

## ***Annex I: Town of Superior***

## Annex I Town of Superior

### I.1 Community Profile

The Town of Superior in southeast Boulder County is bounded by the Rocky Flats Wildlife Refuge and State Highway 128 to the south, the City of Boulder and Boulder County Open Space to the west and northwest, U.S. 36 to the east and northeast, and the City and County of Broomfield and Jefferson County to the southeast. The total planning area, including the existing town limits and potential annexation areas, is approximately 4.26 square miles.

The elevation of Superior ranges from 5,475 feet along Coal Creek in “Original” Superior to 5,980 feet on the ridge paralleling State Highway 128. Rock Creek and Coal Creek are the major drainage basins that flow through the Town. Both converge with Boulder Creek and eventually St. Vrain Creek, a major tributary to the South Platte River.

The climate is semi-arid, with an average of 18 inches of precipitation per year. Temperatures range from -22°F. to 104°F.

The Town of Superior was founded in 1896 by William C. Hake and incorporated in 1904. At that time, the Town’s economy was based largely on farming and coal mining in the surrounding foothills. The shaft to the Industrial Coal Mine was sunk in 1896 on the hillside immediately to the south of the present location of Original Superior. The coal was said to be of “Superior” quality, and so the Town was named.

Mining was the major force in Superior’s history until 1945 when, similar to other mines located throughout southeast Boulder County, the removal of coal from the Industrial Mine became uneconomical, and the mine was closed. Commercial development that supported the mining industry also came to a halt, and the Town evolved into a quiet ranching and farming community. In the 1990s, the economic and new construction boom made Superior one of the fastest growing communities in the nation.

#### I.1.1 Population

The estimated 2020 population of the Town of Superior was 13,099. Select Census 2019 demographic and social characteristics for Superior are shown in Table I-1.

**Table I-1 Superior’s Demographic and Social Characteristics**

Characteristic	Percent
Gender/Age	
Male (%)	48.9
Female (%)	51.1
Under 5 Years (%)	5.6
65 Years and Over (%)	7.3
Race/Ethnicity (one race)	
White (%)	76.8
Hispanic or Latino (Of Any Race) (%)	6.8
Other	
Average Household Size	2.85
High School Graduate or Higher (%)	98.1

Source: U.S. Census Bureau, 2019 Quick Facts, [www.census.gov/](http://www.census.gov/)

## I.1.2 Economy

The Town of Superior is a bedroom community to the Denver-Boulder metropolitan region and offers limited opportunities for residents to work within the Town boundaries. According to 2018 OnTheMap Census data, the industries that employed most of Superior's labor force were professional, scientific, and technical services (15.8%); health care and social assistance (10.9%); and educational services (10.5%). Select economic characteristics for Superior from the Census Bureau are shown in Table I-2.

**Table I-2 Superior's Economic Characteristics**

Characteristic	
Individuals below Poverty Level (%)	4.2
Median Home Value	\$576,800
Median Household Income, 2019	\$127,292
Per Capita Income, 2018	\$52,492

Source: U.S. Census Bureau, 2019 Quick Facts, [www.census.gov/](http://www.census.gov/)

## I.2 Hazard Identification and Summary

The most significant hazards for Superior are wildfires, floods, expansive soils, severe winter storm and windstorm. Refer to Section 4.3 Vulnerability Assessment for detailed vulnerability on the countywide level. Due to the historical coal mining in the area subsidence of the land surface is a concern in Superior.

Coal Creek runs through Original Superior and has occasionally caused flood damage in the Town's history. Notably, flooding occurred in the Spring of 1935 and resulted in damage to the 3rd Avenue bridge, leaving the 2nd Avenue bridge as the only means for vehicular access to a segment of this neighborhood. In 1995, flooding caused damage to the structural buttress of the 2nd Avenue bridge. In mid-September 2013 Boulder County, including the Coal Creek and Rock Creek Basins received over 18 inches of rain over a three-day period, a storm calculated to be excess of the 100-year storm. The portion of the Rock Creek Basin located in Superior had been master-planned in accordance with the Mile High Flood District (formally known as the Urban Drainage & Flood Control District) standards and the drainageway improvements functioned as planned with only minor channel damage. Along Coal Creek within Original Superior, which had been platted over a hundred years ago, flooding caused damage to about a dozen building structures. Floodwaters overtopped the 2nd Avenue Bridge, causing erosion of the approach embankments, but little damage to the structure itself. Subsequent to the flooding, the Town, in conjunction with FEMA, removed flood debris, repaired street damage and worked with residents to mitigate flood damage. The Town also purchased for open space a parcel contiguous to development south of Coal Creek and constructed an emergency access to be used in the event of a future flood. In 2015, the Town, in conjunction with the Mile High Flood District (formally known as the Urban Drainage & Flood Control District) and the Hazard Mitigation Grant Program, undertook a flood mitigation project to add capacity at the 2nd Avenue Bridge and improve channelization of Coal Creek. These improvements will remove most of the building structures along Coal Creek from the 100-year floodplain. In 2015 the Town also purchased two small properties along Coal Creek that were in the 100-year floodplain and were incorporated into the overall flood mitigation project. The Town is planning another flood mitigation project on Coal Creek, between 2nd Avenue and McCaslin Blvd. The Town has acquired a parcel through the development review process to facilitate this project.

**Table I-3 Town of Superior Hazard Summary**

Hazard Type	Geographic Extent	Probability of Future Occurrences	Magnitude / Severity	Increased Threat (Climate Change)	Hazard Significance
Air Quality	Extensive	Highly Likely	Critical	Moderate	Medium
Avalanche	N/A	N/A	N/A	Moderate	N/A
Communicable / Zoonotic Disease Outbreak	Limited	Occasional	Negligible	Low	Low
Dam and Levee Failure	Significant	Occasional	Critical	Substantial	Low
Drought	Extensive	Occasional	Limited	Moderate	Medium
Earthquake	Extensive	Occasional	Negligible	Substantial	Low
Extreme Temperatures	Extensive	Occasional	Negligible	Low	Low
Expansive Soils	Significant	Occasional	Negligible	Severe	Low
Flood	Limited	Likely	Limited	Substantial	High
Hailstorm	Extensive	Occasional	Limited	Severe	Medium
Landslide/Mud and Debris Flow/Rockfall	N/A	N/A	N/A	Moderate	N/A
Lightning	Extensive	Occasional	Negligible	Substantial	Low
Severe Winter Storm	Extensive	Highly Likely	Limited	Moderate	High
Subsidence	Limited	Occasional	Negligible	Substantial	Low
Tornado	Extensive	Occasional	Negligible	Moderate	Low
Wildfire	Significant	Likely	Critical	Severe	High
Windstorm	Extensive	Highly Likely	Limited	Severe	High

**Geographic Extent**

- Limited: Less than 10% of planning area
- Significant: 10-50% of planning area
- Extensive: 50-100% of planning area

**Probability of Future Occurrences**

- Highly Likely: Near 100% chance of occurrence in next year or happens every year.
- Likely: Between 10 and 100% chance of occurrence in next year or has a recurrence interval of 10 years or less.
- Occasional: Between 1 and 10% chance of occurrence in the next year or has a recurrence interval of 11 to 100 years.
- Unlikely: Less than 1% chance of occurrence in next 100 years or has a recurrence interval of greater than every 100 years.

**Magnitude/Severity**

- Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths
- Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability.
- Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability.
- Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid

**Increase Threat from Climate Change**

- Low- unlikely to become more of a threat due to climate change.

	<ul style="list-style-type: none"> <li>● Moderate – possibly will become more of a threat due to climate change.</li> <li>● Substantial- likely to become more of a threat due to climate change.</li> <li>● Severe- highly likely to become more of a threat due to climate change</li> </ul> <p><b>Significance</b></p> <ul style="list-style-type: none"> <li>● Low: minimal potential impact</li> <li>● Medium: moderate potential impact</li> <li>● High: widespread potential impact</li> </ul>
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### I.3 Asset Inventory

#### I.3.1 Property Inventory

Table I-4 represents an inventory of property in Superior based on the Boulder County Assessor's data as of March 2022.

**Table I-4 Superior's Property Inventory**

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value
Commercial	32	49	\$162,963,009	\$162,963,009	\$325,926,018
Exempt	28	52	\$13,671,675	\$13,671,675	\$27,343,350
Mixed Use	1	13	\$3,110,000	\$3,110,000	\$6,220,000
Residential	3,925	3,973	\$2,052,115,131	\$1,026,057,566	\$3,078,172,697
<b>Total</b>	<b>3,986</b>	<b>4,087</b>	<b>\$2,231,859,815</b>	<b>\$1,205,802,250</b>	<b>\$3,437,662,065</b>

Source: Boulder County Assessor's Office

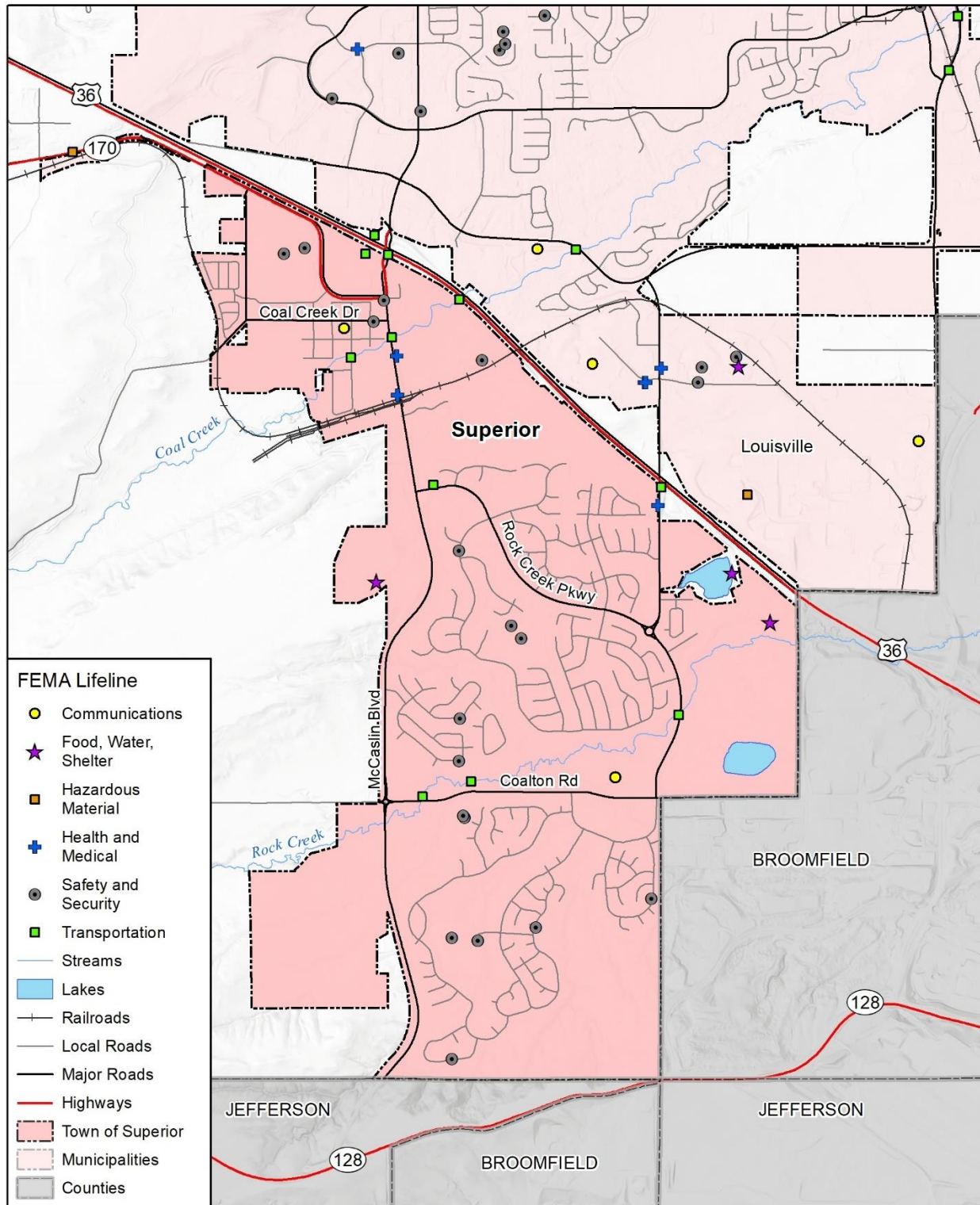
Critical facility counts and types in GIS databases provided by Boulder County and organized by FEMA Lifeline are shown in Table I-5 and in the map in Figure I-1.

**Table I-5 Summary of Superior's Critical Facilities in GIS**

FEMA Lifeline	Count
Communications	2
Food, Water, Shelter	2
Health and Medical	2
Safety and Security	19
Transportation	8
<b>Total</b>	<b>31</b>

Source: Boulder County, HIFLD, CDPHE, Wood Analysis

Figure I-1 Superior's Base Map and Critical Facilities



Map compiled 3/2022;  
intended for planning purposes only.  
Data Source: Boulder County, CDOT,  
City of Boulder, CDPHE, NBI, NID, HIFLD



0 0.5 1 Miles



### **I.3.2 Economic Assets**

Economic assets at risk may include major employers or primary economic sectors, such as, agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster. After a disaster, economic vitality is the engine that drives recovery. Every community has a specific set of economic drivers, which are important to understand when planning ahead to reduce disaster impacts to the economy. When major employers are unable to return to normal operations, impacts ripple throughout the community.

The following are Superior's major employers:

- Costco Wholesale
- Target Corporation
- Boulder Valley School District
- Key Equipment Finance
- SDL International
- Safeway Stores Inc.
- Whole Foods

### **I.3.3 Natural, Historic, And Cultural Resources**

Assessing the vulnerability of Superior to disaster also involves conducting an inventory of the natural, historical, and cultural assets of the area. This step is important for the following reasons:

- The community may decide that these types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- If these resources are impacted by a disaster, knowing so ahead of time allows for more prudent care in the immediate aftermath, when the potential for additional impacts are higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.
- Natural resources can have beneficial functions that reduce the impacts of natural hazards, such as wetlands and riparian habitat, which help absorb and attenuate floodwaters.

#### **Natural Resources**

The Town contains a variety of wildlife because of its location between the foothills and the plains. It likely receives infrequent visits from species inhabiting plains, foothill, montane, and aquatic/riparian habitats. The Town is the edge of geographical range for numerous species. The abundance of wildlife species varies widely within and across habitats and cannot be obtained without detailed population studies.

#### **Historic and Cultural Resources**

The Coal Creek Agricultural Site (Grasso Park) at 122 E. William Street was listed on the Colorado State Register of Historic Properties (for more information about this register, see Section 4.3 Vulnerability Assessment) on March 11, 1998.

It should be noted that as defined by the National Environmental Policy Act (NEPA), any property over 50 years of age is considered a historic resource and is potentially eligible for the National Register. Thus, in the event that the property is to be altered, or has been altered, as the result of a major federal action, the property must be evaluated under the guidelines set forth by NEPA. Structural mitigation projects are considered alterations for the purpose of this regulation.

### **I.4 Growth and Development Trends**

Table I-6 illustrates how Superior has grown in terms of population and number of housing units between

2010 and 2019.

**Table I-6 Superior's Change in Population 2010-2019**

2010 Population	2019 Population Estimate	Estimated Percent Change 2010-2019	2010 # of Housing Units	2019 Estimated # of Housing Units	Estimated Percent Change 2010-2019
12,481	13,087	+4.9%	4,698	4,952	+5.4%

Source: Colorado Division of Local Government State Demography Office, [www.dola.colorado.gov/dlg/demog/](http://www.dola.colorado.gov/dlg/demog/)

Until 1986, Superior was confined to a small area of residential development flanking Coal Creek and included limited commercial activity. In 1987, the Rock Creek Planned-Unit Development was submitted to the Town, and the residents voted to annex Rock Creek Ranch in exchange for improved services and utilities. The first building permit was issued in 1990. Development along the U.S. 36 corridor and increasing growth and development in the Denver/Boulder metropolitan area has resulted in an increase in residential and commercial development in the communities adjacent to the Town. In addition, growth caps imposed by the City of Boulder prompted increased development in surrounding communities.

The Town of Superior contains undeveloped parcels adjacent to the U.S. 36 corridor that have attracted the attention of the development community. To the west of Superior, the landscape between Boulder and Superior has remained relatively unchanged due to the acquisition of large tracts of open space by Boulder County and the City of Boulder.

## I.5 Vulnerability Assessment

The intent of this section is to assess Superior's vulnerability separate from that of the planning area as a whole, which has already been assessed in Sections 4.4 Vulnerability Assessment and 4.5 Estimating Potential Losses of the base plan. This vulnerability assessment analyzes the population, property, critical facilities, and other assets at risk for the more significant hazards or where available data permits a more in-depth analysis. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment of the base plan.

### I.5.1 Vulnerability by Hazard

The hazard summaries in Table I-3 above reflect the hazards that could potentially affect the Town. Based on this analysis, the priority hazards (High Significance) for mitigation are flood, wind and winter storm.

Due to the ability to quantify vulnerability further with available data, only dam inundation, flood, and wildfire hazards will be profiled in the following vulnerability assessment section.

Hazards assigned a significance rating of Low, and which do not differ significantly from the County ranking (e.g., Low vs. High) are not addressed further in this plan and are not assessed individually for specific vulnerabilities in this section.

#### Dam Failure

##### *General Property and People*

While there is no concrete data available to indicate any likelihood of failure, based on best available dam inundation data there might be structures potentially at risk of dam failure flooding. The dam failure inundation maps contain sensitive information and are not available for display in this public planning document. Based on a GIS analysis performed with the best available data 966 people are potentially at risk of a dam inundation event. Table I-7 shows the potential exposure to people and property in Superior.



**Table I-7 Estimated Dam Inundation Exposure to Properties in Superior**

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
Exempt	1	8	\$341,800	\$341,800	\$683,600	
Residential	650	355	\$236,508,600	\$118,254,300	\$354,762,900	966
<b>Total</b>	<b>651</b>	<b>363</b>	<b>\$236,850,400</b>	<b>\$118,596,100</b>	<b>\$355,446,500</b>	<b>966</b>

Source: Boulder County Assessor, U.S. Census, DOLA, DWR, Wood Analysis

### **Critical Facilities and Infrastructure**

Based on the GIS analysis summarized in the Table I-8, it is expected that around 2 critical facilities in Superior are exposed to a potential dam inundation event. The majority fall within the safety and security lifeline.

**Table I-8 Critical Facilities Exposed to Dam Inundation**

FEMA Lifeline	Count
Food, Water, Shelter	1
Safety and Security	1
<b>Total</b>	<b>2</b>

Source: Boulder County Assessor, Wood Analysis

Refer to Section 4.3.4 of the base plan for the location of dams in Boulder County.

### **Economy**

In addition to commercial and residential building impacts, a dam inundation event that affected the major roads which give access to the town. Which could significantly affect the local economy, by limiting or completely impeding access to shops, restaurants, hotels, and other major industries which keep the local economy thriving.

### **Historical, Cultural, and Natural Resources**

Dam or reservoir failure effects on the environment would be similar to those caused by flooding from other causes. For the most part the environment is resilient and would be able to rebound, though this process could take years. However, historic and cultural resources could be affected just as housing or critical infrastructures would.

### **Flood**

Prior to the 2013 flood event, damage caused by flooding in Superior was minor due to the small stream sizes of Coal and Rock Creeks and amount of agricultural land near the creeks. Infrastructure including roads, bridges and irrigation structures have experienced the greatest damages due to flooding in the past. According to the 2019 Boulder County Flood Insurance Study, the 2013 flood event created split flows from Coal Creek led to flooded streets and houses in old town Superior. The flood event also caused bank erosion near bridges and floodwater left debris throughout the town and in open space areas.

### **General Property and People**

Vulnerability to flooding was determined by summing potential losses to Superior properties using GIS, the building footprint layer provided by Boulder County and the latest FEMA NFHL data. A separate parcel analysis was also conducted, where the parcel was used to create a centroid, or point, representing the center of each parcel polygon, in order to get the number of improved parcels, property types, and

improved values. FEMA's NFHL data depicts the 1% annual chance (100-year) and the 0.2% annual chance (500-year) flood events. Figure I-2 below displays Superior's FEMA special flood hazard areas present in the town, color coded based on flood event (i.e., 100-year versus 500-year).

Based on the GIS analysis performed and the available FEMA flood mapping, the potential risk for the town is shown in Table I-9 and Table I-10. Superior 1% annual chance flood zone presents has 3 buildings, 1 of which is a residential building, and over an estimated \$195,945 in estimated losses for all property types. According to the analysis, 43 buildings (38 of which are residential) are exposed to the 0.2% annual chance event, totaling over \$3 million of damages to buildings and contents.

**Table I-9 Town of Superior Properties at Risk to 1% Annual Chance Flood Zone**

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Estimated Loss	Population
Exempt	2	2	\$123,875	\$123,875	\$247,750	\$61,938	
Residential	2	1	\$357,352	\$178,676	\$536,028	\$134,007	3
<b>Total</b>	<b>4</b>	<b>3</b>	<b>\$481,227</b>	<b>\$302,551</b>	<b>\$783,778</b>	<b>\$195,945</b>	<b>3</b>

*Source: Boulder County Assessor, U.S. Census, DOLA, FEMA NFHL Effective 8/15/2019, Preliminary 9/30/2019, Wood Analysis*

**Table I-10 Town of Superior Properties at Risk to 1% Annual Chance Flood Zone**

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Estimated Loss	Population
Exempt	4	5	\$250,900	\$250,900	\$501,800	\$125,450	
Residential	23	38	\$8,595,469	\$4,297,735	\$12,893,204	\$3,223,301	103
<b>Total</b>	<b>27</b>	<b>43</b>	<b>\$8,846,369</b>	<b>\$4,548,635</b>	<b>\$13,395,004</b>	<b>\$3,348,751</b>	<b>103</b>

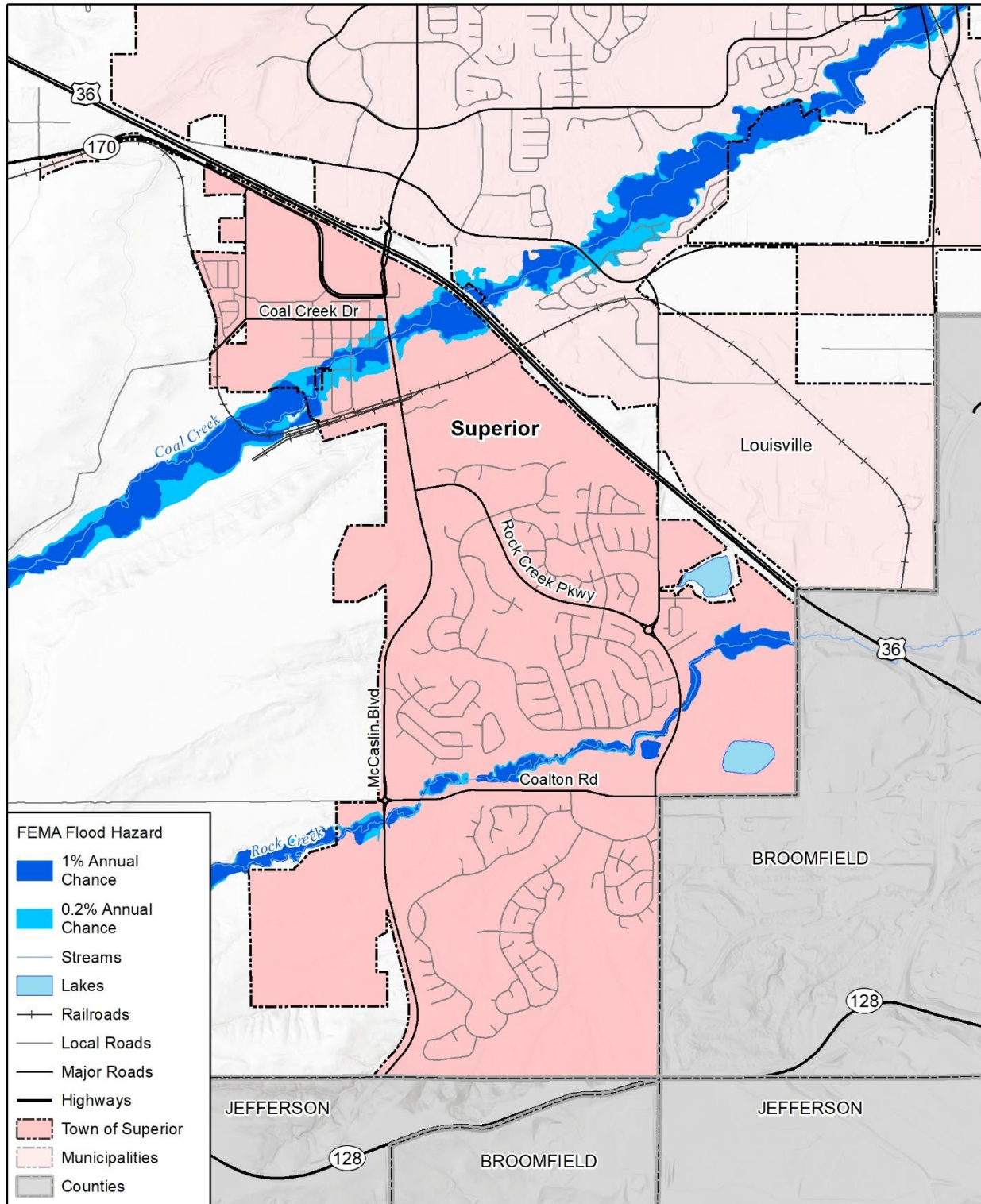
*Source: Boulder County Assessor, U.S. Census, DOLA, FEMA NFHL Effective 8/15/2019, Preliminary 9/30/2019, Wood Analysis*

The population exposed to the flood hazards described in the flood vulnerability analysis above was estimated by applying an average household size factor to the number of improved residential properties identified in the flood hazard areas within Superior. These estimates yielded the population exposures shown in the table above in Table I-9 and Table I-10. As such, the combined 1% and 0.2% annual chance floods would potentially displace 106 people, based on the residential structures which fall in those flood zones. For additional details on potential displacements by flood event, see the Boulder County Base Plan.

### **Critical Facilities and Infrastructure**

There are a total of 2 critical facilities located in 1% flood hazard area. No critical facilities were identified as being located in the 0.2% flood hazard area. The 2 critical facilities fall within the Transportation FEMA Lifeline category and are identified as being bridges.

**Figure I-2 Town of Superior Flood Hazard Areas**



Map compiled 3/2022;  
intended for planning purposes only.  
Data Source: Boulder County, CDOT,  
FEMA NFHL Effective 8/15/2019, Preliminary 9/30/2019



## Economy

Flooding can have a major economic impact on the economy, including indirect losses such as business interruption, lost wages, and other downtime costs.

## Historical, Cultural and Natural Resources

The environment is mostly resilient to general flooding. However, cultural or historic properties within floodplains would be affected in similar ways as property and critical facilities/infrastructure, especially those with underground or basement levels where water would easily seep and potential ruin archives, resources, or other important assets.

## Wildfire

### General Property

Parcel analysis was conducted using GIS to analyze where parcels, buildings counts, property types and content values intersected with the wildfire hazards zones defined by the Colorado Forest Atlas, from highest to lowest risk. The Colorado Forest Atlas calculates a composite risk rating, defined as the possibility of loss or harm occurring from a wildfire. It identifies areas with the greatest potential impacts from a wildfire – i.e., those areas most at risk - considering all values and assets combined together – WUI Risk, Drinking Water Risk, Forest Assets Risk and Riparian Areas Risk. This risk index has been calculated consistently for all areas in Colorado, allowing for comparison and ordination of areas across the entire state. The Wildfire Risk Classes for Superior are shown in in Table I-11 and Figure I-3 below.

Based on this analysis Superior has 473 structures at risk of wildfire, 116 of which are within area of the highest to high risk. Residential property types have the greatest number of parcels at risk of wildfire.

Note, this analysis does not reflect the impacts from the December 2021 Marshall Fire.

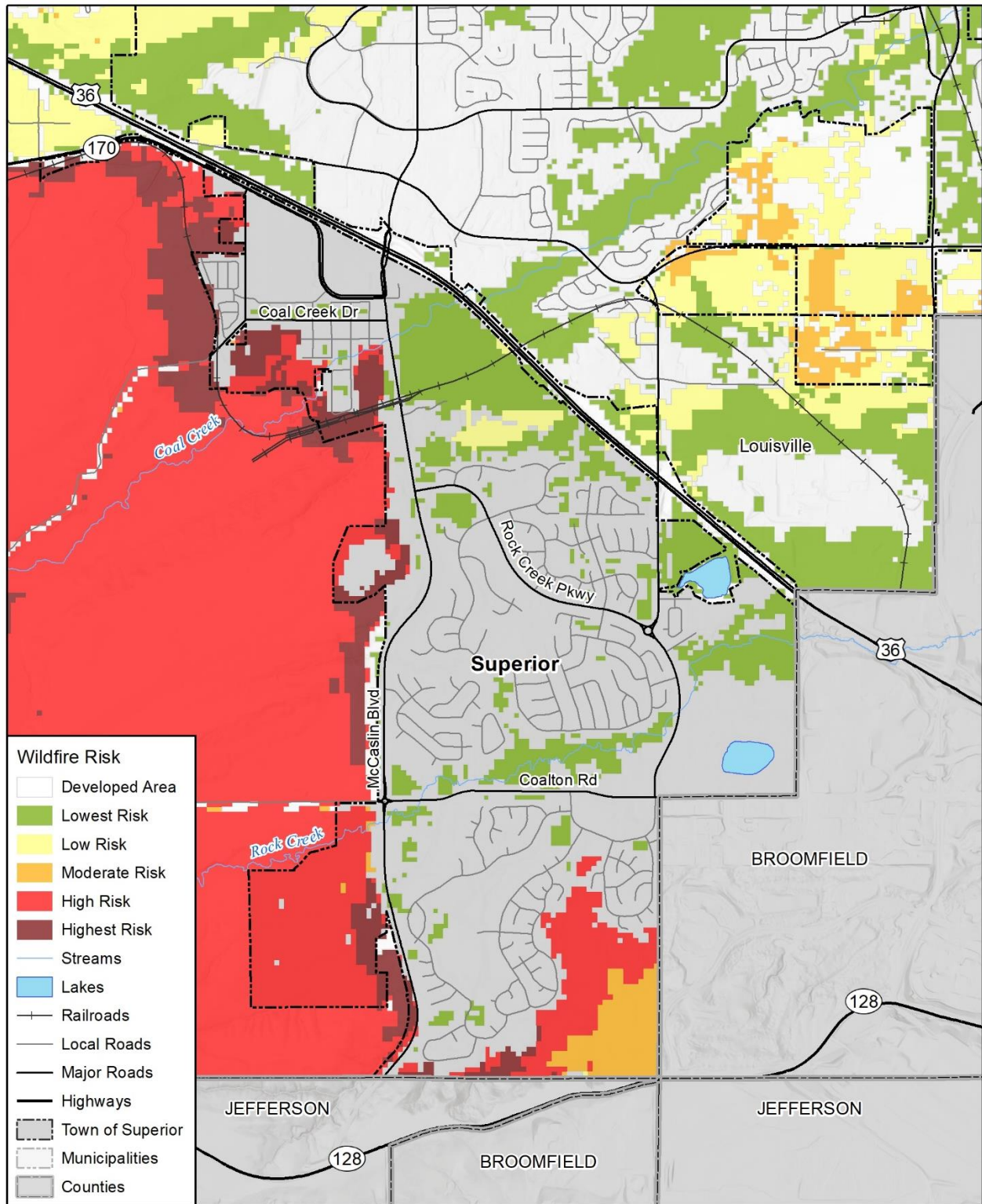
**Table I-11 Properties within the Highest to Lowest Wildfire Risk**

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
<b>Highest Wildfire Risk</b>						
Commercial	2	3	\$14,577,662	\$14,577,662	\$29,155,324	
Exempt	1	10	\$0	\$0	\$0	
Mixed Use	1	1	\$3,110,000	\$3,110,000	\$6,220,000	3
Residential	78	72	\$40,664,429	\$20,332,215	\$60,996,644	196
<b>Total</b>	<b>82</b>	<b>86</b>	<b>\$58,352,091</b>	<b>\$38,019,877</b>	<b>\$96,371,968</b>	<b>199</b>
<b>High Wildfire Risk</b>						
Exempt	2	2	\$227,500	\$227,500	\$455,000	
Residential	28	28	\$14,445,880	\$7,222,940	\$21,668,820	76
<b>Total</b>	<b>30</b>	<b>30</b>	<b>\$14,673,380</b>	<b>\$7,450,440</b>	<b>\$22,123,820</b>	<b>76</b>
<b>Low Wildfire Risk</b>						
Residential	40	47	\$15,856,750	\$7,928,375	\$23,785,125	128
<b>Total</b>	<b>40</b>	<b>47</b>	<b>\$15,856,750</b>	<b>\$7,928,375</b>	<b>\$23,785,125</b>	<b>128</b>
<b>Lowest Wildfire Risk</b>						
Commercial	5	7	\$29,359,526	\$29,359,526	\$58,719,052	
Exempt	10	11	\$249,075	\$249,075	\$498,150	
Residential	237	292	\$116,346,969	\$58,173,485	\$174,520,454	794

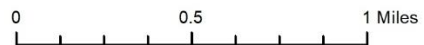
Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
<b>Total</b>	<b>252</b>	<b>310</b>	<b>\$145,955,570</b>	<b>\$87,782,086</b>	<b>\$233,737,656</b>	<b>794</b>

Source: Boulder County Assessor's Office, U.S. Census, DOLA, Colorado Forest Service - Colorado State Forest Service, Wood Analysis

**Figure I-3 Town of Superior Wildfire Risk**



Map compiled 3/2022;  
intended for planning purposes only.  
Data Source: Boulder County, CDOT,  
Colorado Forest Service - Colorado State Forest Service



## Wildland-Urban Interface

The Colorado Forest Atlas also provides an analysis for Wildland-Urban Interface (WUI) risk based on housing density consistent with Federal Register National standards. The location of people living in the wildland-urban interface and rural areas is essential for defining potential wildfire impacts to people and homes. To calculate the WUI Risk Index, the WUI housing density data was combined with flame length data and response functions were defined to represent potential impacts. The response functions were defined by a team of experts led by Colorado State Forest Service staff. By combining flame length with the WUI housing density data, it is possible to determine where the greatest potential impact to homes and people is likely to occur. The range of values is from -1 to -9, with -1 representing the least negative impact and -9 representing the most negative impact. For example, areas with high housing density and high flame lengths are rated -9, while areas with low housing density and low flame lengths are rated -1. Data is modelled at a 30-meter cell resolution, which is consistent with other Colorado WRA layers. WUI Risk for Superior is mapped in Figure I-4.

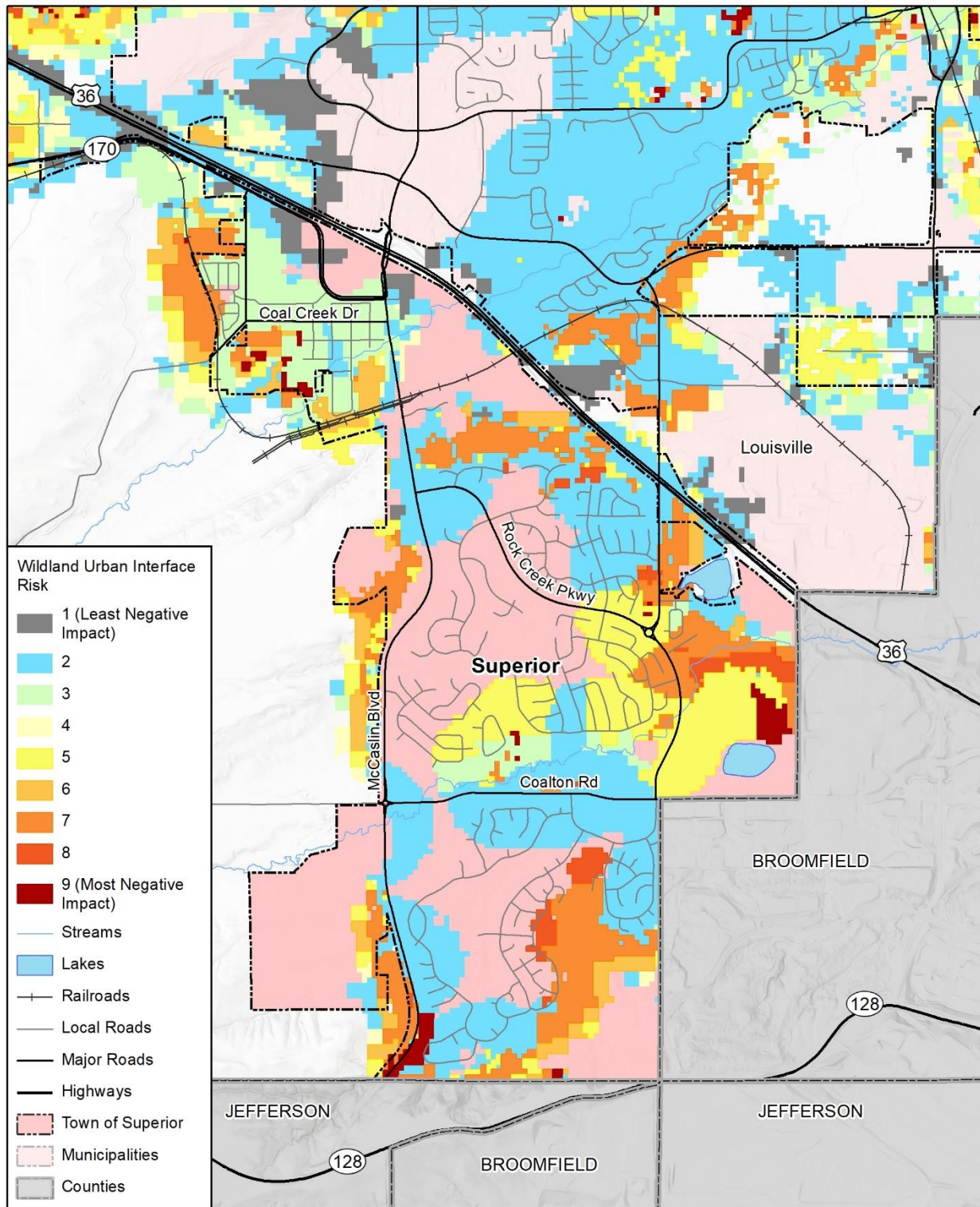
Based on this analysis Superior has 2,792 structures within WUI risk areas, 1,084 of which are at moderate to high WUI risk. Residential property types have the greatest number of structures (2,719) within all WUI risk areas.

**Table I-12 Properties Within High to Low WUI RISK**

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
<b>High WUI Risk</b>						
Commercial	1	3	\$8,272,800	\$8,272,800	\$16,545,600	
Exempt	2	3	\$0	\$0	\$0	
Mixed Use	1	7	\$3,110,000	\$3,110,000	\$6,220,000	19
Residential	310	360	\$200,470,161	\$100,235,081	\$300,705,242	979
<b>Total</b>	<b>314</b>	<b>373</b>	<b>\$211,852,961</b>	<b>\$111,617,881</b>	<b>\$323,470,842</b>	<b>998</b>
<b>Moderate WUI Risk</b>						
Commercial	3	2	\$10,412,388	\$10,412,388	\$20,824,776	
Residential	483	709	\$447,937,605	\$223,968,803	\$671,906,408	1,928
<b>Total</b>	<b>486</b>	<b>711</b>	<b>\$458,349,993</b>	<b>\$234,381,191</b>	<b>\$692,731,184</b>	<b>1,928</b>
<b>Low WUI Risk</b>						
Commercial	19	32	\$103,710,687	\$103,710,687	\$207,421,374	
Exempt	15	26	\$9,043,600	\$9,043,600	\$18,087,200	
Residential	1,923	1,650	\$820,260,185	\$410,130,093	\$1,230,390,278	4,488
<b>Total</b>	<b>1,957</b>	<b>1,708</b>	<b>\$933,014,472</b>	<b>\$522,884,380</b>	<b>\$1,455,898,852</b>	<b>4,488</b>

Source: Colorado State Forest Service, Boulder County Assessor's Office, Wood GIS Analysis

**Figure I-4 Town of Superior Wildland Urban Interface Risk**



Map compiled 3/2022;  
intended for planning purposes only.  
Data Source: Boulder County, CDOT,  
Colorado Forest Service - Colorado State Forest Service

0 0.5 1 Miles





### People

The last column of Table I-11 and Table I-12 above summarizes the number of people at risk to wildfire in the analyzed fire zones. Based on the assessment conducted, Superior has an estimated 275 people living within the high to highest risk zones. An additional 922 residents live within the low to lowest wildfire risk areas. No residential properties were identified in the moderate wildfire risk zone. In terms of people living within WUI risk areas, an estimated 7,404 residents live within the low to high WUI risk areas. Of those, 2,916 are estimated to be living within the moderate to high WUI risk areas. In addition to living within wildfire or WUI risk areas, smoke resulting from wildfires, even fires outside of Boulder County or the state have been an issue for people in Superior and Boulder County in the past.

### Critical Facilities and Infrastructure

The Town of Superior has a total of 4 critical facilities at lowest to highest risk to wildfire. Most (3) facilities are identified as being a food, water, shelter lifeline. This includes a high hazard dam within the highest wildfire risk areas, and assisted living residence or nursing home and a childcare provider located within the lowest wildfire risk area. There are also 22 critical facilities within the low to high WUI Risk areas. The following tables show the results of the GIS analysis and is organized by wildfire or WUI risk and Lifeline. Refer to Chapter 4 of the Base Plan for more information on the methodology of the GIS analysis.

**Table I-13 Critical Facilities Within Wildfire Risk Areas by FEMA Lifeline**

FEMA Lifeline	Count
<b>Highest Wildfire Risk</b>	
Food, Water, Shelter	1
<b>Total</b>	<b>1</b>
<b>Lowest Wildfire Risk</b>	
Health and Medical	1
Safety and Security	1
<b>Total</b>	<b>2</b>
<b>Grand total</b>	<b>4</b>

Source: Boulder County, CDOT, CDPHE, NBI, NID, HIFLD, Wood Analysis

**Table I-14 Critical Facilities Within WUI Risk Areas by FEMA Lifeline**

FEMA Lifeline	Count
<b>High WUI Risk</b>	
Food, Water, Shelter	1
Safety and Security	1
<b>Total</b>	<b>2</b>
<b>Moderate WUI Risk</b>	
Health and Medical	1
Safety and Security	1
Transportation	1
<b>Total</b>	<b>3</b>
<b>Low WUI Risk</b>	
Communications	2
Safety and Security	10

FEMA Lifeline	Count
Transportation	5
<b>Total</b>	<b>17</b>
<b>Grand Total</b>	<b>22</b>

Source: Boulder County, CDOT, CDPHE, NBI, NID, HIFLD, Wood Analysis

### **Economy**

Tourism, the accommodation and food services industry (e.g., hotels and restaurants), and retail are major components of Boulder County's economy, and Superior's as well. Wildland fires can, for example, lead to significant tourism reductions due to health and safety concerns, causing lost revenues from lack of visitation, stays in hotels, spending on restaurants and other commerce sources, and more.

### **Historical, Cultural and Natural Resources**

Wildfires are a common and naturally occurring phenomenon in forested areas and can benefit forest health in many respects. But the climate change trend which is leading to hotter, more widespread, and destructive fires can make it more difficult for the environment to recover, and lead to increased flood runoff or other secondary/cascading hazards, such as erosion, landslides, mudslides, and debris flows, and flooding. This can severely impact water quality and watershed health for years after a fire. Wildfires can negatively impact air quality, water quality, and vegetation and biodiversity.

With regards to historic or cultural structures and resources, wildfires would affect those in similar ways as general property and critical facilities/infrastructure, having the potential for burn downs and hence possible complete loss of important historical assets.

## **I.6 Capability Assessment**

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment summarizes Superior's regulatory mitigation capabilities, administrative and technical mitigation capabilities, and fiscal mitigation capabilities and then discusses these capabilities in further detail along with other mitigation efforts as they pertain to the National Flood Insurance Program's Community Rating System (CRS). Although the CRS is flood-focused, this discussion also incorporates activities related to other hazards into the categories established by the CRS.

### **I.6.1 Mitigation Capabilities Summary**

Table I-15 lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in Superior.

**Table I-15 Superior's Regulatory Mitigation Capabilities**

Regulatory Tool (ordinances, codes, plans)	Yes/No	Comments
Comprehensive Plan	Yes	Town of Superior 2001 Comprehensive Plan with 2012 Amendment
Zoning ordinance	Yes	Land Use Code Chapter 16
Subdivision ordinance	Yes	Land Use Code Chapter 16
Growth management ordinance	No	
Floodplain ordinance	Yes	Land Use Code Chapter 16
Site plan review requirements	Yes	

Regulatory Tool (ordinances, codes, plans)	Yes/No	Comments
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes	Drainage, Storm Water Management, Erosion Control (Land Use Code Chapter 16)
BCEGS Rating	No	
Building code	Yes	2018 International Building Code; 2021 IECC with opt-out option for Marshall Fire-impacted homes to use 2018 IECC
Fire department ISO rating	Yes	Rating: 3
Erosion or sediment control program	Yes	
Stormwater management program	Yes	
Capital improvements plan	Yes	2022 Town of Superior Budget
Economic development plan	No	
Local emergency operations plan	No	Included in Boulder County's Emergency Operations Plan
Other special plans	Yes	Coal Creek and Rock Creek Master Drainageway Plan, 2019; Parks, Recreation, Open Space, and Trails Master Plan, 2021
Flood insurance study or other engineering study for streams	Yes	FEMA Flood Insurance Study, August 15, 2019; Flood Insurance Rate Map, 2019, Flood Hazard Area Delineation Coal Creek and Rock Creek, 2014
Community Wildfire Protection Plan	No	
Participate in the National Flood Insurance Program (NFIP)	Yes	
Participate in the Community Rating System (CRS)	No	
Elevation Certificates	Yes	

Table I-16 identifies the personnel responsible for mitigation and loss prevention activities as well as related data and systems in Superior.

**Table I-16 Superior's Administrative and Technical Mitigation Capabilities**

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices	Yes	Administration Department, Assistant Town Manager	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Public Works and Utilities Department, Director	
Planner/engineer/scientist with an understanding of natural hazards	No		
Personnel skilled in GIS	Yes	Public Works & Utilities Coordinator	
Full-time building official	Yes		SAFEbuilt
Floodplain Administrator	Yes	Public Works/Town Civil Engineer	
Emergency Manager	Yes	Administration/Disaster & Preparedness Manager	Also work with Boulder County OEM
Grant writer	No		
Transportation Planner	Yes	Public Works Dept.	

Personnel Resources	Yes/No	Department/Position	Comments
Resiliency Planner	No		
Other personnel	No		
GIS Data – Hazard areas	Yes	Public Works & Utilities Coordinator	
GIS Data – Critical facilities	Yes	Public Works & Utilities Coordinator	
GIS Data – Building footprints	No		
GIS Data – Land use	Yes	Public Works & Utilities Coordinator	
GIS Data – Links to assessor's data	Yes	Public Works & Utilities Coordinator	
Warning systems/services (Reverse 9-11, cable override, outdoor warning signals)	Yes	Boulder County Sheriff's Office	Reverse 9-11, Emergency Warning Sirens, Boulder County

Table I-17 identifies financial tools or resources that Superior could potentially use to help fund mitigation activities.

**Table I-17 Superior's Fiscal Mitigation Capabilities**

Financial Resources	Accessible/Eligible to Use (Yes/No)	Comments
Community Development Block Grants	Yes	
Capital improvements project funding	Yes	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	Yes	
Incur debt through general obligation bonds	Yes	
Incur debt through special tax bonds	Yes	
Incur debt through private activities	No	
Withhold spending in hazard-prone areas	Yes	
Stormwater Service Fees	Yes	

Table I-18 identifies education and outreach mitigation capabilities that Superior currently has in place.

**Table I-18 Superior's Education & Outreach Mitigation Capabilities**

Education & Outreach	Yes/No Comments
Local citizen groups that communicate hazard risks	No
Firewise	No
StormReady	No
Other	The Mile High Flood District distributes Flood Hazard Warning brochures to all properties in the floodplain

## **I.6.2 Opportunities for Capability Enhancement and Improvement**

The plan update process provided the town with an opportunity to review and update the capabilities currently in place to mitigate hazards. This also provided an opportunity to identify where capabilities could be improved or enhanced. Specific opportunities could include:

- Integrating risk assessment information into the 2023 update of the Town's Comprehensive Plan.
- Integrating risk assessment information into future updates of the Town's Land Use Code.
- Providing training for staff members related to hazards or hazard mitigation grant funding in partnership with the County and DHSEM
- Consider becoming a certified Firewise and certified StormReady community after reviewing Town staffing capacity.

## **I.6.3 Community Rating System Activities (All Hazards)**

### **National Flood Insurance Program**

The Town of Superior joined the National Flood Insurance Program (NFIP) on September 28, 1979. The NFIP allows private property owners to purchase affordable flood insurance and enables the community to retain its eligibility to receive certain federally backed monies and disaster relief funds.

NFIP insurance data indicates that as of March 2022, there are 16 policies in force in Superior, resulting in \$5,012,00 of insurance in force. All were for residential properties (single-family homes). Since 1978 there have been 5 claims for a total of \$98,052. There are no repetitive loss structures located in the Town of Superior.

#### ***Continued Compliance with the NFIP***

Recognizing the importance of the NFIP in mitigating flood losses, the Town of Superior will place an emphasis on continued compliance with the NFIP. As an NFIP participant, the town has and will continue to make every effort to remain in good standing with NFIP. This includes continuing to comply with the NFIP's standards for updating and adopting floodplain maps and maintaining and updating the floodplain zoning ordinance as well as review of any potential development in special flood hazard areas.

### **Community Rating System Categories**

The Community Rating System (CRS) categorizes hazard mitigation activities into six categories. These categories, and applicable Superior activities, are described below. Note: some of the activities are appropriate to multiple categories. For purposes of simplicity, they are only included in the category deemed most appropriate based on the definitions and examples provided in the CRS Coordinator's Manual.

#### **Preventive**

Preventive activities keep problems from getting worse. The use and development of hazard-prone areas is limited through planning, land acquisition, or regulation. They are usually administered by building, zoning, planning, and/or code enforcement offices.

#### ***Town of Superior 2001 Comprehensive Plan with 2012 Amendment***

The purpose of this plan is to provide a basis for current and future land use decisions in the Town of Superior. This plan seeks to facilitate rational decisions regarding future development that are based on limited natural resources, economic considerations, and sound community design and planning principles. Plan goals and related policies particularly relevant to hazard mitigation include the following:

Goal: Protect and promote the health, safety, education, and welfare of residents and employees within the

Town.

### **Emergency Preparedness Plan**

Coordinate with the Boulder County Sheriff's department to develop an emergency preparedness plan for the Town of Superior. Communicate with Town residents about the plan's recommendations.

### **Service Coordination**

Coordinate with the Boulder Valley School District, the Rocky Mountain Fire Protection District, and other suppliers of services, facilities, and utilities in planning for future development and in the siting process of these public facilities.

### **Growth Management**

Guide the location of growth to assure the maximum utilization and efficiency of public facilities and services.

### **Coal Creek/Rock Creek Master Drainage Plan**

Implement the Coal Creek/Rock Creek Master Drainage Plan as approved by the Board of Trustees. The Plan depicts general areas targeted for detention/retention facilities; final site selection/location areas are flexible and subject to development review.

### **Impact Fees**

Assess impact fees for future development that necessitates infrastructure improvements including, but not limited to, paved access, utilities and public services. In addition, generate development agreements to enable future enforcement of developer commitments to construct or finance needed infrastructure and services and other commitments/agreements that result in fulfilling the goals set forth in this Comprehensive Plan.

### **Water Supply**

Maintain a reliable, permanent supply of water that will meet the present and future needs of the community.

Goal: Ensure that a high quality, natural environment is preserved and integrated into future development. Promote and encourage the preservation of existing natural resources including vegetation, drainages, wetlands, ridgelines, steep slopes, wildlife habitat and migration corridors.

### **Regional Air Quality Studies**

Cooperate with air quality studies conducted at a regional level and use the data in land use planning.

### **Subsidence**

Prohibit development which could endanger public safety or property on or near areas determined to be geologically unstable. Subsidence reports certified by qualified professionals shall be required, prior to development in any areas known or suspected of being undermined, to prove the safety of these areas.

### **Mitigation Of Impacts**

Require future development to mitigate negative impacts on environmentally scarce and valuable lands

Goal: Minimize the effects of future development on the function and quality of local and regional waterways and overall water quality.

## **Floodway Management**

Within the floodway (as defined by FEMA studies adopted by the Town of Superior), intermittently permit recreational and public uses, if such uses do not adversely impact the environmental character of the area or development downstream.

## **Floodplain Management**

Develop floodplain management policies to preserve riparian habitat and wildlife migration corridors within the Town. Flood-prone areas of streams and creeks in the Town shall be designated as "floodplain management areas," with special development standards applied therein.

## **Coordination**

Coordinate with Boulder County and appropriate regional, state, and federal agencies in flood control, water quality and stormwater and irrigation run-off programs to realize the greatest benefit from all of these programs.

## **Drainage Corridors**

Protect natural features and habitat associated with drainage corridors.

Goal: Preserve those areas of existing open space that offer natural links between neighborhoods and community centers, that offer unique outdoor recreation and enjoyment, that provide important ecological functions, and that contribute to the community's aesthetic beauty in order to maintain an enjoyable and healthy community.

## **Reservoirs And Drainageways**

Protect, enhance, and develop the existing reservoirs and creek drainageways to protect wildlife habitat and to provide amenities for public use.

Goal: Develop a multi-modal transportation system to efficiently meet the local and regional transportation needs of residents and businesses in a safe, convenient, and efficient manner while minimizing negative environmental and community impacts.

## **Alternative Modes Of Transportation**

Encourage alternative modes of transportation through the establishment of bicycle routes, pedestrian corridors, neighborhood electric vehicle routes, and transit stops linking residential areas with commercial, recreational, and open space facilities with established or proposed regional bicycle systems and with transit hubs. Encourage the adoption and facilitation of additional alternative modes of transportation, including neighborhood electric vehicles, and continue to monitor similar advancements and regulations in neighboring communities.

## **Regional Transportation District Services And Facilities**

Encourage Regional Transportation District (RTD) to provide transit services and facilities that adequately serve the travel needs of commuters and transit-dependent groups.

## **Superior Rtd Park-N-Ride Facility**

Encourage public transit by promoting the Superior RTD park-n-Ride facility as the primary regional transit hub within the Town and by promoting local bus routes. Coordinate with RTD on a future direct route from Superior to Denver International Airport using the Northwest Parkway.

## **U.S. 36 Bus Rapid Transit (Brt) High Occupancy Vehicle (Hov) Managed Lanes**

Support the development of managed lanes on U.S. 36 with a bus/rapid transit station to serve the Town of Superior. Participate in all U.S. 36 corridor meetings and support pedestrian/bicycle/local bus access to the BRT stations.

### **Transit-Oriented Design Principles**

Encourage potential development near the bus/rapid transit stations to use and implement transit-oriented design principles when master planning future development parcels.

### **McCaslin Boulevard/U.S. 36 Interchange**

Improve traffic flow of the McCaslin Boulevard/U.S. 36 interchange by constructing a Diverging Diamond Interchange (DDI) and reconfiguring the west side ramps to provide more direct access to RTD's park-n-Ride. The DDI best achieves maximization of the existing infrastructure including the bridge structure over US36, accommodates or enhances bicycle and pedestrian mobility, maintains transit connectivity, and accommodates the near-term and mid-term traffic demand.

### **McCaslin Boulevard Traffic Flows**

Ensure effective traffic flows along McCaslin Boulevard between SH 128 and Rock Creek Parkway without exceeding the road's existing functional classification as an arterial.

### **Neighborhood Connections**

Ensure neighborhood connections between the Town Center and S. 88th St and S. Coal Creek Drive that respond to projected traffic counts for the proposed Land Uses as depicted on the 2012 Comprehensive Plan's Community Framework and Land Use Plan.

### **Vehicular, Bicycle, And Pedestrian Access**

Ensure safe, effective, and direct access between McCaslin Boulevard, the Town Center, and properties southeast of Original Superior for vehicular, bicycle and pedestrian access.

### **Future Street Connections**

Require development submittals to plan for future street connections by including infrastructure improvements that could potentially support future road connections.

### ***Superior Municipal Code***

#### Building Regulations (Including the Flood Control Plan)

Among the Building Regulations is the Town's Flood Control Plan. It is the purpose of these regulations to promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions to specific areas by provisions designed to:

- Protect human life and health;
- Minimize expenditure of public money for costly flood control projects;
- Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- Minimize prolonged business interruptions;
- Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines and streets and bridges located in areas of special flood hazard;
- Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;



- Ensure that potential buyers are notified that property is in an area of special flood hazard; and
- Ensure that those who occupy the areas of special flood hazards assume responsibility for their actions.

In order to accomplish its purposes, the Flood Control Plan includes methods and provisions for:

- Restricting or prohibiting uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- Controlling the alteration of natural floodplains, stream channels and natural protective barriers, which help accommodate or channel flood waters;
- Controlling filling, grading, dredging and other development which may increase flood damage; and
- Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.

Specifically, the regulations require a development permit for construction of development in any area of special flood hazard, outline the duties and responsibilities of the building inspector in administering the regulations, and set standards for flood hazard reduction, including anchoring, construction materials and methods, design and location of utilities, subdivision proposals, elevation (one-foot above base flood elevation), floodproofing, and mobile homes. Additional provisions more stringently limit development in floodways.

#### Land Use Code (Superior Development Code)

The Town's Land Use Code establishes the regulations and standards governing the use and development of land within the Town. Included are provisions for the annexation, subdivision, and zoning of land. Also included are the Town standards for the use of land. It is the intent of this code to ensure the orderly, efficient, and integrated development of the Town in a way that both promotes the health, safety, and general welfare of its residents and that is compatible and protective of the natural environment. Related to hazard mitigation, the Town seeks to:

- Provide a high quality of life for its residents;
- Maintain property values;
- Provide for the adequate and concurrent provision of public infrastructure and services;
- Ensure well-planned subdivisions by establishing adequate standards for design, improvements, and review;
- Prevent loss of life and property from fire, flooding, geologic hazards, and other natural or manmade dangers; and
- Conserve open space and significant environmental features.

Mitigation-specific regulations are described here:

The Zoning Regulations establish a few mitigation-related districts, which include the following:

- The Open Space and Recreation District was established as a conservation district to preserve the environment and natural character of the landscape within the district. Land within the district may be protected from development, but may also be used for trails, buffering between land uses, defining the edges of urbanization and the preservation of valuable natural features. In addition, this district is intended to provide open space areas for passive, active and developed recreation.
- The Open Space and Natural Uses District was established as a protection district to preserve the open space and undeveloped character of those properties within the district. Land within the district is protected from development but low-impact improvements to the land such as trails, trailheads, flood-control facilities, and reclamation may be allowed.

- The Overlay Environmental Constraints District was established to identify areas of natural or manmade hazards, such as steep slopes or ground subsidence, and wildlife potential or areas of unique environmental features or visual resources such as wildlife areas or ridgelines where additional study and design features are needed to mitigate the hazard or the visual effects of development.
- The Overlay Floodplain Management District was established to control development within the floodways and floodplains to minimize the threat to life and property and meet the requirements of the National Flood Insurance Program.

The Subdivision Regulations dictate that to be subdivided, land shall be of such character that it can be used safely for development purposes without unnecessary danger to health or peril of fire, flood, or other menace.

The Floodways and Floodplains Regulations prohibit artificial obstructions within floodways, identify permissible uses within floodways, and restrict construction within floodways and floodplains (also see discussion of Flood Control Plan above). They also require setbacks for development in areas located outside a designated floodplain but where a stream is located.

The Drainage, Stormwater Management, and Erosion Control Regulations require that all development conform to the natural contours of the land, and natural and preexisting manmade drainage ways remain undisturbed (to the extent practicable); drain properly; plan for stormwater management; control sedimentation and erosion;

The Steep Slope Areas Regulations restrict development on land which has slopes in excess of twenty percent (20 percent) shall be designated as steep slope areas. As such, these areas are susceptible to erosion, and development has the potential of creating unstable slope conditions that are hazardous to inhabitants and property.

The Subsidence Hazard Areas Regulations restrict development in identified subsidence hazard areas.

### **Other**

The Coal Creek & Rock Creek Master Drainageway Plan (2014) provides an overall concept and approach for landowners, developers, and the Town of Superior to plan the drainage facilities required for new development. The Town's consulting water engineers revised the existing conditions hydrologic model that can be used by developers and the Town to evaluate proposed drainage improvements.

The Town has a floodplain program to address safety concerns associated with homes and other structures currently located either partially or wholly within the Coal Creek floodplain, and to create additional open space parks and wildlife habitat along Coal Creek.

### **Property Protection**

Property protection activities are usually undertaken by property owners on a building-by-building or parcel basis.

No current projects/activities.

### **Natural Resource Protection**

Natural protection activities preserve or restore natural areas or their natural functions. They are usually implemented by parks, recreation, or conservation agencies or organizations.

The purpose of the Town's Parks, Recreation, Open Space, and Trails Master Plan (2005) is to obtain community input and present information about existing levels of service for parks, recreation, natural open space, and trails in the Town and make recommendations for the future.

The Town's Open Space Summary Report (2005) reviews currently undeveloped properties in Superior and discusses their potential value to the Town as undeveloped open space.

The Wildlife Survey and Habitat Evaluation for the Town of Superior, Colorado (2003), consists of a wildlife assessment and development of a GIS mapping of wildlife data on 18 privately owned properties. The goal of the project was to describe wildlife habitats, corridors, enhancement opportunities, and human interaction with wildlife on each of these properties to provide a basis for making acquisition recommendations, evaluating development proposals, and assisting in the development of an open space management plan.

### **Emergency Services**

Emergency services measures are taken during an emergency to minimize its impacts. These measures are the responsibility of town or county emergency management staff and the owners or operators of major or critical facilities.

No current projects/activities.

### **Structural Projects**

Structural projects keep hazards away from an area (e.g., levees, reservoirs, other flood control measures). They are usually designed by engineers and managed or maintained by public works staff.

In 2015, the Town, in conjunction with the Mile High Flood District (Formally known as the Urban Drainage & Flood Control District) and the Hazard Mitigation Grant Program, undertook a flood mitigation project to add capacity at the 2nd Avenue Bridge and improve channelization of Coal Creek. These improvements will remove most of the building structures along Coal Creek from the 100-year floodplain

### **Public Information**

Public information activities advise property owners, potential property owners, and visitors about the hazards, ways to protect people and property from the hazards, and the natural and beneficial functions of natural resources (e.g., local floodplains). They are usually implemented by a public information office. Some methods of public information could include monthly articles and information on fire safety or monthly articles on environmental education as well as community events. The Town also has an ongoing water conservation campaign with conservation tips available on the Town's website.

Another method of public information is through the Emergency Warning Siren System. This system is coordinated with the Boulder County Office of Emergency Management

## **I.7 Superior Mitigation Actions**

A review of 2016 mitigation actions progress reports indicates that the Town of Superior has been successful in implementing actions identified in the 2016 HMP Mitigation Strategy, thus, working diligently towards meeting the 2016 plan goals. Superior's 2016 mitigation strategy contained 1 mitigation action, the purchasing of 2 properties that located within the Coal Creek floodplain. This action was completed in 2015. The New Actions in 2022 are included in the following mitigation action worksheets.

### **Name of Action: Coal Creek Stormwater Management Upgrade**

**Hazards Addressed:** Flooding

**Mitigation Goal or Objective Addressed:** Goals 1 and 2

**Issue/Background:** This is an ongoing program of drainageway and pond maintenance for the Storm Water system. The 2021 project will upgrade the Coal Creek drainageway from 2nd Avenue to McCaslin Boulevard

with flood mitigation improvements including a concrete trail. This project will be done in coordination with the Mile High Flood District.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Public Works & Utilities

**Priority (High, Medium, Low):** High

**Cost Estimate:** \$1,027,544

**Existing or Potential Funding:** This project is being done in coordination with the Mile High Flood District who will share 50% of the \$800,000 total project cost.

**Benefits (avoided losses):** Minimize flooding

**Schedule:** Work started in 2020. Annual Implementation.

**Name of Action: Acquire Additional Floodplain Properties**

**Hazards Addressed:** Flooding

**Mitigation Goal or Objective Addressed:** Goals 1, 2, and 5

**Issue/Background:** Acquire destroyed properties in existing 100-year floodway to prevent future flood losses. These properties could also be used for additional storage of flood waters during major floods. Due to the Marshall Fire, these properties have become more viable for purchase.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Public Works

**Priority (High, Medium, Low):** High

**Cost Estimate:** \$1.5 million

**Existing or Potential Funding:** FEMA HMA Grants and Mile High Flood District funding

**Benefits (avoided losses):** Reduce number of structures in the floodplain; reduce loss of life and personal injuries from flooding; mitigate against future flood losses.

**Schedule:** 2 years

**Name of Action: Enhance Landscaping Measures**

**Hazards Addressed:** Drought, Flooding, Wildfire, Wind

**Mitigation Goal or Objective Addressed:** Goals 1, 2, 3 and 5

**Issue/Background:** Mitigate drought conditions by replacing annual beds with water wise and fire-resistant perennials and/or xeriscape and hardscape design. Develop tree planting plan to help reduce the amount of stormwater runoff, increase carbon sequestration, reduce wildfire spread. Create defensible space around Town-owned structures. Develop and implement a fuels management program to reduce hazardous vegetative fuels on public lands and near essential infrastructure through using contractors through mechanical treatments such as discing, mowing, and chopping as well as chemical treatments, grazing, and biomass removal. Xeriscape medians. Mowing & bagging fuel along critical open space and urban development.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Superior Parks, Recreation & Open Space; Boulder County Open Space, Mile High Flood District

**Priority (High, Medium, Low):** High

**Cost Estimate:** \$3 million over 5 years

**Existing or Potential Funding:** Colorado Parks Foundation, Keep America Beautiful Community Restoration and Resiliency Fund, Great Outdoors Colorado, Colorado Parks and Wildlife Grant Programs, Waste Management Charitable Giving.

**Benefits (avoided losses):** Avoid loss of life and loss of property; conserving water; improved water quality; increased awareness, minimizing fiscal impact of hazards/disasters. Hazardous fuels reduction projects will be designed to moderate fire behavior.

**Schedule:** Annual implementation – 1 year. Annual: Fuels management program, defensible space. Plant material replacement in first year and then every 3 years; tree planting plan, and landscape recommendations are one-time projects.

### **Name of Action: Facilities and Infrastructure Improvements for Fire and Wind Resistance**

**Hazards Addressed:** Wildfire, Wind

**Mitigation Goal or Objective Addressed:** Goals 1, 2 and 5

**Issue/Background:** As a result of the Marshall Fire, hundreds of residential buildings, as well as several Town-owned properties, sustained damage or were completely consumed by fire. To increase resiliency against future hazards, the Town plans to install cost effective fire and wind-resistant materials at the following facilities that are currently not hardened: Water Treatment Plant; Wastewater Treatment Plant; the Community Center; Park Field Office; all Parks structures such as playground safety surfacing, shade structures, restrooms, storage buildings, and shelters; and Town Hall.

Examples of materials include: Cement Board, brick, metal roofs, concrete retaining structures, pour-in-place playground safety surfacing instead of engineered wood fiber (EWF). Structural modifications that may be necessary such as: attic venting, leaf gutter covers, etc.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Administration; Parks, Recreation and Open Space; Public Works; Planning & Building Department

**Priority (High, Medium, Low):** Medium

**Cost Estimate:** \$5 million

**Existing or Potential Funding:** BRIC Funding through FEMA

**Benefits (avoided losses):** Loss of life and property; increase resiliency against future hazards/disasters; minimize fiscal impacts of disasters; reduce vulnerability of critical lifeline facilities that would minimize impacts to residents for disaster relief.

**Schedule:** 3 years

**Name of Action: Hazard Awareness Outreach/Education/Emergency Preparedness Campaign**

**Hazards Addressed:** All Hazards

**Mitigation Goal or Objective Addressed:** Goals 1, 2, and 4

**Issue/Background:** Develop a hazard awareness outreach/education/emergency preparedness campaign to ensure that staff and residents are aware of potential hazards and how to be prepared and ensure their safety, much like FEMA's Resolve to be Ready campaign. Use existing outreach tools including posting on social media and mailing information to residents.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Administration; Partner with Boulder OEM

**Priority (High, Medium, Low):** High

**Cost Estimate:** \$50,000

**Existing or Potential Funding:** FEMA HMA funds

**Benefits (avoided losses):** Avoid loss of life and personal injuries due to lack of hazard awareness and emergency preparedness. Avoid impacts to property, facilities/infrastructure, and the environment by raising hazard awareness.

**Schedule:** 1 year 2022-2023

**Name of Action: Increase Water Storage Capacity**

**Hazards Addressed:** Drought, Wildfire

**Mitigation Goal or Objective Addressed:** Goals 1 & 2

**Issue/Background:** Install a new water tank within the existing water system. During the recent Marshall Fire, several fires were being fought and the Town's supply ran out. Increasing storage capacity in the water system will allow more redundancy in the system and allow the Town more capacity in a similar fire in the future. Additionally, a new one-million-gallon water tank will increase the Town's supply and capacity, which is critical for drought resistance.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Public Works

**Priority (High, Medium, Low):** Medium

**Cost Estimate:** \$3.5 million

**Existing or Potential Funding:** Water rate increase to fund a portion. Other FEMA funding or DOLA.

**Benefits (avoided losses):** Avoid loss of life, loss of property, increasing community risk reduction, minimize fiscal impact of disasters.

**Schedule:** 2 years for design and construction

**Name of Action: Hire a Consultant to Develop Landscape Recommendations**

**Hazards Addressed:** Drought, Wildfire, Flooding, Erosion, Wind

**Mitigation Goal or Objective Addressed:** Goals 1, 2, 3, 4, and 5

**Issue/Background:** Hire a consultant to develop landscape recommendations for residents and the Town including plants to avoid and provide educational materials and outreach programs.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Parks, Recreation and Open Space

**Priority (High, Medium, Low):** Medium

**Cost Estimate:** \$25,000-35,000 for recommendation development, \$10,000 annually for outreach programs

**Existing or Potential Funding:** Colorado Parks Foundation, Keep America Beautiful Community Restoration and Resiliency Fund, Great Outdoors Colorado, Colorado Parks and Wildlife Grant Programs, Waste Management Charitable Giving

**Benefits (avoided losses):** Avoid loss of life and loss of property; conserving water; improved water quality; increased awareness; minimizing fiscal impact of hazards/disasters.

**Schedule:** 1 year and then Annual implementation.

**Name of Action: Develop Appendix to the Open Space Master Plan for Storm-Water Drainage Improvements and Erosion Mitigation**

**Hazards Addressed:** Flood, Erosion

**Mitigation Goal or Objective Addressed:** Goals 1, 2, and 5

**Issue/Background:** Hire a consultant to develop an appendix to the Open Space Master Plan to identify storm-water drainage improvements and erosion mitigation strategies to prevent potential flooding.

**Other Alternatives:** No action

**Action Status:** New

**Responsible Office:** Parks, Recreation & Open Space

**Priority (High, Medium, Low):** Medium

**Cost Estimate:** \$35,000

**Existing or Potential Funding:** Congressional Grant submitted to Hickenlooper for Open Space Master Plan.

**Benefits (avoided losses):** Avoid loss of life and loss of property due to flooding and erosion; minimizing fiscal impact of hazards/disasters.

**Schedule:** 1 year 2023-2024