li>Funding approval by SKFR leadership and Board of Commissioners for station #62 remodel</li> <li>Completion of station #62 remodel</li> <li>Activation of station #62 as a responding fire station and SKFR HQ (i.e., fully staff with personnel, apparatus, supplies, equipment)</li> </ul>			