# WILDFIRE MITIGATION PLAN

## May 2022

**Prepared For**:

Electrical Department,
City of Ashland, Oregon

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# SECTION 1: OVERVIEW

The Pacific Northwest has been experiencing large wildfire seasons over the last few years. Climate changes, low precipitation, and high temperatures have resulted in severe drought conditions which contribute to the increase in fire risk. According to the 2019 to 2021 *Northwest Annual Fire Reports* by Northwest Interagency Coordination Center (NWCC), as summarized in Table 1, Oregon's 2020 wildfire season became the most destructive in the state's history, burning about 1.15 million acres, which is 223% more than the 10-year average. The damage from the 2021 wildfire was not as severe as that of 2020 but still about 10 times that of 2019. Being prepared for the wildfire season is important in reducing the risk and impact of wildfires and can help save lives, properties, natural resources, and more. The process of reducing fire risk is an ongoing interagency effort and electric utilities play an important role.

*Table 1: Oregon Fire Occurrences and Acres Burned*
*[Sources: Northwest Annual Fire Report – 2019, - 2020, and - 2021, via: https://gacc.nifc.gov/nwcc/admin/publications.aspx]*

| Year | Total Fires | Total Burned Acres | % Above 10-Year Average Acres |
|---|---|---|---|
| ***2019*** | 2,293 | 79,732 | 28% |
| ***2020*** | 2,215 | 1,141,613 | 223% |
| ***2021*** | 2,202 | 828,778 | 125% |

## 1.1 Regulatory Requirements

### *1.1.1 2021 Oregon Senate Bill 762*

***[Source: https://olis.oregonlegislature.gov/liz/2021R1/Measures/Overview/SB762]***

2021 Oregon Senate Bill (SB) 762 is comprehensive legislation to help Oregon modernize and improve wildfire preparedness through three key strategies: creating fire-adapted communities, developing safe and effective responses, and increasing the resiliency of Oregon's landscapes.

Section 3 of SB 762 requires public utilities that provide electricity to have and operate a risk-based wildfire protection plan that has been filed with and evaluated by the Public Utility Commission (by December 31, 2021 as indicated in Section 5 of SB 762). The plan must be based on reasonable and prudent practices identified through workshops conducted by the commission pursuant to Section 2 of the Act and on commission standards adopted by rule. The public utility must design the plan in a manner that seeks to protect public safety, reduce risk to utility customers and promote electrical system resilience to wildfire damage. The Act also requires a public utility that provides electricity to regularly update the risk-based wildfire protection plan on a schedule determined by the commission. The plan must, at a minimum:

a) Identify areas that are subject to a heightened risk of wildfire and are:

   A. Within the service territory of the public utility; and

   B. Outside the service territory of the public utility but within a reasonable distance, as determined by the commission, of the public utility's generation or transmission assets.

b) Identify a means for mitigating wildfire risk that reflects a reasonable balancing of mitigation costs with the resulting reduction of wildfire risk.

c) Identify preventive actions and programs that the public utility will carry out to minimize the risk of utility facilities causing a wildfire.

d) After seeking information from regional, state and local entities, including municipalities, identify a protocol for the deenergizing of power lines and adjusting of power system operations to mitigate wildfires, promote the safety of the public and first responders and preserve health and communication infrastructure.

e) Describe the procedures, standards and time frames that the public utility will use to inspect utility infrastructure in areas that the public utility identifies under paragraph (a) of this subsection.

f) Describe the procedures, standards and time frames that the public utility will use to carry out vegetation management in areas that the public utility identifies under paragraph (a) of this subsection.

g) Identify the development, implementation and administration costs for the plan.

h) Identify the community outreach and public awareness efforts that the public utility will use before, during and after a wildfire season.

For consumer-owned electric utilities, Section 4 of SB 762 requires them to operate in compliance with a risk-based wildfire protection plan approved by the governing body of the Utility. The bill requires periodic updates of the plan and requires submission of the initial plan to the governing body no later than June 30, 2022, as indicated in Section 6 of SB 762. It also requires that the plan approved by consumer-owned electric utility governing body be submitted to the Public Utility Commission.

### *1.1.2 Public Utility Commission, Chapter 860, Division 300: Wildfire Mitigation Plans*

***[Source: https://secure.sos.state.or.us/oard/displayDivisionRules.action?selectedDivision=6618]***

Oregon Public Utility Commission (OPUC) Charter 860-300-0020 lists filling requirements for Wildfire Mitigation Plans similar to what's presented in SB 762.

### *1.1.3 Oregon Executive Order No. 20-04*

***[Source: https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf ]***

Executive Order (EO) 20-04 establishes Oregon State Governor's greenhouse gas emissions goals for Oregon and directs state agencies to identify and prioritize actions to meet those goals. EO 20-04 also provides specific directives to the Oregon Public Utility Commission (OPUC) regarding greenhouse gas emissions, impacted communities, and wildfire safety.

As EO 20-04 directs, OPUC must evaluate electric companies' risk-based wildfire protection plans and planned activities to protect public safety, reduce risks to utility customers, and promote energy system resilience in the face of increased wildfire frequency and severity, and in consideration of the recommendations made by the Governor's Council on Wildfire Response 2019 Report and Recommendations. OPUC is making related rules (Rulemaking AR 638) at present. The objective of the AR 638 rulemaking is to develop permanent administrative rules that address wildfire risk related to utility operations and services. In the short term, OPUC Staff proposes temporary rules related to Public Safety Power Shutoff (PSPS) Protocols and Ignition Reporting Requirements for the 2021 wildfire season.

In addition, OPUC shall convene periodic workshops for purposes of assisting electric companies, consumer-owned utilities, and operators of electrical distribution systems to develop and share best practices for mitigating wildfire risk. The requirement for periodically convened workshops for this purpose is directed in Section 2 of SB 762.

## 1.2 Purpose of This Effort

The City of Ashland (the City) is located in Jackson County, Southwest Oregon. In October 2020, Federal Emergency Management Agency (FEMA) worked with the City on an environmental assessment with a focus on wildfire mitigation considering many perspectives, including soils, topography, aesthetics, air quality, water, wetland, vegetation, wildlife, hazardous materials, noise, transportation, public utilities, etc. This Wildfire Mitigation Plan focuses specifically on mitigation strategies from the standpoint of electrical utilities.

The City provides all City utilities, including electric service. The City's Electric Department is one of the older municipal electric utilities operating in the State of Oregon and offers power to customers within its service territory. The City's Electric Department, as a public utility, is required to comply with all requirements specified in SB 762, as discussed in Section 1.1. The intent of this wildfire mitigation plan is to document and review the City's existing wildfire policies and procedures and develop an up-to-date wildfire mitigation plan that meets all requirements of the 2021 SB 762 and Oregon Public Utility Commission (OPUC). The overall objective of developing and executing a wildfire mitigation plan is to minimize possible sources of ignition, improve the system resiliency of the electric network, and identify and correct ineffective procedures. The focus of this Wildfire Mitigation Plan effort is the electric service territory of the City's Electric Department.

This report is based on the minimum requirements of a Wildfire Mitigation Plan, as specified in Oregon SB 762, with the remaining sections of the plan organized as follows. Section 2 describes the City's service area, electrical system, and existing fire mitigation programs. Section 3 presents the wildfire risk assessment of the City's service territory and its surrounding area within a reasonable distance. Section 4 introduces the proposed wildfire mitigation strategies based on a review of the City's existing program, electrical assets, wildfire risks, etc. Section 5 presents the mitigation plan from the perspective of public awareness and community outreach.

# SECTION 2: SYSTEM AND EXISTING PROGRAM

## 2.1 The Service Area

The City of Ashland's Electric Department is headquartered at the Operations Center located at 90 North Mountain Avenue within the City limits. The City distributes electric service within a 9.2 square-mile territory, most of which is on the west side of Interstate 5 (I-5). The service territory is shown in Figure 1 and the vast majority of the 12,648 customers are served within the City limits.

The City's electric system supplied approximately 175 million kWh annual retail electric energy for the year ending December 31, 2021, with a 2021 winter peak demand of 35.85 MW and a summer peak demand of 46.15 MW. The City owns and operates its distribution facilities and takes service from three substations:

- Mountain Avenue Substation, which the City is in the process of purchasing from BPA but has not taken ownership to date, serves four (4) City-owned distribution feeder circuits and has two (2) spare positions.
- Ashland Substation, which is owned and operated by PacifiCorp and serves four City-owned distribution feeder circuits.
- Oak Knoll Substation, which is owned and operated by PacifiCorp and serves three (3) distribution feeder circuits.

The transmission source to these substations is fed from a ring bus at PacifiCorp's Baldy Switching Station located in the Medford region. Line 19 originates at the Baldy Switching Station and is then tapped becoming Line 82, providing service to PacifiCorp's Oak Knoll Substation and continuing onto PacifiCorp's Ashland Substation. Between Oak Knoll and Ashland Substations, the line is again tapped to serve the BPA Mountain Avenue Substation. Alternate transmission sources are available to the Ashland area from PacifiCorp's Copco 2 and Sage Road facilities. In addition to the two substations, PacifiCorp owns and maintains a few poles in and adjacent to the City's service territory and city limits, as shown in Figure 2.

The City's distribution system (12.47/7.2 kV) consists of 52.7 miles of overhead three-phase and single-phase primary circuitry; and 79.5 miles of three-phase and single-phase underground primary circuitry. The electric facilities serve 12,648 residential, commercial, and industrial customers. A high-level view of the electrical feeder map is shown in Figure 3.

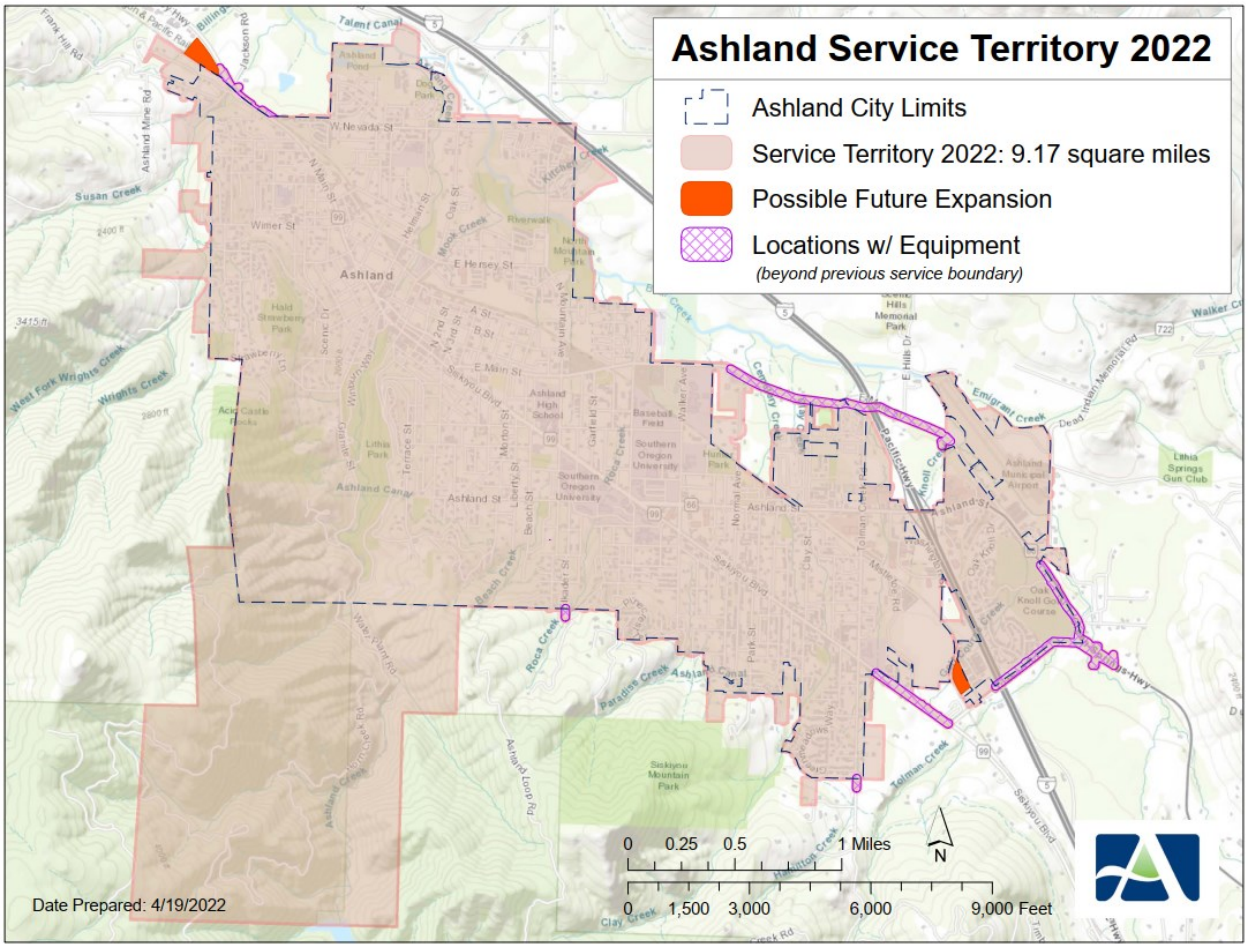



*Figure 1: Ashland Service Territory*

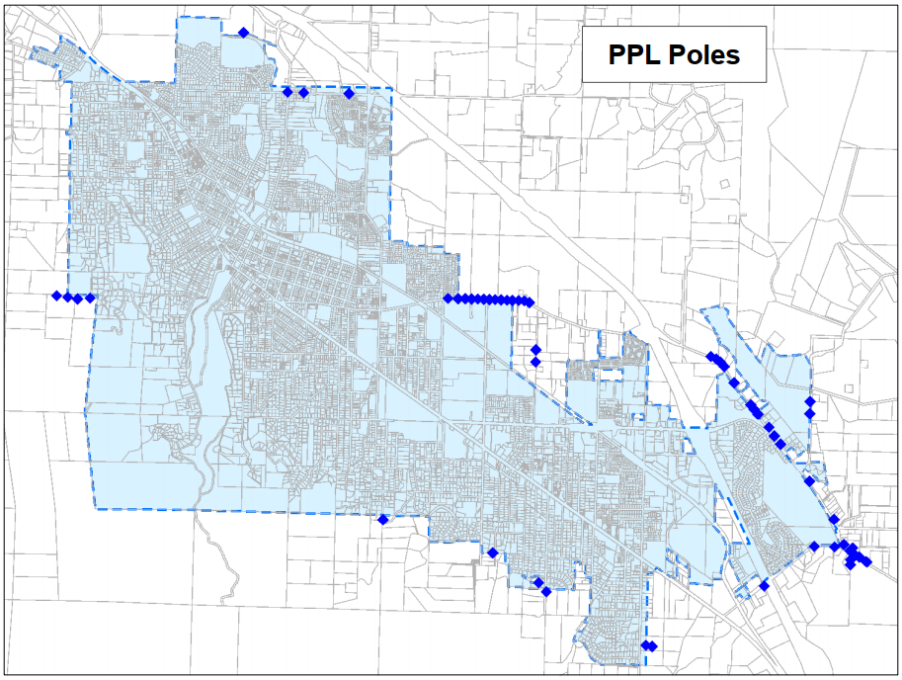



*Figure 2: Transmission & Distribution Poles Owned by PacifiCorp*

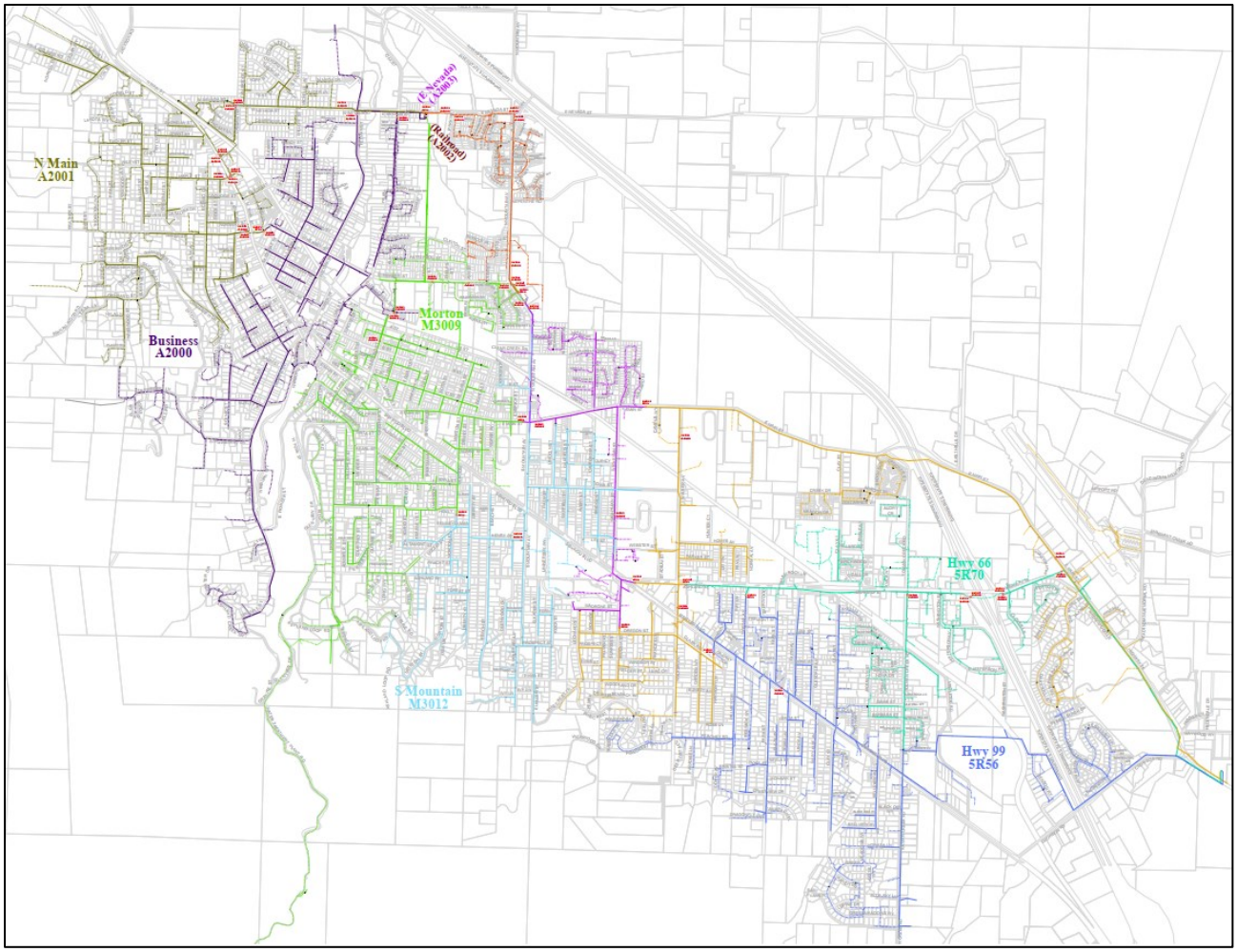



*Figure 3: City of Ashland Electrical Feeder Map – City Area Only*

## 2.2 Existing Program

Currently the City's Electric Department has some policies and initiatives in place regarding wildfire mitigation but does not have a documented plan as required by the PUC. The Electric Department has implemented several procedures, as noted below, to directly or indirectly reduce wildfire risks.

- Due to the utility's recent awareness of fire risk potential through the use of expulsion fuses in which the molten metal combined with ventilated gas could be a source of ignition for fire, the City has begun to change out expulsion fuses with current-limiting fuse (CLF) replacements in their western and southwest areas of the service territory. Expulsion fuses are not a good choice in areas that have high fire risks, and non-expulsion fuses or current-limiting fuses (CLF) are recommended replacements.
- In addition, due to the potential fire risk resulting from the use of wood cross-arms, the City has begun the replacement of wood cross-arms with fiberglass cross-arms and extensions to eliminate the potential of components prone to fire.
- The City has increased the installation of squirrel guards on pole tops to prevent animal contact resulting in short-circuits and potential fire ignition.
- The City has an aggressive right-of-way vegetation management program, focusing on the prevention of vegetation contact with overhead conductors and the reduction of fuel within the right-of-way in compliance with IEEE C2, *National Electrical Safety Code* (NESC), and the

requirements for public safety and fire prevention as defined in OPUC OAR 860.024.0016/0017. Crew personnel conduct right-of-way inspections annually and increase inspections during heavy growth seasons. This includes identifying vegetation and fire risk concerns during routine maintenance or service calls and taking corrective action.

- The City has circuit reclosers with reclosing relays installed for every City distribution feeder served out of Ashland, Mountain Avenue, and Oak Knoll substations. The City has an integrated system with all recloser controls through a centralized SCADA system. The SCADA system is capable of displaying fault alarms from all recloser relays and provides the ability to remotely operate all reclosers. This allows the City to disconnect any feeder quickly in case of a fire emergency.
- The City currently has three circuit reclosers installed outside substations on feeder circuits located within congested service areas to isolate portions of a circuit under faulted conditions. These circuit interrupters do not have reclosing enabled.
- The Electric Department is currently investigating the use of drone inspections to monitor and inspect the pole top and line conditions.
- The City has multiple cameras situated in and around the City that are available to monitor smoke and fire conditions. Presently cameras are placed at the following locations:
    - Water Treatment Plant Reservoir, two (2) cameras, one of them with rotating capability
    - Water Treatment Plant, two (2) cameras, one of them with rotating capability
    - East of I-5 (Squirrel Ranch) one (1) fixed direction camera with a viewing angle toward the City and one (1) camera with zoom/pan/tilt rotating capability
    - Downtown City Hall vicinity, two (2) cameras, one of them with rotating capability
- The Electric Department has performed a 10-year system planning study in 2014 and is planning to update that in two years.

These existing programs by the Electrical Department are beneficial in wildfire mitigation but alone are not sufficient to meet the minimum requirements in Oregon SB 762 for a risk-based wildfire mitigation plan for electric utilities. However, the Electrical Department is adopting this wildfire mitigation plan to comply with the new law. The Electric Department is also considering additional measures to enhance its program and is open and willing to adopt advanced wildfire mitigation plans and other modern technologies in power system protection and fire monitoring to further reduce the potential for wildfires over time.

# SECTION 3: WILDFIRE RISK EVALUATION

Typically, risk is a function of the probability of occurrence and the resulting cost/impact of the event. For a specific area, the overall wildfire risk depends on both the likelihood of a wildfire and the exposure and susceptibility of valued resources and assets combined. Within the City's service territory and the surrounding areas, the primary risk drivers for wildfire are the following:

- Weather and drought due to climate changes
- Terrain
- Fire history
- Vegetation type & density
- Communities at-risk – population and housing density

The Oregon Wildfire Risk Explorer (OWRE) is an open-source tool providing useful information for a customized area of interest to support Community Wildfire Protection Plans and other plan and policy developments. Most of the following figures and tables are statistics and illustrations generated for the area highlighted in the box shown in Figure 4. The full report is attached in Appendix A. The focus of this Wildfire Mitigation Plan for the City is primarily the electrical service area, which is mostly an urban area and has an irregular shape as shown in Figure 1. The boxed area in Figure 4 covers not only the City's service territory (boxed area) but also its surrounding area within a reasonable distance where wildfires are more likely to occur. The OWRE report provides statistics from the year 2008 to 2019 that can be used to develop an understanding of the wildfire risks within the area of interest.

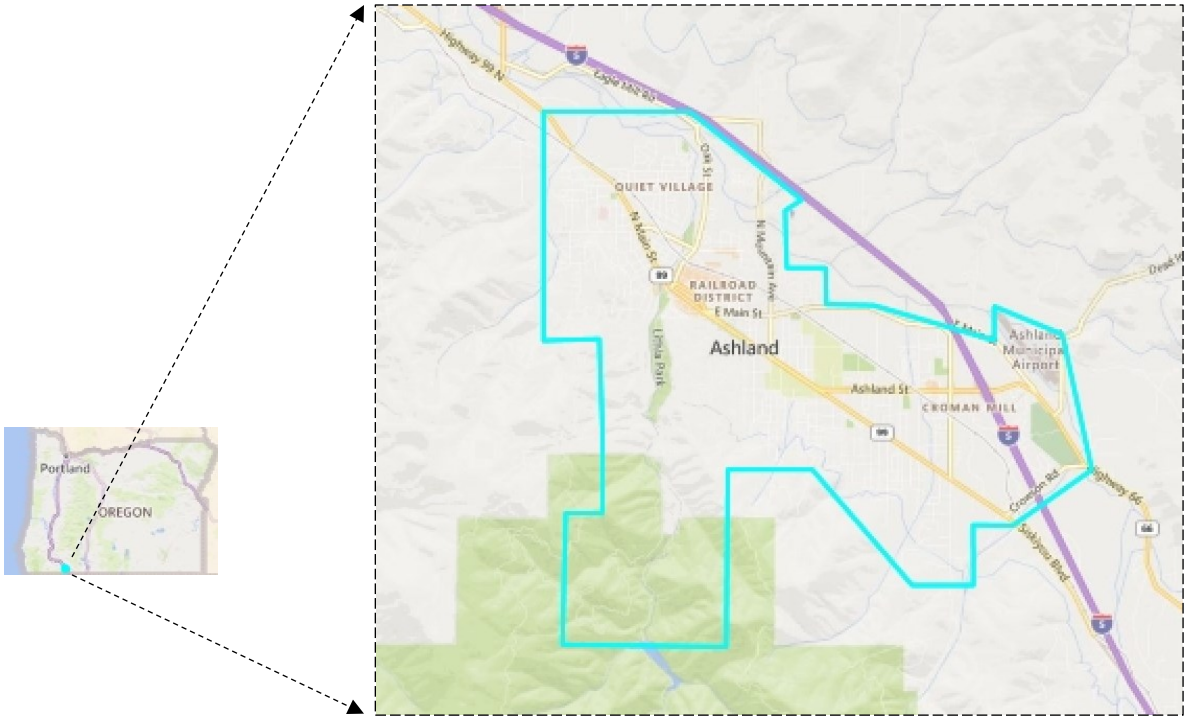
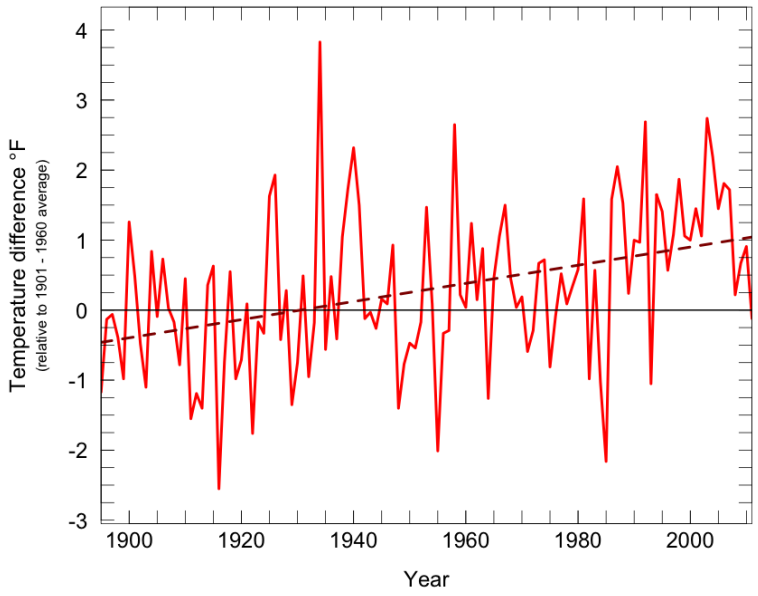



*Figure 4: Ashland Wildfire Mitigation Plan – Area of Interest*

## 3.1 Weather and Drought

In the past few years, the Pacific Northwest has experienced an increase in the occurrence and intensity of wildfires. There are a variety of factors including climate changes, topography, land and vegetation management, human activity in wildland, etc. that contribute to this trend. Global climate changes have caused increased temperatures and temperatures are projected to continuously increase for the remainder of the 21st century [Source: https://cig.uw.edu/learn/climate-change/]. According to the Climate Impact Group at the University of Washington, the Pacific Northwest warmed about +1.3°F (or +0.13°F/decade warming) between 1895 and 2011 (Figure 5) with statistically-significant warming occurring in all seasons except for spring. Figure 6 and Figure 7 show the monitored drought conditions in Oregon State and the City of Ashland from 2000 to present. These figures show that the most intense period of drought occurred in August 2021, where D4 (Exceptional Drought) affected 26.59% of land in Oregon and D3 (Extreme Drought) affected 90% of the Ashland and surrounding area in Jackson County. D3 (Extreme Drought) and D4 (Exceptional Drought) have persisted into 2022.




- The dashed line is the fitted trend;
- The solid horizontal line is the average temperature for 1901-1960;
- The red line is the average annual temperature

*Figure 5: Rising temperatures in the Pacific Northwest. [Source: https://cig.uw.edu/learn/climate-change/]*

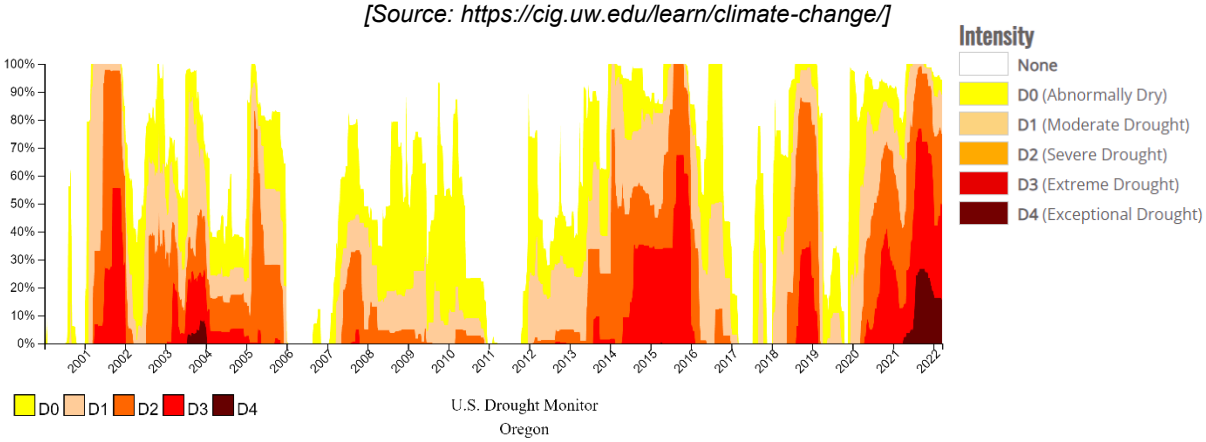



*Figure 6: Drought in Oregon from 2000 to Present [Source: https://www.drought.gov/states/oregon#historical-conditions ]*

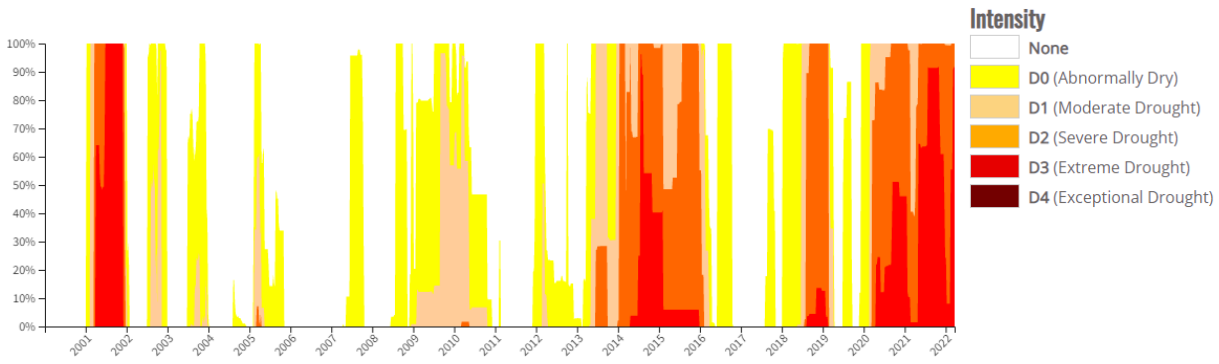



*Figure 7: Drought in Jackson County from 2000 to Present*
*[Source: https://www.drought.gov/location/Ashland%2C%20Oregon]*

## 3.2 Terrain

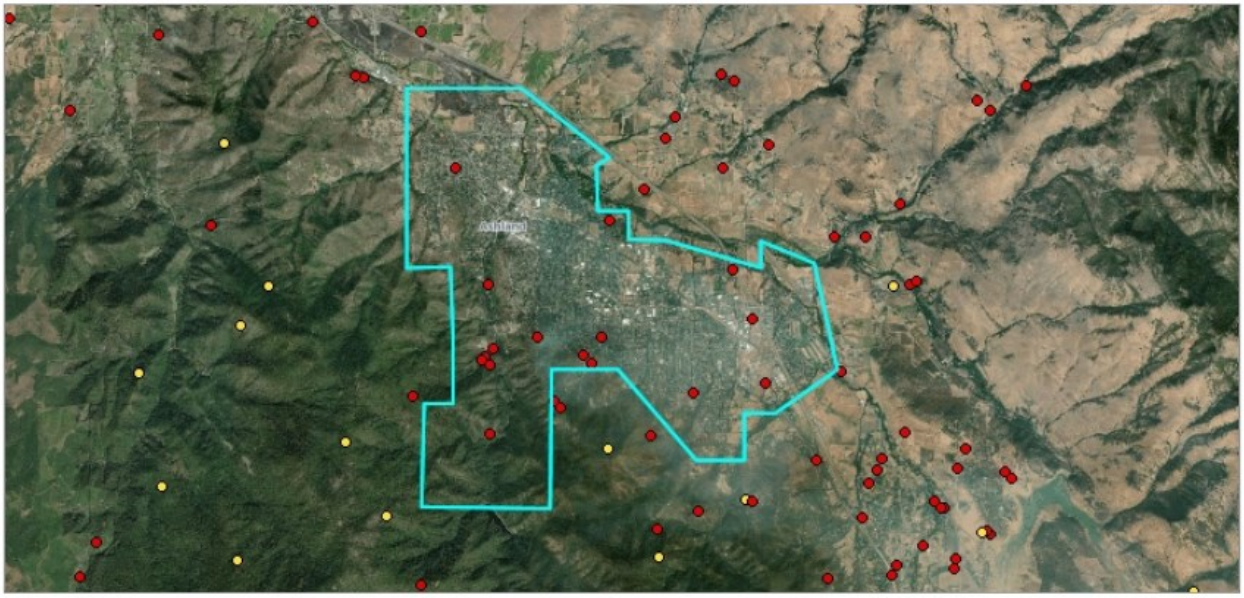
Although the City of Ashland is essentially urban with populated residential neighborhoods, it is a small community and abuts portions of heavily wooded regions of Siskiyou National Forest toward the southwest. Its service territory toward the east, north, and south are sparsely wooded and mostly surrounded by open space consisting of gentle rolling hills predominately made up of farmland (Figure 8), the majority of which are orchards and vineyards.

Detailed USGS topographical maps of the area can be found in Appendix B. Because of the region's western forested condition, the overgrowth of trees and ladder fuels needed to support fires are very prevalent.

*Figure 8: Google Earth 3D View from I-5 Towards South Direction*

## 3.3 Fire History

Knowing locations of higher risk and the probable causes of fires is important in developing awareness, prevention, and mitigation. According to the Oregon Department of Fire, 71% of fires recorded in Oregon are human-caused. Many of these fires are near populated areas, where fire suppression assistance is available in a timely manner. Lightning caused fires are about 29% of fire starts but tend to have more damage as they are often located in rural areas. Figure 9 illustrates the number of fire ignitions and their associated locations from 2008 to 2019 in the proximate area of the City of Ashland. There were 17 fires within the City's service territory in that period. None of them were considered large wildfires (>250 acres in one fire that is classified as a wildfire threat) and all of these fires were human-caused. During the same time period, Jackson County had approximately 2200 fires (Figure 10) with about 40% being caused by lightning, and more than 130,000 acres of trees were affected. The fires outside of the service territory could spread into the City's proximity quickly due to the density and continuity of the wooded area. It is important that the City collaborate with Jackson County on wildfire mitigation.



| | |
|---|---|
| Total Acres Burned | 11 |
| Total Number of Fires | 17 |
| Average Acres Burned Per Year | 1 |
| Average Fires Per Year | 2 |
| Percent Lightning Caused | 0% |
| Percent Human Caused | 100% |

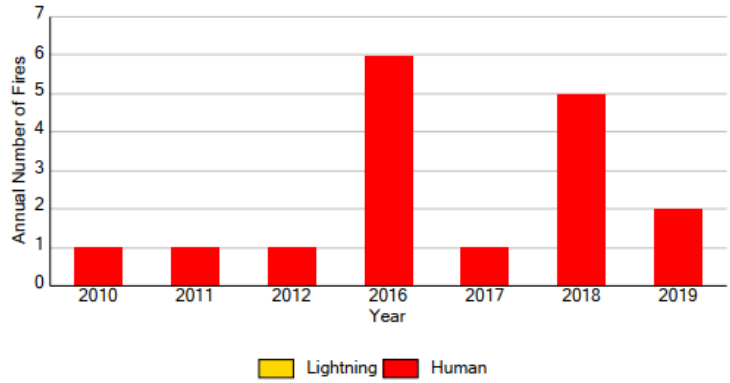



*Figure 9: Ashland - Number and Location of Fire Ignitions From 2008 to 2019*
*[Source: Appendix A "Oregon Wildfire Risk Explorer- Advanced Report - Ashland"]*

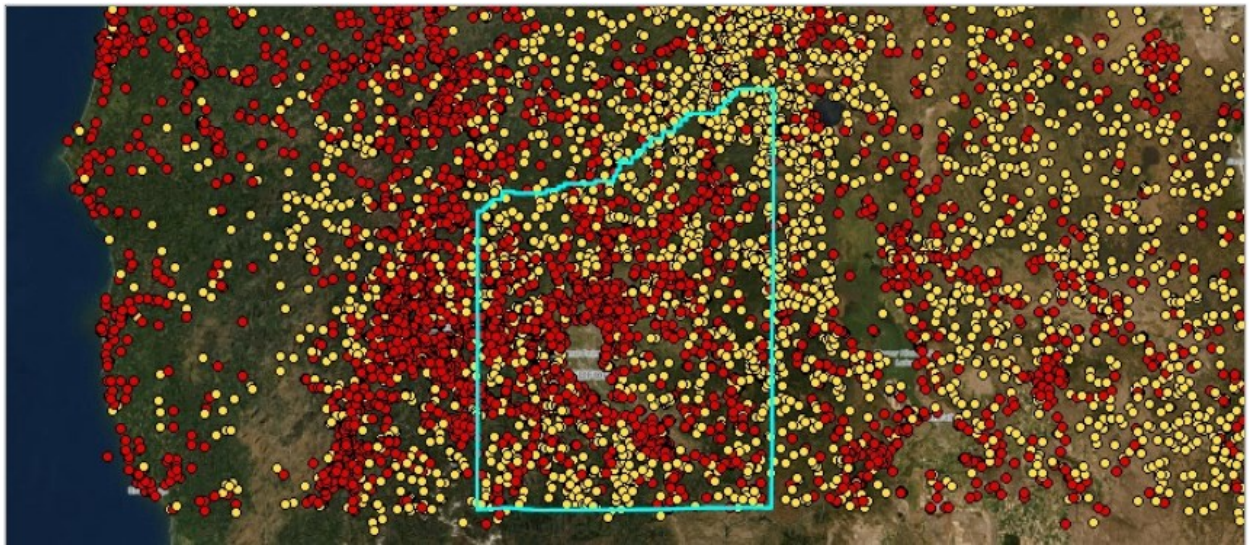


*Figure 10: Jackson County - Number and Location of Fire Ignitions From 2008 to 2019*
*[Source: https://tools.oregonexplorer.info/oe_htmlviewer/index.html?viewer=wildfireplanning]*

## 3.4 Vegetation

Vegetation has important influences on potential wildfire behavior and understanding the dominant vegetation type in an area is helpful in understanding the corresponding historical fire regime, which is the pattern, frequency, and intensity of the bushfires and wildfires that prevail in an area over long periods. Within the area of interest (Figure 11), 22% of the vegetation is conifer and located in the southwest of the area; 11% of the vegetation is agricultural and mostly located in the north of the area. The tree coverage outside of the service territory to the south and west directions is heavy. The vegetation type is one of the impacting factors in wildfire risks and fuel models. It forms the fire-carrying materials that make up surface fuels. Detailed fire model groups for this area can be found in Appendix A.

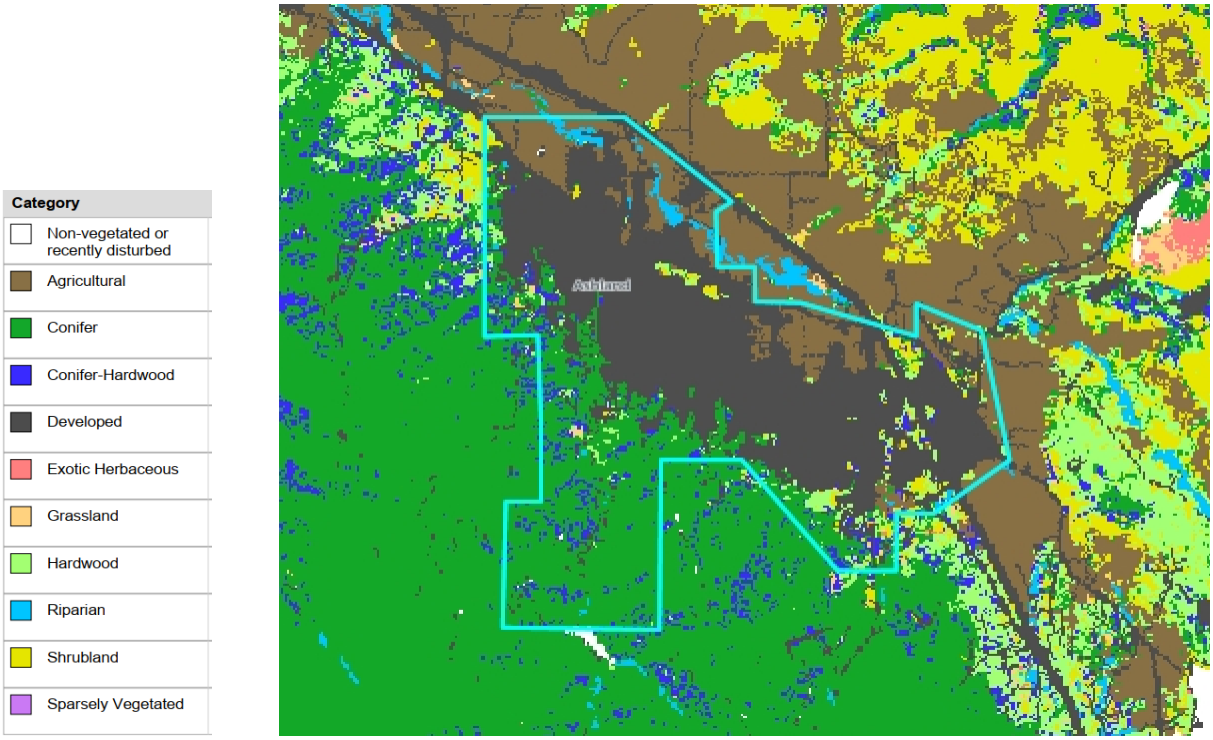



*Figure 11: Ashland - Vegetation Types [Source: Appendix A]*

## 3.5 Housing Density

Population density or housing density is one of the major concerns when assessing wildfire risk. It is especially critical in areas where houses and other developments meet or mix with undeveloped natural areas, for example in locations where houses and infrastructure are close to flammable wildland vegetation. Within the area of interest for this wildfire mitigation plan, the majority of the houses and populations are located in or near the Ashland city limits with an average household size is about 2.1 persons.

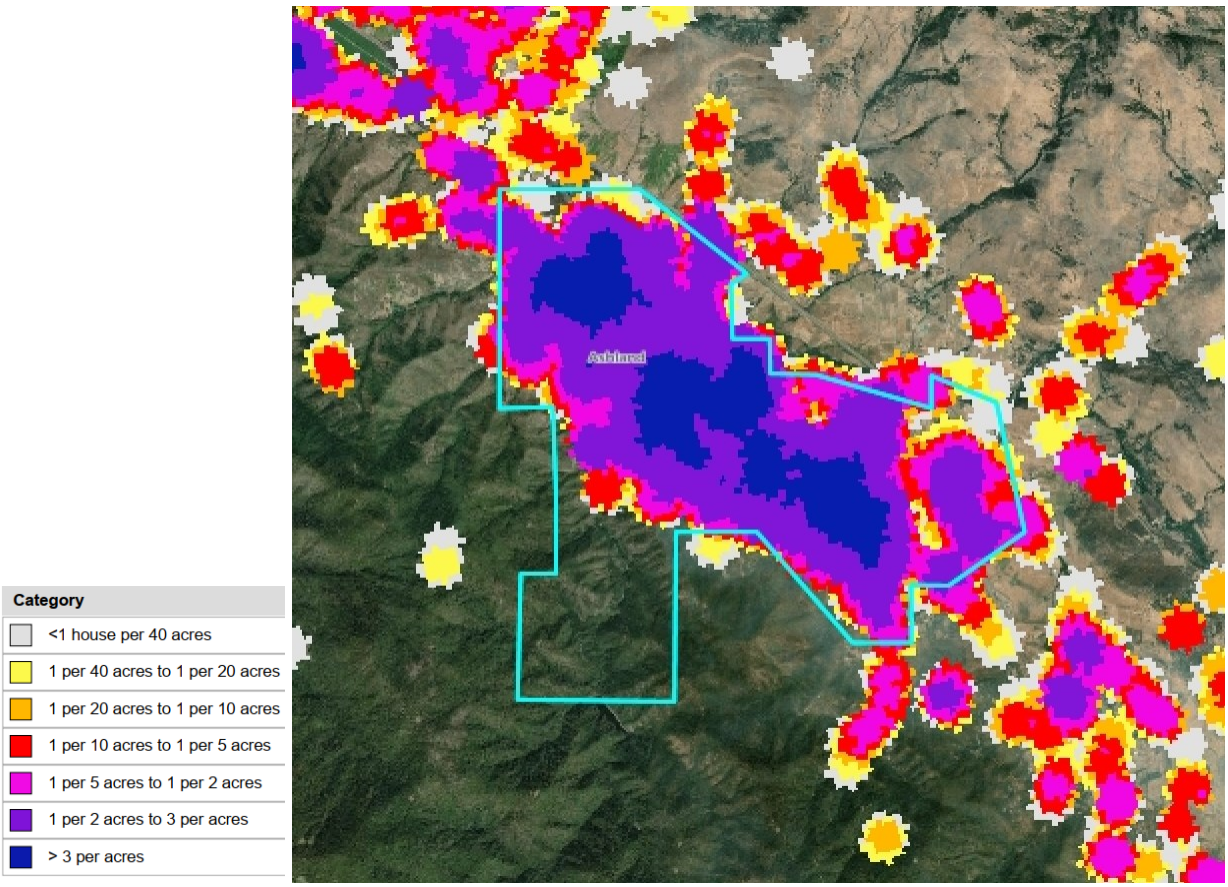



*Figure 12: Ashland - Housing Density [Source: Appendix A]*

## 3.6 Wildfire Risk Evaluation

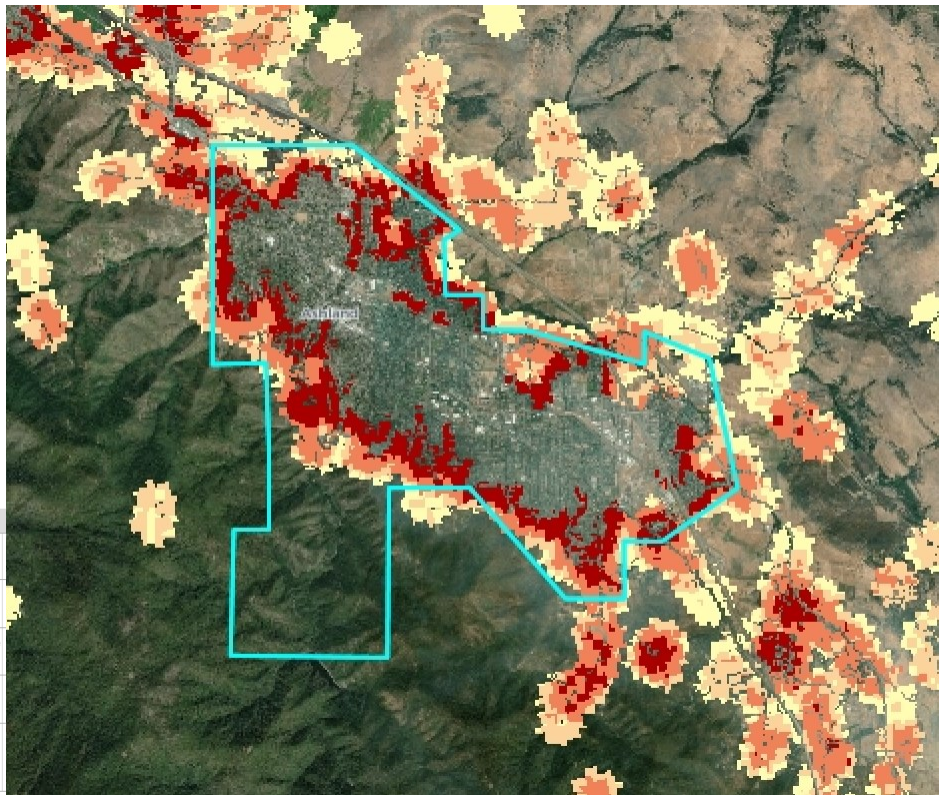
As discussed previously the overall wildfire risk depends on both the exposure and susceptibility of valued resources and assets combined and the likelihood of a wildfire. The OWRE database provides information about the wildfire's potential impact on people and property, as well as critical infrastructures in this area.

### *3.6.1 Potential Impact*

Potential Impact information classifies exposure and susceptibility only and does not include the possibility of an area burning. As can be seen in the legend, the data values reflect a range of impacts from very high to low negative consequences. Positive benefits of wildfire are not included assuming that any impact of wildfire on people's assets and infrastructure is negative.

Figure 13 illustrates wildfire's potential impact or consequence of wildfire on people and property including housing unit density and USFS private inholdings. Considering that the City's core urban area is more of a controlled environment covered by the City's Fire Department and Emergency Operations Plan, the wildfire's potential impact on the urban area is not shown. In the outskirts of the City where residential development transits to the area with more vegetation coverage (a.k.a., wildland-urban interface), the fire impact tends to be higher.

Figure 14 represents the exposure or consequence of wildfire on highly valued infrastructure, developed recreation, housing unit density, orchards, and historic structures. In this area, most of the highly valued infrastructure (i.e., freeway, transmission line, gas pipeline, etc.) is located north of the City.




| Category | Description |
|---|---|
| Very High | Wildfire risk is very highly negative to people and property (top 5%). |
| High | Wildfire risk is highly negative (80-95th percentile). |
| Moderate | Wildfire risk is moderately negative (50-80 percentile). |
| Low | Wildfire risk is slightly negative (0-50 percentile). |
| No Data | There are no highly valued resources or assets mapped in the area, or it is considered non-burnable. |

*Figure 13: Ashland - Wildfire Potential Impact on People and Property [Source: Appendix A]*


| Category | Description |
|---|---|
| Very High | Potential impact is very highly negative (top 5%). |
| High | Potential impact is highly negative (80-95th percentile). |
| Moderate | Potential impact is moderately negative (50-80th percentile). |
| Low | Potential impact is slightly negative (0-50th percentile). |
| No Data | There is no infrastructure mapped in the area or it is considered non-burnable (urban, agriculture, barren, etc.). |

*Figure 14: Ashland - Potential Impact on Infrastructure [Source: Appendix A]*

### 3.6.2 *Burn Probability*

Burn probability, as indicated in Figure 15, shows the annual possibility of occurrence of a wildfire greater than 250 acres in size, and considers various factors including weather, topography, fire history, and fuels (vegetation). Only large wildfires are considered because they have the most impact on the landscape. Smaller fires have a low influence on the broader landscape, but they can have significant impacts in areas with human activity and infrastructure. In this area, the majority of the fire occurrences in the past 10 years are less than 250 acres, and the burn probability is considered High in the wooded area south and west of the City.

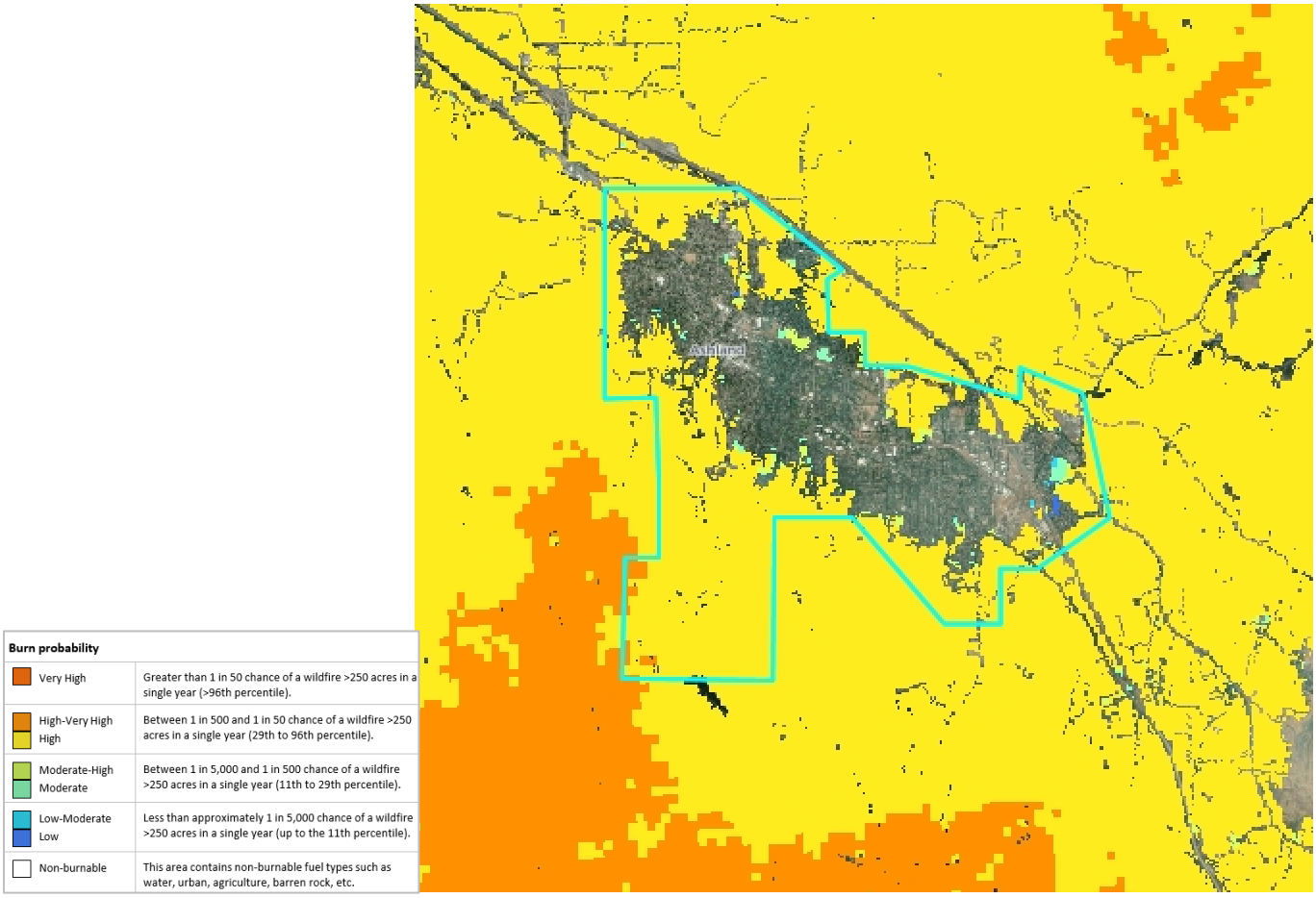
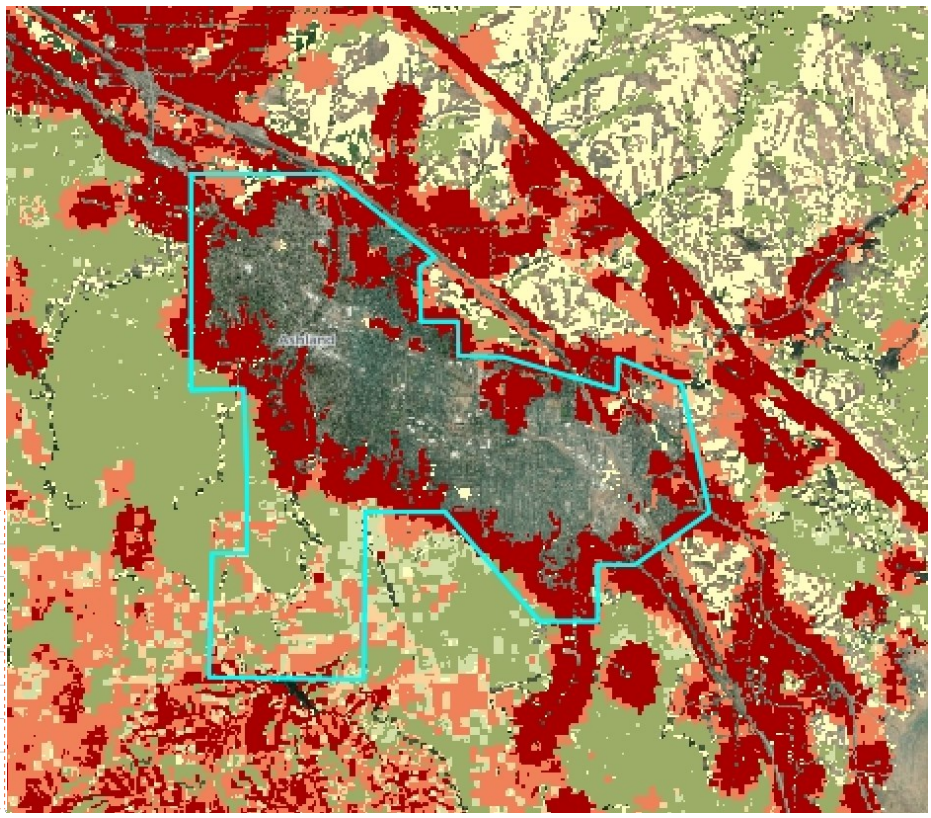



*Figure 15: Ashland - Burn Probability or Likelihood of Large Wildfire [Source: Appendix A]*

### 3.6.3 *Overall Wildfire Risk*

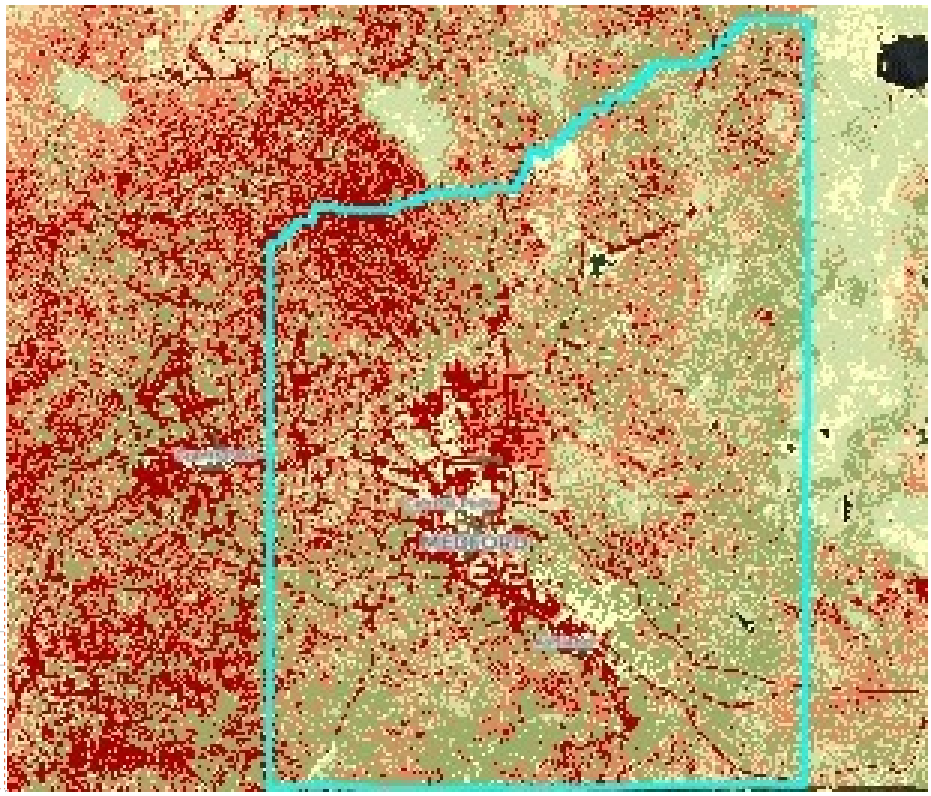
Figure 16 shows the overall wildfire risk, which combines both the probability of a wildfire and the expected impacts of a wildfire on highly valued resources and assets. Overall wildfire risk also reflects the susceptibility of resources and assets to wildfires of different intensities and the likelihood of those intensities. As indicated, the High and Very High wildfire risk areas are located around the borders of the core city area toward the south and west with residential development mixed with tree coverage, as well as the areas that have highly valued infrastructures, such as I-5 and the transmission lines in the northeast direction. The rest of the areas are classified primarily as Moderate or Low risks.

There are many areas in Jackson County that are classified as High and Very High risks. Fire can spread quickly during dry, hot, and windy weather. It is recommended that the City not only monitors the wildfire conditions within the service area but also in the surrounding areas and performs the mitigation as a collaborative effort.




| Overall wildfire risk: Legend | |
|---|---|
| Very High | Wildfire risk is very highly negative (top 5% of values). |
| High | Wildfire risk is highly negative (80th to 95th percentile). |
| Moderate | Wildfire risk is moderately negative (50th to 80th percentile). |
| Low | Wildfire risk is slightly negative(29th to 50th percentile). |
| Low Benefit | Wildfire is slightly beneficial (14.5 to 29th percentile). |
| Benefit | Wildfire is beneficial overall (0-14.5th percentile). |
| Non-burnable | There are no highly valued resources or assets mapped in the area, or it is considered non-burnable (urban, agriculture, etc). |

*Figure 16: Ashland - Overall Wildfire Risk [Source: Appendix A]*




| Overall wildfire risk: Legend | |
|---|---|
| Very High | Wildfire risk is very highly negative (top 5% of values). |
| High | Wildfire risk is highly negative (80th to 95th percentile). |
| Moderate | Wildfire risk is moderately negative (50th to 80th percentile). |
| Low | Wildfire risk is slightly negative(29th to 50th percentile). |
| Low Benefit | Wildfire is slightly beneficial (14.5 to 29th percentile). |
| Benefit | Wildfire is beneficial overall (0-14.5th percentile). |
| Non-burnable | There are no highly valued resources or assets mapped in the area, or it is considered non-burnable (urban, agriculture, etc). |

*Figure 17: Jackson County - Overall Wildfire Risk [Source: [https://tools.oregonexplorer.info/oe_htmlviewer/index.html?viewer=wildfireplanning](https://tools.oregonexplorer.info/oe_htmlviewer/index.html?viewer=wildfireplanning)]*

# SECTION 4: WILDFIRE MITIGATION STRATEGIES

The ultimate goal of the development and implementation of a wildfire mitigation plan is to protect people's life, property, infrastructure, and resources within and around the City's service area by reducing wildfire risk. The City can work towards this goal through the following perspectives.

- Minimize the source of the ignition while reducing or at least managing the fuel (vegetation) for the high-risk areas. This will require a series of wildfire mitigation strategies, which are built upon various asset management programs, vegetation management programs, equipment condition evaluation and upgrades, etc. to maintain a more safe, reliable, and resilient electrical system from the perspective of wildfire risk mitigation. These strategies will help not only reduce the number of wildfires caused by electric systems, but also prevent the spread of wildfires.
- React rapidly when electrical faults or fires occur by improved situational awareness, operational readiness, public safety power shutoffs, communication, crew training, etc. to minimize fault or fire duration. Interact with other emergency management agencies within and near the City's service area to consolidate the City's emergency response to wildfires.
- Maintain the developed wildfire mitigation plan. The plan should be evaluated and updated periodically regarding its effectiveness, and new industry practices and technologies that provide better risk reduction should be evaluated and added to the plan when necessary. This will help ensure the wildfire mitigation plan remains relevant and effective.

This wildfire mitigation plan defines the City's strategies for reducing fire risk such as situational awareness, defining a fire precautionary season, asset inspection and maintenance programs, system improvement plans, vegetation management, operational practices (e.g., reclosing relay setting protocols, restoration of service), and public safety power shutoff plans. These strategies can be organized in a hierarchical structure, as shown in Figure 18, with consideration for both the effectiveness and relative cost and impact of each strategy. Public Safety Power Shutoff is considered the last resort due to its disruptive impact. Detailed costs should be evaluated by the City depending on specific activities the City elects to perform. Additionally, the plan outlines roles and responsibilities for its implementation, performance metrics, deficiency identification, and an audit process.

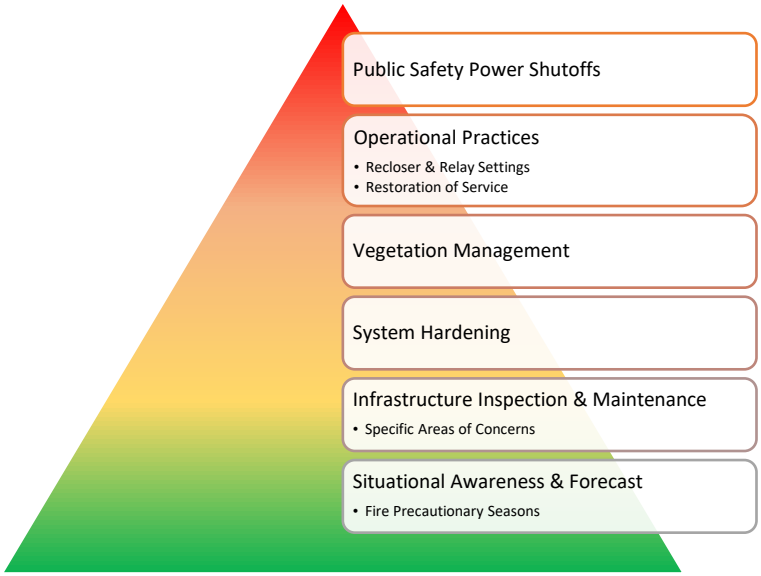



*Figure 18: Wildfire Mitigation Strategy Hierarchy*

## 4.1 Situational Awareness and Forecast

May is Wildfire Awareness Month in Oregon. The City's Electric Department utilizes various operational and situational awareness means to determine when de-energization or alternative operational practices are appropriate. These situations include:

- Weather data such as wind speed, wind direction, air temperature, barometric pressure, and relative humidity.
- City's SCADA system, and Camera Monitoring System
- Oregon Wildfire Response & Recovery
- Oregon Real-time Wildfire Mapping
- US Forest Service – Wildland Fire Assessment System.
- Red Flag Warning Map
- National Weather Service
- National Oceanic and Atmospheric Administration, Fire Weather Outlook

**Fire Precautionary Season**

Historically, southwest Oregon's fire season occurs between July and September, with mid-August to late-September producing the most vulnerable conditions for elevated fire risk. This wildfire mitigation plan considers the Fire Precautionary season to range from April 1st to November 1st of any year.

During the Fire Precautionary Season the City's Electric Department crews shall:

- Observe the requirements of the wildfire mitigation plan to patrol and prevent fires caused by vegetation management activities.
- Take steps necessary to ensure employees and subcontractors prevent ignitions directly or indirectly during work activities.
- Permit and assist with periodic testing and inspection of required fire equipment, and ensure any required compliance with specific fire precautionary measures of the wildfire mitigation plan prior to beginning operations during the Fire Precautionary Season. Ensure certification is updated when operations change.
- All fuel storage, service, and parking areas shall be cleared of flammable materials and debris within a radius of 15-feet unless otherwise specified.

## 4.2 Infrastructure Inspections and Maintenance

The City's Electric Department performs periodic inspections on its distribution facilities, which have an essential role in wildfire prevention. In recognition of the hazards possible from equipment that operates high voltage lines, the City maintains a formal inspection and maintenance program for distribution and switch station equipment. It currently patrols the system regularly and has increased the frequency of inspections in high-risk areas.

**Service Area Concerns**

Several areas of the City's circuits toward the western outskirts of town (Wildland-Urban Interface areas as shown in Figure 19) are constructed along heavily wooded regions that are susceptible to fire concerns. The electric system does have circuitry that enters these wooded areas served by the feeders noted below and adjacent to the following streets:

- N. Main Feeder – Thorton Way, Wright Creek Drive, and Westwood Street.

- Business Feeder – Strawberry Lane and Granite Street.
- Morton Feeder – Glenview Drive and Ash Loop Road.
- S. Mountain Feeder – Morton Street.

These areas and connecting tap streets are exposed to higher elevations and forested terrain. In addition, the City owns an overhead 'backup' three-phase circuit that extends 1 mile along Water Treatment Plant Road toward the west to the water treatment plant, which is normally de-energized but could be placed in service if needed.

These areas of wildfire potential can be minimized with the installation of weather monitoring and sectionalizing devices where circuits enter heavily wooded areas.

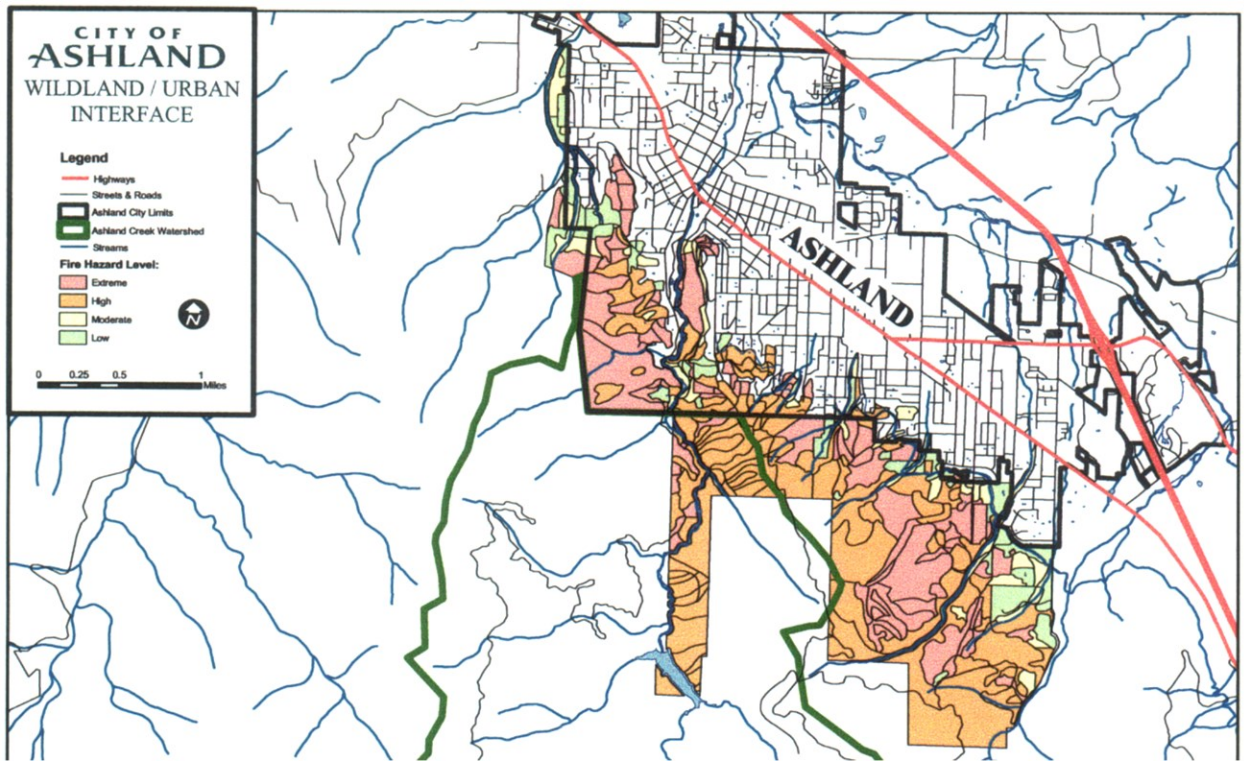



*Figure 19: City of Ashland Wildland Urban Interface and Fire Hazard Zones – v2002 [Source: https://www.ashland.or.us/Files/Ashland%20Wildland%20Urban%20Interface%20Analysis,%20Hazards,%20and%20Opportunities.pdf ]*

**Inspections and Maintenance Schedule**

The following table outlines inspection practices for the Electric Department. It summarizes the inspection schedule for all assets and provides inspection requirements for electric facilities. The schedule requires that an operator of electric facilities:

- Construct, operate, and maintain its facilities in compliance with the NERC, OPUC, OAR, and ORS wildfire mitigation rules.
- Conduct detailed inspections of its overhead facilities to identify violations of the safety rules.

*Table 2: Asset Inspection Schedule*

| INFRASTRUCTURE ASSET | INSPECTION TYPE | INSPECTION FREQUENCY |
|---|---|---|
| Overhead Distribution | Safety Patrol Inspection | Every 2 years |
| | Detail Inspection | Once every 5 years |
| | Intrusive Pole Test | Every 10 years |
| Underground Distribution | Safety Patrol Inspection | Every 2 years |
| | Detail Inspection | Once every 5 years |
| Substations | Detail Inspections | Monthly |

**NOTES:**
1.) Safety Patrol Inspections: consist of visual inspections of structures and equipment intended to discover any obvious physical problems and safety hazard concerns and can occur at the frequency noted above or during other electric department activities.
2.) Detailed Inspections: consist of careful examination of individual structures and equipment using specific site inspection tables, including device diagnostic testing as appropriate.
3.) Intrusive Pole Testing: consists of excavation and inspection of pole base to a depth of 18", inspections of pole exterior for decay and sound, and bore testing to determine voids with treatment to prolong life as appropriate.

## 4.3 System Hardening

The City's Electric Department has already begun to take measures toward system hardening of the electric facilities. These measures include system inspections, 10-year system planning study for upgrades (https://www.ashland.or.us/SIB/files/Administration/Electric_10_yr_study_2014.pdf ), fault response, protective device coordination, and the implementation of fire-resistive treatments and equipment installations.

The following fire mitigation measures have been recently performed by the Electric Department toward the implementation of a wildfire mitigation plan:

- Because of the Electric Department's awareness of fire risk potential through the use of expulsion fuses, the department has begun to change out expulsion fuses with current-limiting fuses (CLF) replacements in their west and southwest service territory. Expulsion fuses are not a good choice in areas that have high fire risks, and non-expulsion fuses or current-limiting fuses (CLF) are recommended replacements. The electric department should continue to install CLF fuses with installation concentrated on overhead three-phase and single-phase circuit taps that extend west into heavily wooded areas.
- Due to the potential fire risk that can result from wood cross-arms the Electric Department has begun the installation of fiberglass cross-arms and extensions to eliminate the potential of components prone to fire. This practice should be continued especially in heavily wooded areas.
- Due to the potential fire risk that can result from squirrel contact created faulted conditions, the Electric Department has begun the installation of protective squirrel guards to eliminate this potential cause of fire. This practice should be continued especially in heavily wooded areas.

The Electric Department may want to consider the following fire mitigation measures to aid in expanding their approach toward greater implementation of a wildfire mitigation plan:

- The installation of wildfire detection devices at specific locations, such as substations and on poles situated in areas that could be prone to wildfires. These unmanned devices continuously monitor the surrounding area, and ensure fast wildfire detection and notification, including weather data. They support both cellular and satellite communications and can be solar-powered. One such device is the Lindsey Firebird System.

- The Electric Department may want to investigate inserting a screen within the SCADA system that has access to the City's multiple monitoring cameras for fire notification and possibly to initiate an alarm if smoke or fire activity is noticed.
- The Electric Department may want to investigate the ability to upgrade the SCADA system to include control of the substation and field recloser. During initial installation remote control was inhibited until the department was comfortable with use of the SCADA systems. Implementing control would allow the department to initiate fast remote changes, such as changing settings, eliminating reclosing, or tripping open a circuit.
- The Electric Department may want to investigate the ability to install smoke/fire detection monitoring cameras with alarm capability at the northern water reservoir located at 201 Hitt Road, and the southern water reservoir located at 1511 Toleman Creek Road. Once installed, alarming and possibly monitoring should be integrated into the SCADA system.
- The installation of compact modular reclosers, breakers, or self-resetting vacu-fuse interrupters on three-phase and single-phase feeders that have circuits extending into wooded areas or beyond the city limits and/or in areas where the line crosses farmland or orchards. Example products are presented in Appendix D. These additional devices would allow one-shot operation in areas of high risk while allowing the more reliable reclose operation to continue for the remainder of the circuit not located in high-risk areas.
- The Electric Department uses both Type T and K expulsion style fuses for tap line protection and transformer protection. They are typical protective fusing for distribution systems. Expulsion fuses are fire-safe per the manufacturers' catalog. However, their primary characteristic is that they are vented devices in which, after their fuse element melts and arcs, the expulsion effect of the gases produced by the interaction of the arc with other parts of the fuse results in the current interruption in the circuit. The molten metal combined with ventilated gas could be a source of ignition for fire. These fuses are not a good choice in areas that have high fire risks. Non-expulsion fuses or current-limiting fuses (CLF) are recommended in the high-risk area. **Note**: for large and rural electrical systems, the current-limiting feature of the CLF may not be triggered due to low fault currents, but the non-expulsion feature is what provides the most benefit with regard to wildfire mitigation and the City should continue with its strategic installation.
- The installation of surge arresters with an arc protection system to eliminate the potential of molten metal ignition on ground cover in areas prone to wildfires.
- The application of an intumescent coating at the base of wood poles in areas prone to potential fire hazards. Such as Genics CobraTM SHIELD II a versatile and effective wood pole fire retardant product. The intumescent coating reacts to the fire or heat by expanding many times the original dry thickness limiting heat and oxygen to wood pole surfaces.
- The installation of flame retardant (FR) insulators on all new distribution construction. The insulators selected, such as Hendrix FR, should be tested in accordance with UL 94.
- Ensure that line construction conforms with NESC required component grade strengths and standards.
- Ensure that line construction conforms with NESC clearances and right-of-way requirements.
- In heavily wooded areas, and in particular areas with overhead exposed conductors passing through areas of very high risk as indicated in Figure 16, the City should consider undergrounding the primary conductor or installing insulated 'tree-wire' and 'transformer riser wire' for primary, secondary, and transformer connections where limited right-of-way space is available to prevent contacts.
- Consider the use of fiberglass cross-arms. The utility industry offers a wide variety of fiberglass cross-arms with built-in UV and fire resiliency protection for power systems. These levels of protection significantly extend the cross-arms life in harsh environments and formulated resins give cross-arms a V-0 fire-resistant rating.

- Wood poles treated with preservatives remain the choice for most utilities, and there is no data available that compares the fire resistance of alternate galvanized steel, concrete, or fiber-reinforced poles. Poles of any material have wildfire risk minimized when vegetation is kept a safe distance away from the pole, regulations vary but maintaining 6-10 feet horizontal clearance around poles is suggested.

## 4.4 Vegetation Management

The City has an aggressive right-of-way vegetation management program, focusing on prevention of vegetation contact with overhead conductors and the reduction of fuel within the right-of-way in compliance with IEEE C2, *National Electrical Safety Code* (NESC), and the requirements for public safety and fire prevention per OPUC OAR 860.024.0016/0017. The approach consists of hand-cutting vegetation and dangerous trees in and along the outskirt edges of the right-of-way plus the application of herbicides to prevent re-growth. Crew personnel conduct right-of-way inspections annually and increase inspections during heavy growth seasons. This includes identifying vegetation and fire risk concerns during routine maintenance or service calls and taking corrective action.

Vegetation in proximity to power lines is trimmed with work performed to the noted guidelines to provide reasonable service continuity, public safety, and guard against forest fire damage caused by supply conductors. When conducting routine maintenance of power lines and equipment, Electric Department crews also identify and remove high-risk fuel sources, plus address vegetation concerns during routine service calls to remove at-risk vegetation.

The crews perform scheduled ground-based inspections of tree and conductor clearances and hazard tree identification to ensure all lines are inspected for vegetation hazards and trimmed on a regular 10-year timeline. The inspections target areas for vegetation pruning or removal to ensure compliance with state and federal regulatory requirements and standards in OAR 860-024. The objective is to achieve up to 10-feet of clearance during tree work, and includes vegetation removal from secondary voltage, service drops, and pole climbing space performed to conform with *the American National Standards Institute* (ANSI) A300 concepts and utility pruning.

## 4.5 Operational Practices

As fire season approaches each year, fire precaution levels increase. The City's Electric Department should adjust work practices and system operations accordingly. These adjustments are coordinated with Industrial Fire Precaution Levels (IFPL) and escalate with increasing wildfire danger. Some practices are intended to mitigate the risk of fire ignition and others are in place to control and extinguish any accidental fire before it grows out of control. During the Fire Precautionary Season the City's Electric Department crews shall:

- Comply with the wildfire mitigation plan requirements and responsibility for patrolling and preventing fires caused by vegetation activities.
- Ensure City employees and subcontractors prevent ignitions directly or indirectly during their work activities.
- Update certification tag with periodic testing and inspection of required fire equipment.
- Ensure equipment service areas, parking areas, gas/oil storage areas are cleared of flammable material for a safe radius of at least 10-feet.
- Coordination with other entities that work to minimize the possibility for the electric utility to cause a wildfire.

Proactive, day-to-day actions include safety training and involvement in emergency management planning. Measures to mitigate wildfire risks are taken to ensure preparedness in high-risk situations, such as dry and windy climatological conditions.

**Recloser Operational Practices**

There are circuit reclosers with reclosing relays on all City's distribution feeders. Reclosing helps keep the circuits energized after momentary faults and trip a circuit off-line when a permanent fault occurs. The City does not typically disable automatic reclosing functions at substations due to weather-related conditions. However, before line work or field operations work begins, reclosers are set to the 'one-shot' alternate setting (or Hot-Line Tag) to block the reclosing function. In addition, the configuration of a circuit determines the reclosing cycle. For example, for a fully undergrounded circuit, reclosing should not be enabled; while for a partially undergrounded circuit, the reclosing cycle is carefully set to provide proper protection for the circuit. Similar considerations apply if any feeder goes into a heavily wooded area.

In accordance with the wildfire mitigation plan, the City's Electric Department personnel will assess resetting reclosers serving high-risk areas to Hot-Line Tag mode when conditions suggest a potential for fire danger. By placing reclosers in Hot-Line Tag mode, they become sensitive to line disruptions and protect the system with rapid disconnect/de-energization of power lines. See additional discussion on this topic in Section 4.3 System Hardening.

**Restoration of Service**

After a fault the City's Electric Department shall not restore service until the area of trouble is fully patrolled, repaired or isolated, and tested by following the City's operation and maintenance procedures. The City should follow this same protocol in the event of a wildfire.

## 4.6 Public Safety Power Shutoffs

One of the most effective and highly scrutinized mitigation measures is the Public Safety Power Shutoff (PSPS). PSPS is the proactive de-energization of power lines that are forecasted to be in the path of critical fire weather conditions. For utilities that strive to provide reliable electric energy to customers 100% of the time, intentionally turning off the power is the last resort. However, removing these vulnerable lines from service eliminates the risk of ignition. While effective in protecting customers, first responders, and property, PSPS events are extremely disruptive to customers' lives.

Electric utilities are undertaking risk-based initiatives to limit the scope, duration, and frequency of PSPS events to minimize impacts. These initiatives include system hardening, installing additional sectionalizing devices, installing weather stations, high-definition cameras, and using data to predict high fire threat areas and areas of increased risk of fire spread.

This wildfire mitigation plan details the City's electric utility initiatives and activities for reducing the risks of its circuits and equipment from igniting wildfires in high fire risk areas of the utility service territory. These risks associated with equipment vary depending upon several factors: age and condition, population density (ingress and egress), surrounding climate, terrain and vegetation, voltage class, type of construction, and policies and regulations around land/forest management.

Newer technologies and increased data capture enable utilities to perform risk analysis at the asset level, allowing them to prioritize activities and develop initiatives for specific circuits and equipment. This provides for more effective and efficient mitigation.

PSPS is a recent development in the strategies used by electric utilities to help keep the public and communities safe. A PSPS proactively de-energizes power circuits during high wind events combined with hot and dry weather conditions. The City's Electric Department in consultation with the local Public Safety Providers will evaluate the value of a PSPS. When considering a PSPS, the City will also examine

the impacts on fire response, water supply, public safety, and emergency communications. In addition, the City will consider the external risks and potential consequences of a PSPS while striving to meet its main priority of protecting the communities it serves. These include:

- Potential loss of water supply to fight wildfires due to loss of power at wells and pumping facilities.
- Negative impacts on emergency response and public safety caused by power outages and disruptions to the internet and phone services.
- Loss of community infrastructure services that occurs during power outages.
- Medical emergencies for the community requiring powered medical equipment or refrigerated medication needs, plus the loss of air conditioning impact on medically vulnerable community.
- Negative impacts on medical facilities.
- Traffic disruption and congestion from de-energized areas resulting in reduced response times for emergency providers.
- Economic impacts on businesses due to closure during an outage.
- Inconveniences to community due to the loss of electric facilities during a wildfire event that can lead to injuries and fatalities.

The risks and potential consequences of initiating a PSPS are significant and extremely complex. Based on the considerations noted previously, the City reserves the option of implementing a PSPS when conditions dictate. While the City may consider the risks of implementing a PSPS outweigh the probability of its electric overhead distribution system igniting a catastrophic wildfire, the PSPS provides a fallback means option during a crisis.

On a case-by-case basis, the City's Electric Department has historically and will continue to consider de-energizing a portion of its system in response to public safety issues or in response to a request from outside emergency management agencies. If conditions on the ground indicate that a wildfire threat is imminent, the City has the authority to de-energize select distribution circuits. A decision is based on multiple initiations accompanied by the City's Electric Department's unique understanding, including any risks involved. The City relies on weather data from various sources, including the National Weather Service, NDFRS, and the City's weather station data. Criteria that can cause a potential to de-energize circuits include:

- Imminent fire danger
- Crucially dry vegetation that could serve as fuel for a wildfire
- High temperatures along with low humidity levels
- Red Flag Warning declaration by the National Weather Service
- Forecast high wind events in high-risk areas
- Agency Incident Command mandated fire orders
- City crew or other agency field staff on-the-ground observations
- Active wildfire in the service area

The Electric Department should advise customers that PSPS could occur without any action taken by the City, since power is purchased and transmitted over transmission lines owned by others. And the City shall continue to monitor the evolution of PSPS implementation in Oregon and the Northwest by other electric utilities to continue to refine its strategies for wildfire mitigation.

## 4.7 Roles and Responsibilities

The developed and adopted Wildfire Mitigation Plan should be reviewed and updated every five years to meet the updated code requirements and potentially improved system components or other technologies for reducing fire risk.

The City's Electrical Department is governed by the City Council and managed by the City Manager with daily operations handled by the Director of Electric and Operations Superintendent. City staff that has responsibilities for wildfire prevention activities include:

- **City Manager**: Assumes overall responsibility for the City's planning and mitigation activities, including maintaining compliance with state and federal safety and operating requirements. The City Manager is responsible to the City Mayor and governing council.
- **Director of Electric**: Responsible for the safe operation of the Electric Department's distribution system, equipment, and service.
    - The Director of Electric supervises the department's Electric Superintendent, Line Foreman and Line Crew and is primarily responsible for ensuring that all circuits and equipment are inspected and maintained.
    - The Director of Electric is also responsible for the reliable operation of the entire electric system, including all distribution equipment and switching facilities served by three substations.
    - The Director of Electric is responsible for safety programs, including wildfire prevention training, evaluation, and installation of new protective and system hardening equipment to reduce fire risk.
    - The Director of Electric maintains compliance with federal, state, and local fire management personnel to ensure that appropriate preventive measures are in place.

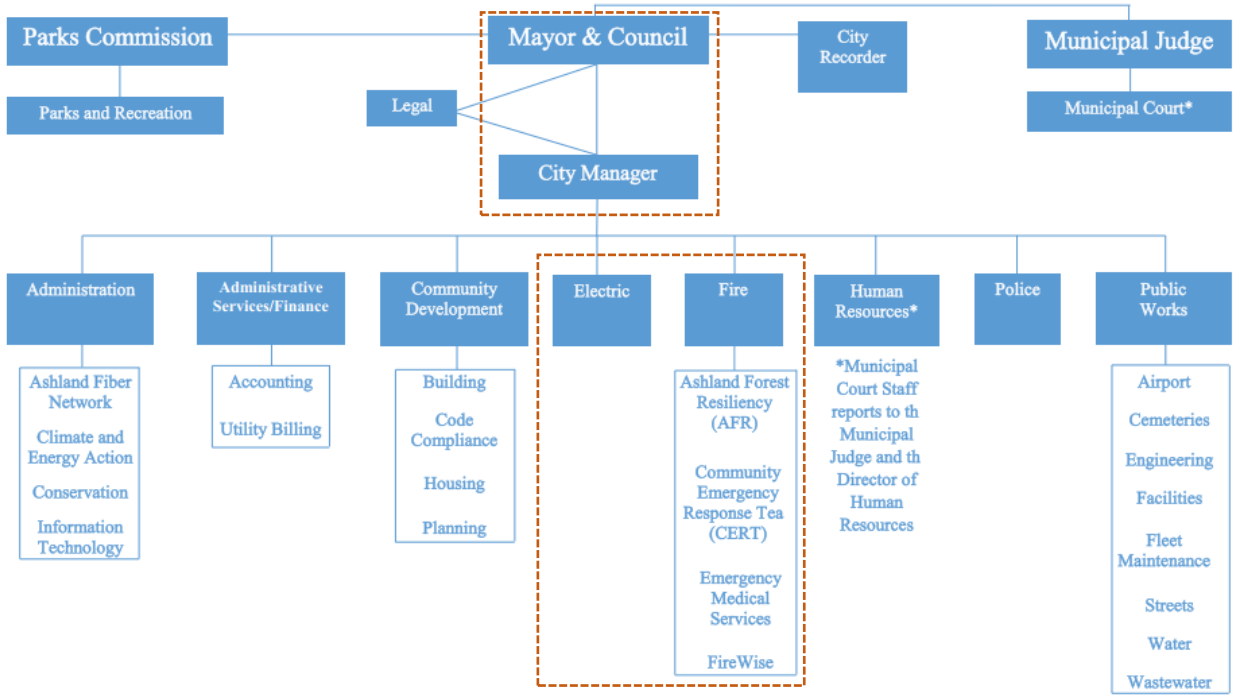



*Figure 20: City of Ashland Organizational Chart*
*[Source: https://www.ashland.or.us/SIB/files/Administration/Handbook/Organizational_Chart.pdf ]*

## 4.8 Wildfire Mitigation Cycle

The process of reducing fire risk is a repeating process. To ensure the process is diligently executed and action items are completed the City Electric Department may want to organize a fire mitigation committee that meets periodically to complete a review of the mitigation cycle. Figure 21 shows a graphic of a possible mitigation cycle with each step defined as follows:

1. **Identify** – The areas of highest concern are identified by periodically reviewing environmental conditions and fire risk levels. For example, the risk graphic in Figure 13 can be used to identify areas with the highest overall wildfire risk. From this information, all areas of the electric department service territory can be given priority levels. The risk map should be updated any time OWRE makes an update that may affect areas in Ashlands territory.
2. **Evaluate** – Each area of elevated risk is evaluated for City electric resources that may contribute to the elevated risk and may need additional measures to reduce risk. The highest priority areas are addressed first and all areas are evaluated to identify City electric equipment that could contribute to fire risk.
3. **Mitigate** – For each area with elevated risk for which City electric equipment or systems may contribute to that risk, the mitigation strategies outlined in Section 4 should be considered. Each mitigation strategy is considered based on a balance of cost and risk reduction.
4. **Prioritize** – The risk reduction strategies are prioritized from most effective to least effective.
5. **Implement** – The strategies are implemented based on available resources and budget starting with the highest priority strategy.
6. **Review** – The implemented strategies are reviewed for effectiveness and the wildfire mitigation plan is updated based on lessons learned from each cycle.

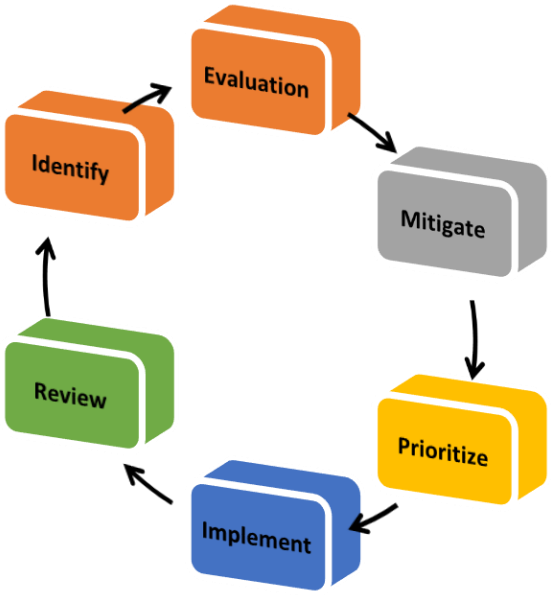



*Figure 21: Wildfire Mitigation Step Cycle*

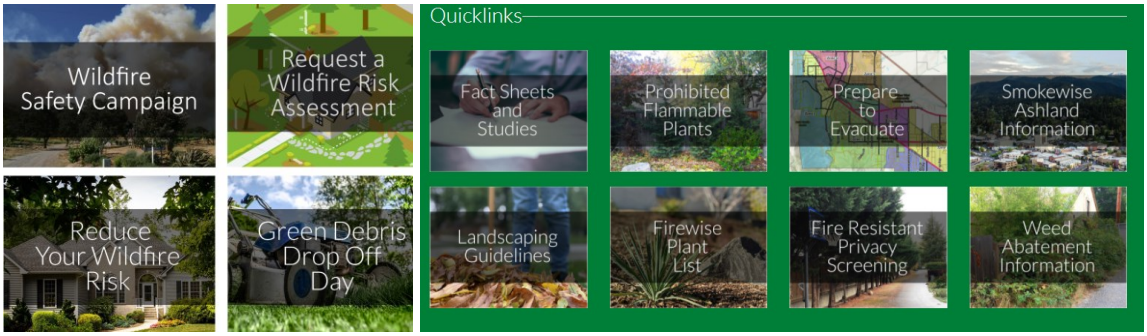
# SECTION 5: PUBLIC AWARENESS

## 5.1 Public Awareness

As required by Section 2 of SB 762, OPUC shall convene periodic workshops for purposes of assisting electric companies, consumer-owned utilities, and operators of electrical distribution systems to develop and share best practices for mitigating wildfire risk. Meanwhile, it is significantly important for the City to be proactive in building and increasing public awareness of wildfire risk. This helps the City's residents to better understand how to prepare for outages and wildfires and how to report an observed incident and/or potential hazard that can cause a fire.

The City currently has web pages for Electric Department and Fire Department, which contain useful information including the City zoning map (Figure 22), contact means, emergency management plans, home fire prevention, emergency evacuation zones & routes (Figure 23), etc. The City has developed brochures, training lectures & videos, and other interactive media to assist in public awareness of wildfire hazards and mitigation strategies. Major programs are listed below. These are also essential parts of a complete Wildfire Mitigation Plan.

- The City has established a Wildfire Safety Commission in 2014 that can 'provide advice and support to the Council and City departments and education to the community on wildfire issues and plans for mitigation action. Specifically, the Commission will function as the entity to foster the efforts of the city of Ashland to adopt and achieve the goals set forth in the Fire Adapted Communities program.'
  [Source: https://www.ashland.or.us/CCBIndex.asp?CCBID=235]
- The City has an alerting system, *Nixle*, that can be used to to alert city residents in real-time for emergency situations including fire and other community advisories such as power outages, street closures, etc. City residents have to sign up to receive these alerts via text message or cellphone applications.
  [Source: https://www.ashland.or.us/Page.asp?NavID=17635]
- The City of Ashland has developed and adopted Wildfire Safety Ordinance that provides standards and restrictions for new development.
  [Source: https://www.ashland.or.us/Page.asp?NavID=17670]
- The City has a Fire Adapted Communities program providing many useful resources to communities on how to prepare for wildfire, Firewise Communities, codes, and evacuation plans. The City's Fire Department does not allow debris burning inside the city limits and through this Fire Adapted Ashland program the City has prepared Green Debris Drop-Off bins and arranged multiple annual free Green Debris Drop Off Days to remove & reduce the fuel from a potential wildfire.
  [Source: https://www.ashland.or.us/SectionIndex.asp?SectionID=539]




- The City is proactive in planning for emergencies and has developed an *Emergency Operations Plan* for City emergency conditions
  [Source: https://www.ashland.or.us/Page.asp?NavID=16612].

- The City also started a CERT-Disaster Preparedness program that provides training to volunteers, news, and emergency kit instructions to the communities.
  [Source: https://www.ashland.or.us/Page.asp?NavID=541]

- The Ashland Forest Resiliency program is 'working to create safer communities and healthier forests by using proactive wildfire planning and best practices for restoring a healthy forest in the Ashland watershed using ecological thinning and prescribed fire.'
  [Source: https://www.ashland.or.us/Sectionindex.asp?SectionID=503]

- The City of Ashland is bordered by Jackson County Fire District No. 5 and by areas that are not receiving structural fire protection. Although the Oregon Department of Forestry provides wildland fire protection in these areas, they do not provide structural protection. The City of Ashland is a signatory along with all the other cities and fire protection districts of the Jackson/Josephine County Mutual Aid Agreement. The agreement provides for automatic and/or mutual assistance for structural and wildland protection within fire districts and cities, and for wildland protection in "unprotected" areas outside the boundaries of fire districts or cities. Unprotected areas receive wildfire protection from the Oregon Department of Forestry or federal agencies.
  [Source: https://www.ashland.or.us/Page.asp?NavID=13572]

- In addition to the City's emergency operations plan and programs, Jackson County has a separate Emergency Management program that provides useful resources about wildfire awareness, alerting system, preparation for wildfire and other hazards, evacuation plans, and emergency operations plan.
  [Source: https://jacksoncountyor.org/emergency/]

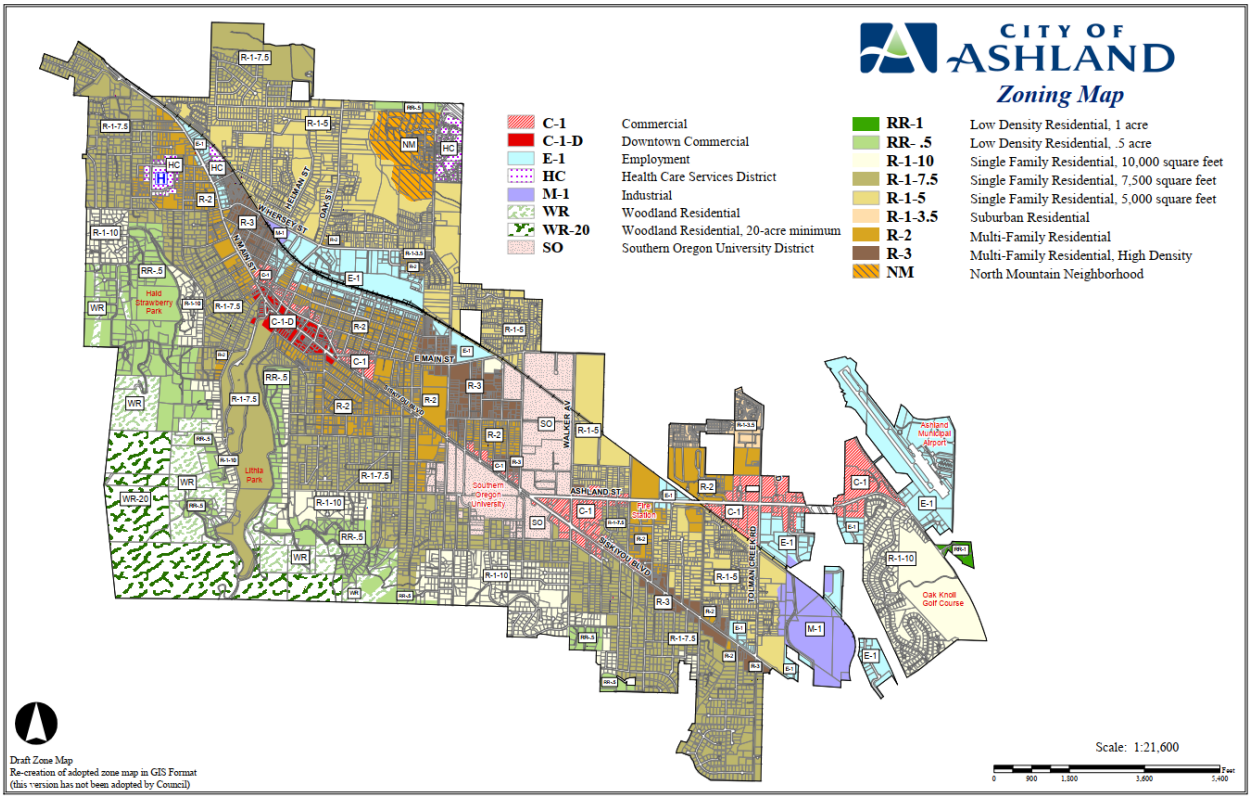



*Figure 22: City of Ashland Zoning Map [Source: https://www.ashland.or.us/Files/Official_Zoning.pdf]*

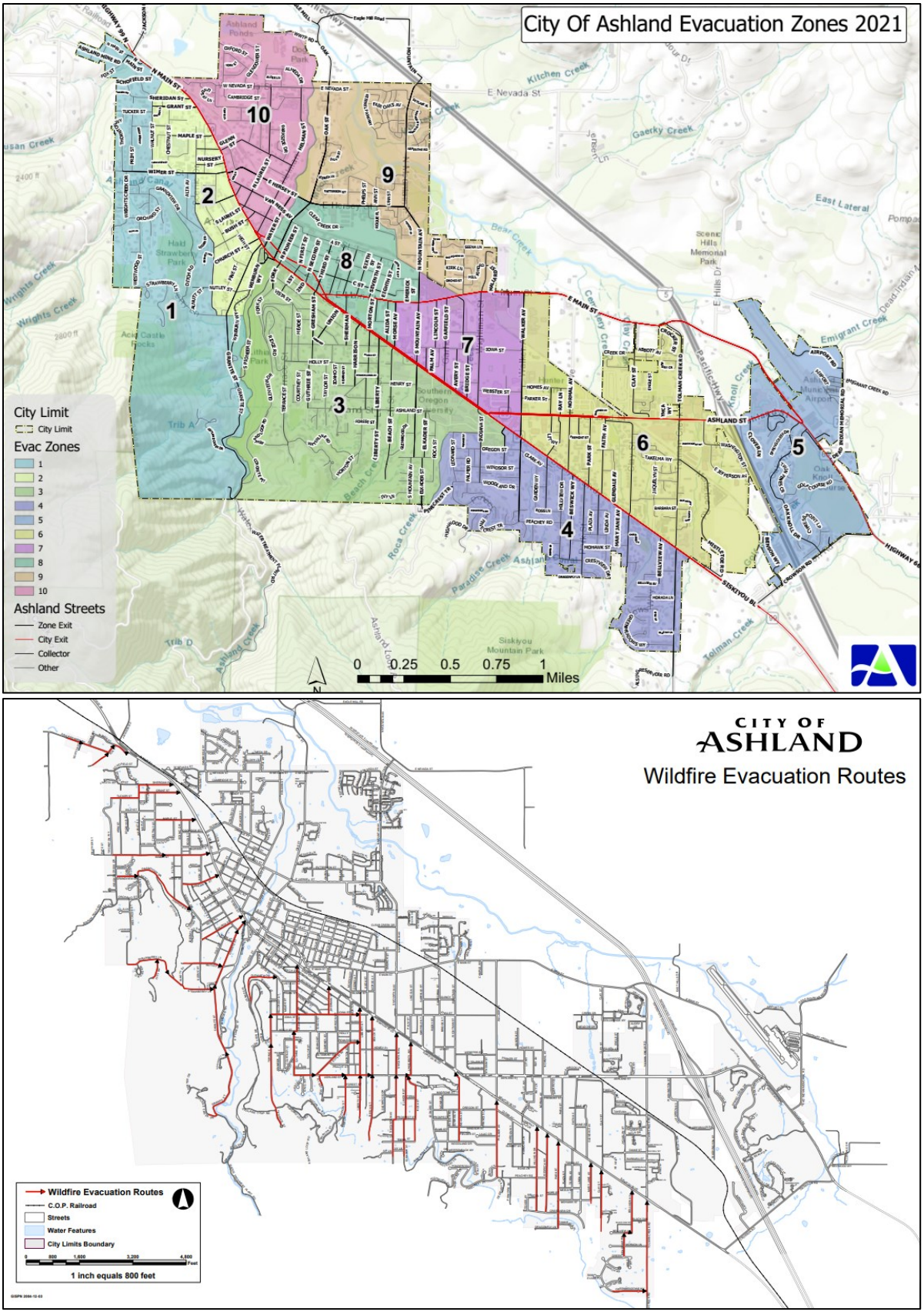



*Figure 23: City of Ashland Emergency Evacuation Zones & Routes Agencies*

[Source: https://www.ashland.or.us/Page.asp?NavID=18126, https://www.ashland.or.us/Files/Wildfire_Evac_Routes.pdf ]

The City coordinates with local emergency response agencies and other relevant local and state agencies as affiliates. In response to emergency events, the City collaborates with the Oregon Department of Forestry and Jackson County Emergency Management to ensure effective communication and coordination.

### *5.1.1 Fire Report*

The reporting of fires requires the City dispatch call 911 and then notify the fire department and if applicable the Forest Service of any fires in the operating area or along the roads used by the operators.

All fires must be reported as soon as possible to the personnel listed below.

- **Name**: City of Ashland Dispatch Center
  **Emergency Area**: City and Rural Fire
  **Telephone**: Emergency 911, non-emergency 541-488-2211 (Tighe O'Meara, Chief)
- **Name**: Jackson County Dispatch Center
  **Emergency Area**: City and Rural Fire
  **Telephone**: 541-774-6800 (Nathan Sickler, Sheriff)

When reporting a fire the Electric Departments crews or Contractors are to provide the following information:

| **Report A Fire** | | | |
|---|---|---|---|
| Name: | | Agency: | |
| Title: | | Call-back Phone No.: | |
| Fire Location: | | | |
| Fire Information: | Including approximate acreage, rate of spread, and wind conditions. | | |

After the initial notification, the following list of emergency services should be notified of the wildfire event.

- **Agency**: Jackson County Emergency Management
  **Contact/Title**: Emergency Manager
  **Telephone**: 541-774-6035
  **Address**: 10 S Oakdale 214 Medford, Oregon 97501

The City has adopted a policy of proactive planning and coordinating closely with local government, critical agencies, and first responders. The following list identifies key agencies and franchises in the service area that should receive fire danger notification:

*Table 3: Key Agencies and Franchises in The Service Area*

| Stakeholder Group | Description |
|---|---|
| Critical Agencies | • **Ashland School District**, 541-482-2811<br>Superintendent Samuel Bogdanove, 541-482-2811 Ext. 1101<br>• **Ashland Police Department**<br>Chief of Police, Tighe O'Meara, 541-488-2211<br>• **Ashland City Hall**,<br>541-488-6002<br>• **Ashland, Public Works Department**,<br>Director, Scott Fleury, 541-488-5587<br>• **Southern Oregon University**<br>Campus Public Safety, 541552-6258<br>• **Ashland, Water Division**,<br>Director, Scott Fleury, 541-488-5353<br>• **Ashland, Wildfire Information**,<br>Chris Chambers, Division Chief of Forestry Division, 541-552-2490<br>• **Ashland, Fire Department**, 541-482-2770<br>Fire Chief Ralph Sartain<br>• **Greensprings Ashland, Rural Fire Department**<br>541-488-0911 |
| Communications | • Telecommunication companies:<br>**Spectrum**, 855-492-2475<br>**Century Link,** 844-749-1408<br>• **Oregon Public Broadcasting Station**, Ashland, OR<br>800-241-8123<br>• **Local News KDRV-TV**, Ashland OR<br>541-773-1212 |
| First Responders | • **USFS, Jackson, OR**,<br>541-899-3880<br>• **USFS, Ranger District, Ashland OR**<br>541-522-2900<br>• **Bureau Of Land Management, Medford, OR**<br>541-618-2200 |
| Local Government | • **Ashland, OR, City Hall**<br>541-488-5311<br>• **Medford, OR, City Hall**<br>541-774-2000 |
| Utilities | • **Ashland, Utilities Customer Service**,<br>Bryn Morrison, 541-488-6004<br>• **Ashland, Electric Utility**,<br>Director, Thomas McBartlett, 541-488-5357<br>• **Avista Natural Gas**, 877-427-8326<br>• **Pacific Power**, 888-221-7070 |
| Safety Councils | • **Jackson County, Natural Hazard Mitigation Plan**<br>541-774-6035<br>• **SOU, Ashland Oregon, Natural Hazard Mitigation Plan**<br>541-552-7672 |

# SECTION 6: APPENDIX

## 6.1 Appendix A – Oregon Wildfire Risk Explorer- Advanced Report

Attached externally.

## 6.2 Appendix B – Ashland Terrain Map

Attached externally.

## 6.3 Appendix C – Substation One-Line Diagrams

Attached externally.

## 6.4 Appendix D – Reference Product Cut Sheets

Attached externally.