

**Signature Page**

**As administrator of a land management agency or emergency service provider represented in the City of Anderson Community Wildfire Protection Plan, I concur with the following recommendations to implement this plan.**

**List of Interagency Planning Team Members**

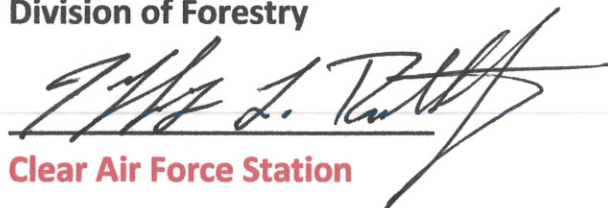


**Samantha Thompson, City of Anderson Mayor**



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# Community Wildfire Protection Plan

## City of Anderson



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**Cover Photo: Rex Complex Fire 2015, Tatlanika Rest Stop**

## Executive Summary

The City of Anderson Community Wildfire Protection Plan (Anderson CWPP) is a collaborative effort that has been developed in response to the 2003 Healthy Forest Reforestation Act (HFRA) which directs communities at risk of wildfire to develop a risk assessment and mitigation plan. Guidance for the Anderson CWPP is based on Alaska Interagency Community Wildfire Protection Plan Guide (November 2005). Many other data sources and plans such as the City of Anderson Strategic Plan, City of Anderson Comprehensive Economic Development Plan, and demographics information were retrieved from the internet and are listed in the reference section.

### The Anderson CWPP

- Assesses the risk posed by wildfire to the City of Anderson Fire Protection Area
- Identifies local fire protection response and capabilities as well as natural and manmade barriers
- Develops mitigation measures designed to protect identified values from threat of wildfire
- Promotes “Firewise” landscaping and community education to address the wildfire risks.

Completion of the CWPP will provide direction for ongoing and future wildfire hazard mitigation efforts and will allow the City of Anderson Fire Service Protection Area to take full advantage of HFRA benefits including prioritization for federal funding and self-determination of Wildland Urban Interface (WUI) boundaries.



## Background

The Community Wildfire Protection Plan (CWPP) process assists communities in developing an appropriate and desired wildfire protection plan that addresses elements of community protection. The CWPP represents the best opportunity we have to address challenges of the wildland urban interface (WUI) in a way that brings about comprehensive and locally supported solutions. Through discussion among interested parties about wildfire protection, communities develop, clarify, and refine their priorities for the protection of life, property, and critical infrastructure in the wildland urban interface.

Having a CWPP enables the communities and agencies involved to see a clear view of protection priorities set in place for each community. Priorities differ between each community and having a plan will allow the priorities to be seen clearly. There is a great common concern for protecting our communities, and the assets of our communities; by having this plan it allows for the communities to have a voice.

Completion of a CWPP requires five (5) major activities:

1. Identify stakeholders
2. Complete community risk assessment
3. Address priorities
4. Develop mitigation plan
5. Establish a monitoring plan

## Collaboration

This document was prepared and approved by:

- City of Anderson
- Clear Air Force Station
- Denali Borough
- DOF

## Introduction

Anderson town site was originally inhabited by three homesteaders, Art Anderson, William Devon and Charles DeWitt, who settled in the area during the late 1950s. In 1959, Art Anderson, the town's namesake, divided his 80-acre homestead into 1/4 acre lots and sold the majority of these lots to civilian workers from Clear Air Force Station. The station, a ballistic missile early warning site, was completed in 1961. In the same year, an elementary school was established in Anderson. The city's incorporation followed quickly in 1962. A road was soon completed between Anderson and Nenana which allowed access north to Fairbanks. At Nenana, between Anderson and Fairbanks, cars had to be ferried across the broad channel of the Tanana River. In 1968 the state completed a \$6 million steel bridge that spanned the Tanana and provided quicker access for Anderson to its northern neighbors. By 1971 construction of the George Parks Highway allowed Anderson residents' access to Anchorage as well.

Clear Air Force Station: The land was acquired by the Department of the Interior (DOI) in 1949. The area was used as a gunner range by the Alaskan Air Command until it was returned to DOI in the 1950s.

The site was acquired by the USAF in 1958 to set up a site for the Ballistic Missile Early Warning System (BMEWS). Construction began in the same year and was completed in March 1961. The Site II became fully operational in November 1961 as the Second Detachment (Det 2) of the 71st Missile Warning Wing (MWW).

The Det 2 became the 13th Missile Warning Squadron (MWS) in January 1967. The 13th MWS was reassigned from the 71st MWW to the 14th Aerospace Force in 1971 and Clear AFS was upgraded with advanced facilities such as state-of-the-art radome and equipment in 1981. The 13th MWS was re-designated 13th Space Warning Squadron and reassigned to 21st Space Wing in 1992.

The Clear AFS is divided into four major zones including composite area, camp area, SSPARS site and old technical site area. The composite area houses administration, recreation and permanent living quarters. Civil engineering and security police offices are located in the camp area, while the SSPARS site houses the radome. The technical site area is home to the power plant as well as operations and maintenance facilities including the radars and associated equipment.

The 13th SWS provides early missile launch warning information. It detects tracks and identifies over 9,500 man-made objects orbiting the Earth. The squadron also provides total coverage of the North American continent in the event of ground-based or sea-launched ballistic missile attack.

## **1. Identification and Description of Community and Area.**

1. Anderson/Clear community is divided into two distinct areas which have significant different approaches in protection and prevention of wildland fires.

- A. Community of Anderson
- B. Clear Air Force Station

Anderson is located in interior Alaska, 76 miles south of Fairbanks on a spur road, six miles off of the George Parks Highway. The town's area includes 263.9 square miles of water and 1,697 square miles of land, nine of which are restricted to military use. The town is accessible by air and rail. A state owned 4,000' lighted asphalt runway lies four miles south of town and the Alaska Railroad passes through the entire length of the municipality, though the only unloading spurs in the area is located at Clear Air Force Station. On the west side of the community is the Nenana River. Currently there is only one road for emergency vehicles to get to town and one road for public evacuations. This is a significant increased risk for everyone.

- o General Geographical Location:
  - a. Lat. 64.3442 Long: 149.1869
  - b. Section: 32 Township: 6S Range: 8W Fairbanks Meridian
  - c. Population: 209

The City of Anderson fire protection area starts at George Parks Highway Mile post 288.3 and ends at Mile Post 274. The City provides mutual aid coverage to the City of Nenana Fire Department to the north, and Tri-Valley and Clear Fire Departments to the south.

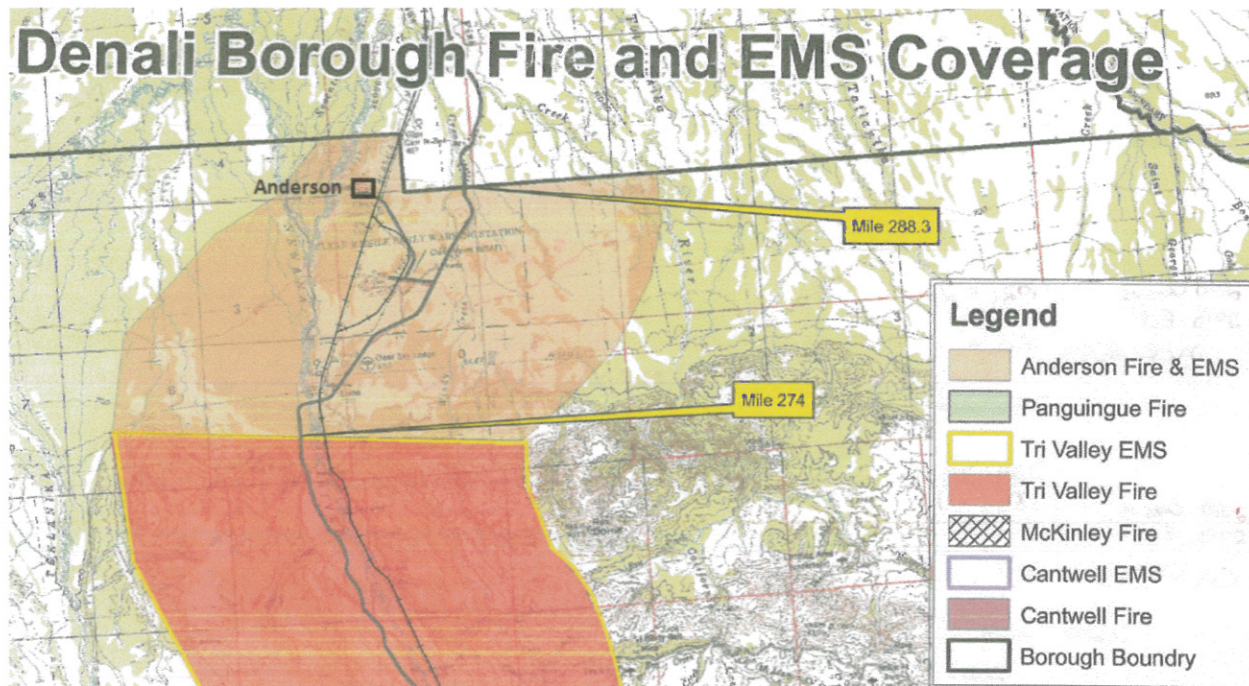


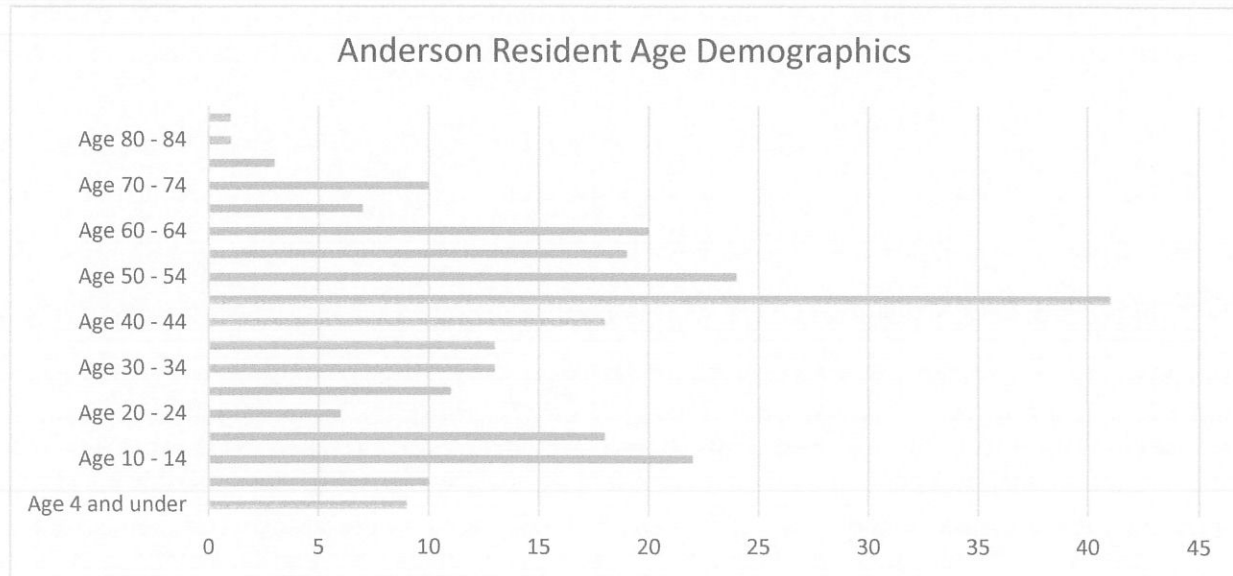
Figure A- Fire and EMS coverage map

### Clear Air Force Station

The Air Force Station is spread over an area of 11,438 acres, of which the developed portion covers about 350 acres. It is surrounded by George Parks Highway in the east, Nenana River in the west, Alaska Range in the south, and the community of Anderson in the north. The installation is accessed from the George Parks Highway, which also links the municipality of Anchorage and the city of Fairbanks.

Clear AFS is home for the 13th Space Warning Squadron (SWS) and the 213th SWS (Air National Guard), a unit of the 21st Space Wing, Peterson Air Force Base. The installation employs about 300 personnel including on duty members, Air National Guard, Department of Defense (DoD) civilians, and contract employees.

#### 4. Population:



*Data from Alaska Department of Community and Regional Affairs, Community Index*

#### 5. Structures:

Homes: 145  
Households: 90  
Family: 65  
Homes Occupied: 90  
Homes Vacant: 55  
Outbuildings:  
Community Buildings: 10  
    Schools 1  
    Offices 2  
    Government 3  
    Churches 2  
Commercial  
    Lodges 2  
    Businesses 2  
    Other

#### 6. Infrastructure

The City of Anderson operates the piped sewer system for the majority of the community; all others use individual septic systems. All residences and business have individual wells for their water. Matanuska Telephone Company provides telephone service and Golden Valley Electric Association provides electrical power to the community.



The City of Anderson owns and operates a rock quarry. It also operates an 80 acre recreational park, providing campsites facilities, shooting range, covered pavilion and a terrific view of Denali Mountain. Denali Borough School District is based out of Healy, Alaska. A K-12 school is located in Anderson.

In 2012, Forestry built Clear Guard Station located at the Clear Airstrip; it is used to support wildland fire aviation operations in the region.

### **Clear AFS radar facilities**

The AN/FPS-123 Solid-State Phased Array Radar System (SSPARS) is housed in an 11-story building at the Clear Air Force Station. The SSPARS detects and warns about sea-launched and intercontinental ballistic missiles.

The USAF plans to upgrade the Early Warning Radar (EWR) and associated facilities at the SSPARS at Clear AFS by 2017. In September 2012, Raytheon was awarded a \$125.3m contract by MDA and USAF to upgrade the EWR system. The upgraded EWR (UEWR) will be equipped with a new capability to effectively work along with other elements of the MDA's Ballistic Missile Defense System (BMDS).

## **7. Industry**

Local businesses and services account for the majority of full time jobs in the community. A large percentage of the residents are employed on Clear Air Force Station.

## **8. Transportation**

The City is connected to the George Parks Highway via a 6 mile spur road. The Parks Highway is one of the three major highways in Alaska. It starts at Fairbanks and connects to the Glenn Highway near Anchorage. The City of Anderson only has one entrance into the community.

A state owned 4,000' lighted asphalt runway lies four miles south of town. The Alaska Railroad line passes through the entire length of the municipality, though the only unloading spur in the area is located at Clear Air Force Station.

## **9. Landfills and Sewage Lagoons**

The City of Anderson owns and operates two regional lagoon facilities. One of the facilities (Anderson Lagoon) is currently in the process of being closed. The other facility (Regional Lagoon) is located adjacent to the Denali Borough Landfill and receives sludge from Denali Borough residents as well as the City of Nenana. It currently receives approximately 1,000,000 gallons a year.

The Denali Borough operates a Class II regional landfill located adjacent to the regional sewage lagoon, near mile post 282.5 of the parks Highway. All three are permitted by Alaska Department of Environmental Conservation (ADEC).

## **10. Hazards:**



The majority of the single family dwellings use heating oil in above ground tanks. Limited access to the community, local powerlines, intertie, dry lightning and chinook winds, railroad related incidents (fire and hazmat).

### **11. Fire, Rescue and Ambulance Equipment:**

The City of Anderson has the following :

1985 Ford 9000 Type 2 Fire Engine, 750 GPM, 2000 Gallon

Type 2 Engine, 500 GPM, 3000 Gallon

Type 5 Engine

1975 IHC Type 6 Engine, 250 GPM, 300



*Figure B- Anderson VFD at the 2015 Rex Complex Fires*

Gallon

1992 Ford Rescue Medical Ambulance

2004 Ford Rescue Medical Ambulance

### **12. Local Fire Prevention Efforts:**

The Volunteer Fire Department conducts fire prevention education once a year at the school during prevention week.

#### **A. Areas or Values to be Protected**

The community has identified areas having highest priorities for protection based upon economical and historical values. Anderson School, City Offices, Clear Air Force Station, Alaska Railroad property are notable values to protect.

#### **B. Assessments of Risk/Hazard, Barriers, Fire Protection Resources, and Firewise**

Much of the area surrounding the City of Anderson is forested with continuous stands of black spruce. Mixed stands of aspen and spruce are common but have an understory that is well stocked with black spruce and highly susceptible to wildland fire. The dry weather and black spruce forest in the past years have created a very active fire history. Under natural conditions, these forests will burn, with varying intensity, every 35 to 100 years. Fire has been excluded around the community, leading to the

accumulation of hazardous fuels and expansion of forests dominated by black spruce. The past wildland fires have been man-made or caused by lightning.

## Risk/Hazard Analysis

### Inside Community:

The risk of fire starting inside the community is high, based on potential ignition sources and surrounding fuel types. Fires that start within the community are primarily human caused and can be extinguished with the local resources. Human caused fire pose the biggest threat to the community. Open burning on private property and Riverside Park, both of which have caused fires in the past. Some residents use burn barrels to dispose of class A materials. The City of Anderson has recognized open burning to be a threat. The primary hazards in the city are the bulk fuel tanks, heating fuel tanks around residence

### Mitigation Measures

The mitigation measures for our Anderson protection area limited. These measures include water, natural features, and human man-made features. . Our main water barrier for the community is the Nenana River slough which runs on the west side of the community and Clear Air Force Station. Human made features include the Parks Highway corridor, Alaska Railroad, and the Clear-Anderson Airstrip. We are listed as poor because barriers in our protection area that exist provide protection from fuels less than 1 mile away in fewer than two cardinal directions.

<b>Response Time</b>	Kind of Resource (List kinds of resources available for initial attack)
<i>Adequate initial attack resources are more than 75 minutes away and adequate extended attack resources are more than 12 hours away</i>	Nenana FD, Tri-Valley FD
<i>Adequate initial attack resources are 30 to 75 minutes away and adequate extended attack can be in place in 8 to 12 hours</i>	AK Division of Forestry, BLM-AK Fire Service
<i>Adequate initial attack resources are less than 30 minutes away and adequate extended attack can be in place in less than 8 hours</i>	Anderson FD and Clear AFS FD

**COMMUNITY FIREWISE RATING FOR DEFENSIBLE SPACE**  
**OVERALL COMMUNITY ASSESSMENT**  
**NOT INDIVIDUAL STRUCTURES\***

<i>Alaska Firewise Standards</i>	<i>Excellent Over 65% of homesites and community buildings meet standard Value = 5</i>	<i>Fair: 35 to 65% of homesites and community buildings meet standard Value = 3</i>	<i>Poor: Less than 35% of homesites and community buildings meet standard Value = 1</i>
<i>Landscaping</i>			X
<i>Construction</i>			X
<i>Water Supply</i>			X
<i>Access</i>			X
<i>Clear of Flammables/Refuse/Debris (flammables stored properly &amp; area cleared</i>			X
<i>Rating Sums</i>			X
<b>Total of Rating Sum / 25 X 100 = Community Firewise Rating</b> <b>Excellent greater than 65%</b> <b>Fair 35-65%</b> <b>Poor less than 35%</b> <b>9 + 2 = 11</b> <b>11/25 X 100 = 44%</b>			

**Standards for Firewise Rating**

Landscaping: There is a clearing of flammable vegetation at least 30 feet around home for firefighting equipment; coniferous brush and dead/overhang branches are removed; trees are pruned 6-10 feet above the ground; lawn is mowed and watered regularly and ladder fuels are removed from the yard; remaining trees are spaced at least 30' apart at crowns; garden equipment (hoses and hand tools) are kept on the property.

Construction Guidelines: Home is made of fire-resistant or non-combustible construction materials (especially important for roofing); vents are covered with wire mesh no larger than 1/8"; at least two ground-level doors exist; at least two means of escape exist in each room.

Water Supply Guidelines: Homes has a reliable water source, 3 to 4 sprinkles and enough hose to circle the home.

Access Guidelines: Access roads are at least two lanes wide and clearly marked; ample turnaround space exists for vehicles/fire equipment.

Clear of Flammable/Refuse/Debris Guidelines: Combustible materials are not located in the yard or under decks or porches; firewood is stored away (at least 30 feet) from the house; all debris or refuse is picked up regularly.

Other contributing factors: dry lightning and chinook winds; al lot of recreational activity, Railroad fires; construction activity on Clear Air Force Station, highway, intertie, powerlines fires in town; agriculture clearing

## OVERALL RATING CHART

Category	Rating
Risk/Hazard	
a) Inside Community	High
b) Outside Community	High
Barriers:	Limited
Fire Protection:	Initial attach resources limited
Community Firewise Rating:	Poor



## Fire History

### Fire Season:

Interior Alaska fuel types are prone to frequent starts and large fire growth. City of Anderson is no exception having many large fires in and around the community.

List of recent fires:

Rex Complex Fire	2015	+20,000	Lightning
Clear AFB	2013	81.3	Lightning
Bear Creek#2	2012	5	Lightning
Bear Creek #3	2012	300	Lightning
Bear Creek #4	2012	8522	Lightning
Julius Creek	2010	39	Lightning
June Creek	2009	164	Lightning
Parks Hwy	2006	130,186	Human
Anderson Park	2002	100	Human
Kobe Sub	2001	20.5	Human
Clear	2000	2777	Lightning



Figure C - 2009 Railbelt Complex Fire, North of Anderson



Fire season in the Tanana Valley is highly variable. It begins some years as soon as the snow has melted in early to mid May. Typically, these early fires are human caused, though lightning caused fires may also occur. Because of the low moisture content in local snow, the severity of this early season is more dependent on spring break up conditions than it is on the amount of overwinter precipitation. Rapid thawing allows moisture to percolate downward leaving surface fuels dry, while a slow breakup impedes drying by holding moisture close to the surface above frozen layers. Early season fires tend not to burn deeply but may burn intensely and spread quickly across the surface.

As green-up progresses and live fuel moistures rise during late May and early June, fires become less frequent for a time. As days lengthen further, increased differential heating becomes more conducive to convective activity, and in absence of significant rain causes surface fuels to dry. This effect peaks from mid-June to mid-July and is the basis for the “main” Tanana Valley lightning fire season. This period coincides with increased human presence in the wildlands and the majority of human caused fires. The most active fire years are often characterized by large stable high-pressure systems over the interior which result in prolonged periods of hot, dry weather and more frequent low precipitation thunderstorms. Other years are characterized by a series of low pressure systems that sweep across the valley and bring widespread rain.

By mid July, thunderstorm activity begins to lessen due to shorter days and less intense sunlight. Fuels can remain dry, allowing ongoing fires to continue burning, however new ignitions occur less often. Typically, large high pressure systems give way to systemic moisture sometime in August. Without moisture, a late season can extend into September, usually relying on careless hunters for ignition sources. Although fires can burn into October if snowfall is delayed, rarely do they spread significantly.

## **Mitigation Plan**

### **-Goals and Objectives**

Interagency wildland fire policy identifies public safety as its top priority.

The primary goal of the CWPP is to reduce the risk of wildfire to the community of Anderson and its essential infrastructure.

### **Objectives:**

- 1) Increase the number of Firewise compliant homes.
- 2) Decrease the number of human caused wildland fires in the region.
- 3) Reduce hazardous fuels on private land within city limits and on the public lands.
- 4) Increase local/municipal capabilities to respond to wildland fire incidents and improve interagency Evacuation Plan
- 5) Adopt Evacuation Plan
- 6) Seek grant funding

### **Strategic Plan/Desired Condition**

The priority values to be protected are life, property, infrastructure and historical resource

Objective	Tasks	Timeline	Agency Responsible
#1 Increase the number of Firewise compliant homes	1.1 Firewise landscape our homes in the community	Spring 2020	Anderson and Clear Fire Department
	1.2 Develop a Alaska Firewise standard within the community	Spring 2020	Anderson and Clear Fire Department, DOF
	1.3 Distribute literature to community on defensible space and other Firewise tactics	Summer 2019	Anderson and Clear Fire Department, DOF
	1.4 Prevention personnel to conduct home assessments	Summer 2019	Anderson and Clear Fire Department, DOF
#2 Decrease the number of human caused wildland fires in the region	2.1 Complete a Community Wildfire Protection Plan and Exposure Model	Spring 2020	DOF
#3 Reduce hazardous fuels on private land within city limits and on public lands	3.1 A Map of hazardous fuels, by priority in the Anderson Protection Area	Spring 2020	DOF
	3.2 Create Firebreaks around the community	Winter 2020	City of Anderson
	3.3 Support and encourage the treatment of hazardous fuels around resident's homes	Summer 2019	Anderson and Clear FD, Borough, DOF
#4 Increase local/municipal capabilities to respond to wildland fires incidents and improve interagency coordination	4.1 Regularly update cooperative agreements/Annual Operating Plan	Summer	Anderson FD, DOF
	4.2 Participate in fire training	Ongoing	Anderson and Clear FD, Borough, DOF
	4.3 Emergency Management Planning	Ongoing	Anderson and Clear FD, Borough, DOF
#5 Evacuation Plan	5.1 Adopt Evacuation plan within the Protection Area from the Borough	Summer 2019	Anderson and Clear FD, Borough
	5.2 Ready Set Go Program	Summer 2019	Anderson and Clear FD, DOF
# 6-Seek Grant Funding	6.1 Apply for State Legislative Grants	01/01/20	City of Anderson
	6.2 Apply for VFA Grams	01/01/20	City of Anderson
	6.3 Apply for FEMA Grants	12/01/19	City of Anderson
	6.4 Apply for WUI Grants	Spring 2020	City of Anderson, DOF

# REX COMPLEX FIRE

June 2015

## EMERGENCY EVACUATION PLANNING

### LEVEL 1: A Level 1 Evacuation means "BE READY" for potential evacuation

Residents should be aware of the danger that exists in their area, monitor local bulletin boards and local media outlets for information. This is the time for preparation and precautionary movement of persons with special needs, mobile property and (under certain circumstances) pets and livestock.

Creating defensible space is essential to improve your home's chance of surviving a wildfire. It's the buffer you create between a building on your property and the grass, trees, shrubs, or any wildland area that surround it (<http://forestry.alaska.gov/fire/firewise.htm>).

- Trim trees regularly to keep branches a minimum of 10 feet from other trees
- Remove branches that hang over your roof and keep dead branches 10 feet away from your chimney
- Relocate wood piles to at least 30-ft from buildings
- Defensible space is also important for the protection of the firefighters defending your home

If conditions worsen, the Incident Management Team personnel may contact you face-to-face.

### LEVEL 2: A Level 2 Evacuation means "BE SET" to evacuate.

**YOU MUST PREPARE TO LEAVE AT A MOMENTS NOTICE.** This level indicates there is significant danger to your area, and residents should either voluntarily relocate to a shelter or with family/friends outside of the affected area, or if choosing to remain, to be ready to evacuate at a moment's notice. Residents MAY have time to gather necessary items, but doing so is at their own risk.

**THIS MAY BE THE ONLY NOTICE THAT YOU RECEIVE.** The Incident Management Team cannot guarantee that they will be able to notify you if conditions rapidly deteriorate. Local bulletin boards and telephones are the only reasonable means to receive updates.

### LEVEL 3: A Level 3 Evacuation means "GO" Evacuate NOW

**LEAVE IMMEDIATELY!** Danger to your area is current or imminent, and you should evacuate immediately. If you choose to ignore this advisement, you must understand that emergency services may not be available to assist you further. DO NOT delay leaving to gather any belongings or make efforts to protect your home.

**THIS WILL BE THE LAST NOTICE THAT YOU RECEIVE!** Entry to evacuated areas may be denied until conditions are safe. Periodic updates will be provided on local bulletin boards, at the Anderson Middle School, and the Incident Web Site at: <http://inciweb.nwcg.gov/incident/4319/>

Figure D- Sample Evacuation Plan



## Values of Concern

The State of Alaska, Department of Natural Resources, Division of Forestry, Anderson and Clear Fire Departments are responsible for wildland fire protection in Anderson and the surrounding area. The Anderson Volunteer Fire Department in conjunction with mutual aid agreements from Clear AFB Fire Department, Tri-Valley Fire Department and City of Nenana Fire Department also support Wildland fire protection efforts.

Firefighter safety, the safety of the residents of the Anderson Fire Service Protection Area and of the many travelers who are here during the fire season is the highest priority for firefighting personnel. Private property, improvements, and our natural resources are other values of concern that this plan addresses:

The following actions are proposed to mitigate the risk of wildfire impacting values of concern in Anderson.

- Assess properties within the City for defensible space using Firewise guidelines and work with residents to improve the survivability of their homes;
- Strengthen local prevention programs and interagency cooperation;
- Create a priority matrix that identifies hazard fuels, values at risk, and areas to be treated. It is important that this matrix reflects hazards and mitigation measures within the community and work outwards;
- Thin or remove fuel within the community at identified locations;
- Construct fuel breaks along easements to provide access to sections that contain hazard fuels and create stand conversions (Removal of spruce trees and exposing earth to promote the growth of willows and Aspens) within those sections. As much as ¼ to ½ sections may be cut during this part of the operation. The sections identified are in an attached map.
- Develop local capabilities to provide contracted fuel reduction services;
- Develop and maintain an emergency evacuation plan;
- Provide sustainability through private enterprise participation and use of wood for fuel and electricity;
- Develop and implement a housed numbering system for emergency vehicles;
- Obtain additional funding for EMS and VFD;
- Become a certified Firewise Community;
- Secure funding for a state approved emergency radio system.
- Communities by not committing fire suppression resources to remote areas where fire was needed ecologically.

## Assessment to Prioritize Areas for Fuel Reduction

- Hazardous fuel areas were identified using a combination of 2005 Digital Globe satellite imagery, Geographic Information Systems (GIS), 2007 site visits by wildland firefighters, and community input. The assessment process will continue as mitigation efforts take place. The contiguous nature of the fuels that are more than one mile from structures is what makes much of these fuels hazardous.
- Areas might not be treated in order of priority due to land ownership and other issues.
- **Anderson/Clear Area Fuels**
- The communities of Anderson/Clear are constructed on well drained gravel soils of the Tanana and Nenana River floodplain within a nearly contiguous spruce/feather moss stand. Black spruce dominates this area. A fire that gains a foothold in these continuous and volatile fuels under severe weather conditions can quickly outstrip the ability of firefighters to contain it.
- An increased awareness of the wildland fire threat has many Anderson/Clear homeowners taking steps to make their property more fire resistant by removing some of the hazard fuels; however a satellite image is a stark reminder of how much work is still to be done. The suppression of wildfires during the last 50 years has allowed the highly flammable spruce forest to continue to mature.
- **Anderson/Clear Area Fire Management**
- The shared responsibility for wildland fire suppression in the Anderson Fire Protection Area are the DOF and Anderson Departments. Cooperative agreements and Annual Operating Plans between the DOF and the Anderson Fire Department are in place to clarify financial, operational, training and prevention responsibilities..
- Parts of this plan, such as evacuation procedures and interagency cooperation could also be used during other incidents.
- **Hazardous Fuel**

Hazardous fuels consist of burnable plant materials that foster or promote the ignition, spread, or increase the intensity of a wildland fire that would threaten the safety of people or property.

Most of the area on the outskirts of Anderson has a hazardous amount of black spruce. Much of it is "dog hair" spruce, or, spruce that is 1-4 inches diameter breast height (DBH), and tightly packed, with some large spruce mixed in. This type of forest provides a fuel to air ratio for a dangerous wildfire that is difficult and dangerous to control (much like grass, only on a larger scale). Large tracts of land to the North, West and Southwest of Anderson



Figure E- Hazardous fuels include dense spruce forests



contain this type of fuel, creating the threat of a large fire moving into the community. With only a few trails into these areas, access is limited and firefighters would have few fire suppression options in the event of a wildfire.

## **2. Hazardous Fuel Mixed With Structures**

Most subdivisions or neighborhoods in Anderson contain the same type fuels as mentioned above. These neighborhoods are sparsely populated and many have undeveloped lots between homes. With limited resources and the possibility of an intense wind driven fire quickly overwhelming limited resources available, entire subdivisions could be destroyed.

## **3. Ingress/Egress**

Most secondary roads as well as the Alaska Highway also have these fuels on both sides making ingress or egress dangerous. Many families live near the end of long roads with only one way in or out. Fire could cut off access for responding cooperating agencies, (Clear FD, Nenana FD, Tri-Valley FD and DOF). This would make it difficult for people to evacuate in the event of a serious fire and dangerous for firefighters to attempt to protect the structures or assist in evacuations. Lack of an effective evacuation plan or notification system exacerbates this problem.

## **4. Hazardous Materials**

Many homes in Anderson have above ground fuel storage tanks for home heating oil and propane. Some residences also have above ground gasoline tanks for their vehicles; these are particularly hazardous due to the volatile nature of gasoline and the typical location of the tanks (usually near the optimum parking spot for a fire engine). Greenhouses, garages and sheds typically contain chemicals and other types of hazmat. Abandoned vehicles are also a hazard to firefighters.

## **5. Recreational users, tourists, highway traffic and railroad**

Numerous recreational users, tourists, highway traffic and railroad traffic utilize the area for different purposes. Riverside Park is located within the community of Anderson and hosts several events throughout the summer and has camping spots and a shooting range. Gravel pits in the area are used by residents for warming/cooking fires. With all of the activity within our community this imposes a significant threat of human caused fires.

## **6. Government**

Anderson is a 2<sup>nd</sup> class city situated in the Denali Borough. It is a very small community with no property tax. It has a volunteer Fire Department.

## **B. Barriers and Fuel Breaks**

Barriers are natural or man-made zones that block or restrict the movement of a wildfire. Natural barriers can be rivers or lakes, ridges or rocky areas, and non- flammable vegetation. Man-made barriers include wide roads, airstrips, or areas where flammable vegetation has been removed. The goal of fuel reduction is to construct fuel breaks that will allow firefighters a chance to stop the spread of a wildfire. The Nenana River provides a degree of protection from fires originating west of town. The Parks Highway Corridor provides very little protection to Anderson , which increases the risk of human caused ignition.

The following actions are proposed to mitigate the risk of wildfire impacting values of concern in Anderson.

- Strengthen local prevention programs and interagency cooperation;
- Assess properties within the town for defensible space using Firewise guidelines and work with residents to improve the survivability of their homes;
- Create a priority matrix that identifies hazard fuels, values at risk, and areas to be treated. It is important that this matrix reflect hazards and mitigating measures within the community and work outwards;
- Thin and/or remove fuel within the community at identified locations;
- Construct fuel breaks along easements between Clear Air Force Station and the community of Anderson to provide access to sections that contain hazard fuels and create stand conversions (Removal of spruce trees and exposing the earth to promote a growth of willows and aspens) within those sections
- Adopt the Denali Borough Emergency Evacuation Plan and Ready set Go..
- Develop and implement a street address system to aid emergency vehicles throughout the Anderson Fire Protection area;



- Become a certified Firewise community.

Anderson has a cold, continental climate with maritime influences in the summer. The average high temperature range during July is from 66 to 70 °F. The average low temperature range during January is -6 to -24 °F. Extreme temperatures have been measured, ranging from a low of -63 to a high of 98 °F. Average annual precipitation is 12.7 inches, and average annual snowfall is 49.3 inches.

A large number of people in Anderson/Clear and the surrounding area rely on subsistence, especially moose. Active forest management, including hazardous fuel reduction, will improve moose habitat while contributing to abilities to protect the community from the threat of wildland fires. Small game also relies on the habitat a young forest provides and they are also important to the subsistence lifestyle and the overall health of the forest.

#### **I. Community Risk Assessment**

The Anderson/Clear wildland/urban interface (WUI) as a whole is high risk and has been scouted and mapped into four working zones for the purpose of prioritizing mitigation tasks. Priorities are graded based on four factors: Risk/Hazard; Natural and manmade barriers; Fire protection response time and community Firewise rating.

A. City of Anderson (See Map )

The community of Anderson is made up of primarily residential homes, school, city infrastructure, local businesses and churches. It is threatened by miles of black spruce to the North, East and South of the community. On the west side lays the Nenana River. In 2002, a fire started on the South end of town and destroyed over 150 acres of trees in the Park near the river. It was a blessing that the winds came from the northeast and fueled the fire away from the town center. Large pockets of closely compacted black spruce lie within the community.

A multi-agency response with local VFD's and Alaska Division of Forestry would be inadequate to protect structures in the early hours of wildland fire in this zone.

The largest threat would be the lack of access to evacuate of fire protection if the fire starts on the east end of town and blocks the only access to the city.

The mitigation plan for either threat is the same. It is to create defensible space around structures in which to protect against wildland fire and create an alternate route for evacuation of its residents. Some homeowners have landscaped and cleared in order to beautify their property or protect themselves from fire. Unfortunately most residences need much work. There remains a need to continue beyond past efforts and implement a Firewise Plan throughout the community.

B. Clear Air Force Base (See Map)

Clear Air Force Station is a military installation made up of primarily military infrastructure and housing for its employees. Many ignition sources in the area are that could threaten Anderson or the military installation. (Powerlines, railroad, recreational, equipment). Clear FD has limited wildland fire suppression capabilities and may not be able to suppress a rapidly growing wildland fire, or adequately protect installation infrastructure from fires that encroach from areas outside of their jurisdiction.

C. Windy/Rex /Kobe/and Brown Court

Windy/Rex/Kobe and Brown Court are remote subdivisions within the Anderson Fire Protection Area and located along the Parks Highway corridor. The majority of the wildland fires in our protection area are started in these remote areas mainly by lightning. Wildland fires suppression in these areas are extremely hard to contain and control due to the remoteness and lack of a road system. These areas consist mainly of black spruce. These fires are not only a threat to the residents in the subdivision, but also threaten the community of Anderson and Clear Air Force Station.

**C. Fire Ecology and Silviculture.**

- Prior to 1950, when large scale fire suppression began, Fires were allowed to burn across the landscape. Fires were started by lightning strikes and burned either small or large amounts of acreage depending on the fuel bed and fire weather. The result was a vast diversity of forest age classes in a mosaic thrown over the landscape.
- When wildfires burn an area it sets forest succession back to age zero. Forest succession has been happening for as long as forests have existed in Alaska. The result is site conversion from white and black spruce to hardwoods and willows. Immediately following fire the sites begin to warm due to the removal of the forest canopy, consumption of insulating moss, and the blackening of the forest floor from the burn increasing warming from the sun. This warming cycle significantly increases nutrient recycling. The warmed burnt area rich in nutrients becomes an ideal environment for the growth of pioneering forest species such as birch, aspen and willow. Because new succulent growth is rich in nutrients, the young forest



becomes a major food source for a vast diversity of wildlife, from voles and foxes to moose and wolves.

- After about thirty years the hardwood forest canopy begins to close in. The forest floor is further cooled and insulating moss layers begin to develop. Due to this cold environment, pioneering species of hardwoods and willows begin to die and are gradually replaced by spruce. The habitat value and diversity of wildlife are greatly diminished. The succession of forest back to spruce takes 80- 100 years. The process then starts all over again with a lightning strike.
- With the start of fire fighting in 1950, the natural fire cycle and the creation of a diversity of forest age classes across the landscape was interrupted. Occasional fires escaped suppression and large fires resulted but overall the forest grew older as a whole. The forest tended to be one age with a lack of diversity. Overall forest health diminished. Continuous fuels were created, leading to more difficult fire suppression, and with nature's tendency to do things on a large scale, this can create a fire that would burn much bigger and hotter, sterilizing the soil and burning large areas. The goal of silviculture is to manage forested lands, and in this case, to break up the fuel beds creating diversity and a safer environment.

#### **Assessment to prioritize areas for fuel reduction:**

The City of Anderson Fire Protection Service Area is vulnerable to catastrophic wildfire due to an almost uninterrupted stand of black spruce that encompasses nearly the entire service area. Frequent thunderstorms and associated lightning strikes in and around the fire protection area are a constant cause for concern during the peak lightning season in May, June and July. An even greater threat is posed by human caused fires in the local area. Minimal fire reduction, fire breaks, and almost no "Firewise" landscaping have been accomplished around homes and businesses. Another major concern for the community of Anderson is the lack of a second exit out of the town.

Firefighter safety, the safety of the residents of Anderson fire protection area, Clear Air Force Station Infrastructure and of the many travelers who are here during fire season are the highest priority for firefighting personnel. Private property, improvements and our natural resources are other values of concern that this plan addresses.

After the initial Risk/Hazard Assessment, areas or "phases" were designated as priority areas for fuels reduction work. A 100' firebreak around the community of Anderson will be the top priority for treatment. First priority is for City of Anderson employees to perform this important work. Second priority is for contractors to perform this work in close coordination with City of Anderson personnel.

State Forestry along with the cooperators of this CWPP will utilize this plan assist in securing grant funding, and as a guide for limited resources, for essential hazard fuels mitigation, fire prevention, and community education efforts.

Alaska Firewise techniques will be introduced as a preventive method, for residents, to reduce the fire risk/hazard in and around structures. Firewise is a proven method for communities to prepare and plan for wildfire.



DOF, Anderson and Clear Fire Department are responsible for wildland fire protection in Anderson and the surrounding area. The City of Anderson Fire Department has mutual aid agreements with City of Nenana Fire Department, Clear Air Force Station Fire Department, and the Tri-Valley (Healy) Fire Department.

***The goal of this CWPP is to reduce the risk of wildland fire in the community by develop a wildfire prevention strategy and prioritize a thorough list of risk reduction projects in the high risk areas identified by vegetation maps and local community knowledge/assessment.***

Collaboration may be accomplished through three processes. Convene decision makers, involve local, borough, state, military and federal agencies, and engage interested parties. Decision makers will be those responsible for the development, implementation, and maintenance of the CWPP.

This CWPP was initiated by the Fairbanks Forestry in accordance with the HFRA, which directs communities at risk of wildfire to develop a risk assessment and mitigation plan. Communities with a CWPP may receive significant benefits in the future should funding be appropriated for hazardous fuel reduction and fire prevention. State and Federal agencies were contacted, including Forestry, DOT, AST, Denali Borough, Denali Borough School District, Anderson Fire and EMS Department, Clear Air Force Station and community members.

### **Wildland Urban Interface ((WUI))**

The Wildland Urban Interface (WUI) is the area where houses meet or intermingle with undeveloped wildland vegetation. Communities with a WUI face significant risk to life, property and infrastructure. Wildland fire within the WUI is one of the most difficult, dangerous and complicated situations firefighters face. Joint fire planning places a priority on working collaboratively within the community to reduce the risk of wildfire. Methods for reducing the risk of wildfire within the WUI include:

- a. Reducing the amount of fuels within the interface area;
- b. Fragmenting or breaking up continuous hazard fuels
- c. Reducing the incidence of human caused fires
- d. Involving individual landowners in implementing Firewise program measures on their own property.

Wildland firefighting agencies and local fire departments cannot always adequately protect the growing number of structures, especially in the sprawling wildland urban interface areas or where developments are remote or hidden within the wild lands. *It is therefore critical that landowners assume responsibility for protecting their property against wildfire.*

### **Recommendations for Homeowners in the WUI**

- Construct a driveway that is large enough for fire engines to easily navigate. Thin or remove the hazard fuels along the driveway and create a large turnaround near the structure. Place an identifying sign at the entrance to the driveway.
- Remove flammable vegetation within 30' of the structure. Beyond 30' and up to 100' thin the spruce trees to a distance of 10' between the trees. Remove the bottom limbs of spruce trees; this will prevent a smoldering fire from burning the structure after the main fire front (and firefighters) has passed.
- Keep firewood piles 50' from the structure.
- Plant and maintain a well-watered green lawn.
- Install metal roofs and metal or fire resistant siding.
- Keep a ladder, a hose with an outdoor faucet and hand tools available and in plain sight. Keep a swimming pool or drums of extra water stored near the house.
- Close or screen all openings in eaves and skirting.
- Do not store items against the structure.
- Use underground fuel tanks.
- Remove all junk cars and old sheds from around the house.
- Store all hazardous materials such as weed killers and flammable liquids in a marked area away from the structure.

## Summary

Based upon past fifteen years of fire history, there is a definite need to decrease City of Anderson's vulnerability to wildland fire. Currently the city is vulnerable to fire from outside the city as well as from within the city because of natural fuel conditions and lack of good Firewise habits. City of Anderson will benefit by: 1) Increasing the awareness of Firewise principals among residents, 2) performing hazardous fuels reduction work immediately around homes and adjacent areas, 3) construct fuel breaks around the perimeter of the city, 4) develop a long-term (minimum of 10 years) fire protection plan/strategy, and 5) continued collaboration among stakeholders.

The following objectives will enable the Anderson Protection Area to reduce it's "at risk" for wildfire:

#1 the first line of defense against a wildland fire is to create a Firewise landscape around your home and to construct your home to Firewise standards. Forestry and the City of Anderson will offer information and literature on defensible spaces and other Firewise tactics.

#2 to decrease the number of wildland fires caused by humans we will complete a Community Wildlife Protection Plan and exposure model.

#3 Forestry will assist the City of Anderson in creating a map of the hazardous fuels from the ground and by using GIS and satellite imagery. This will allow us to prioritize areas for fuel reduction. The City of Anderson is currently applying and will continue to seek additional funds to create a 100' barrier around the community to reduce fuels.

#4 Increasing the use of satellite imagery and GI data to provide the firefighter with higher quality maps and data will enable them to improve their response times and success rate on initial attacks fires while greatly increasing the effectiveness of the firefighters during large fires, increasing the emphasis on training for local EFF and also enhance the ability of Forestry to quickly suppress fires before they become large fires that can threaten many homes. Working with the cooperating agencies to utilize this data and exercising these skills on a regular basis will help to minimize the confusion inevitably created during WUI fires.

#5 The City of Anderson will adopt the Denali Borough Evacuation Plan and initiate the Ready Set Go Program.

#6 Yearly apply for grants that will assist the Anderson Fire Department with all of our objectives.

The community of Anderson is in a difficult situation in regards to wildfire. It has no significant topographical features such as hills to hinder fire suppression efforts, nor does it have a nearby body of water to be used as an effective resource by firefighters. It does have a continuous hazardous fuel load that encompasses nearly the entire town and areas immediately surrounding it. This situation is conducive to a catastrophic wildfire that could threaten lives and property, possibly costing millions of dollars in damage. Residents of Anderson are no strangers to wildfire, in fact many have been involved in firefighting efforts in some form or another, either by providing support, being employed as a firefighter, or, in some cases, actively fighting fire in their yards alongside firefighters. Lightning strikes are frequent during the summer months and human caused fires typically occur during times when fire indices are at their highest, a good example of this is trees being blown into power lines on windy days. It is therefore widely recognized by the citizens of this community that given the right conditions, a destructive wildfire could occur that would quickly overwhelm firefighting capabilities. In light of this, the surest way to prepare for a wildfire of this magnitude is through fire prevention. Congress also recognizes this and has taken steps to correct the situation by enacting the Healthy Forests Restoration Act which directs communities at risk to develop a plan to address this issue. This fuel loading that has developed in Anderson is neither healthy nor desirable, and the primary goal of this initiative is to reduce the fire danger to the community.

Fuel reduction is by far the most effective way to protect Anderson from a large scale destructive wildfire and return our forests to a healthier, more natural state. However, fuel reduction on the outskirts of Anderson will not in itself solve the problem. A significant problem is the amount of fuel within the community itself. Neighborhoods with heavily forested yards, undeveloped lots between residences, long narrow roads choked with fuel on both sides and driveways in similar condition are contributing to this hazardous situation. It is the intent of this plan to reduce fuel from inside the community, working outwards. A higher priority will be given to removing fuel around essential infrastructure such as communication towers, power lines, primary evacuation routes and centers, and around agencies responsible for conducting or assisting in firefighting efforts. While it is true that fuel reduction on the outskirts of town is important and necessary, reducing fuel on private property within the community is of greater importance; therefore it is imperative that members of the community become involved. The most effective way for landowners to become involved is to incorporate Firewise measures into their home construction and landscaping; this includes fire resistant construction, improved ingress and egress, and fire resistant landscaping.

It is also the intent of the City of Anderson to make this Community Wildfire Protection Plan sustainable in order to become independent of outside financial assistance, and to further community involvement. It is hoped that this can be accomplished by using the wood products acquired during hazard fuel thinning or removal, to heat homes and buildings or to provide energy. This CWPP could also be used during other emergencies such as earthquakes, especially the evacuation and house locator sections of the plan.



## Action Plan

The following action plan was developed from the goals and objectives.

## Acknowledgements:

The Community of Anderson sincerely appreciate the efforts of Ms. Nancy Hollis who produced this CWPP, in collaboration with the listed partners. Additionally, City of Anderson Clerk, Ms. Dorothy Leake also provided information and photos for the plan.

## Maps:

## Appendices: