

Annex D: City of Longmont

Annex D City of Longmont

D.1 Community Profile

Longmont encompasses approximately 30 square miles and sits at an elevation of 4,979 feet above sea level. It is located along the northern Front Range in Boulder and Weld counties and is 37 miles from Denver and 16 miles from Boulder.

In 1870, a group of prominent men in Chicago decided to start a new town in Colorado. They sold memberships in this new town, called “The Chicago-Colorado Colony” and used the money to buy 60,000 acres of land in a carefully chosen site in northern Colorado. They planned the town and brought people, lumber, and building materials to the barren site where they built a small town by the summer of 1871. They named the new town “Longmont” in honor of Longs Peak, clearly visible from the town. For thousands of years prior, American Indian tribes – including the Clovis, Folsom and Plano people – traveled throughout the area where Longmont is today.

While the climate of Longmont is dry, the soil is rich, and will produce excellent crops if water is brought to it. One of the great achievements of the Chicago-Colorado Colony was building large irrigation ditches to bring water from the rivers to the fields of wheat, fruit trees, and peas that farmers planted.

The Colony planners designed Longmont to look like many other towns in America. The original one square-mile plan had stores along Main Street, homes arranged in a grid spreading out from Main Street, and industrial buildings located along the railroad and the St. Vrain River. As the town grew, large-scale agricultural industries arrived. The richness of Longmont’s soil attracted many people.

By 1910, the population of Longmont had doubled just about every ten years since its founding. Growth slowed after this and World War I and the pandemic of 1918 took their tolls on Longmont.

In 1925, the Ku Klux Klan gained control of Longmont’s City Council in an election. They began construction of Chimney Rock Dam, above Lyons. In the 1927 election, they were voted out of office, and their influence soon declined. Work on Chimney Rock Dam was abandoned as unfeasible, and its foundations are still visible in the St. Vrain River.

Longmont was affected by the Great Depression, the prolonged drought during the 1930s, and World War II. In 1950, the City’s economy was based primarily on agriculture, and Mayor Ralph Price, foreseeing a need for more water for a thirsty town, spearheaded the construction of Button Rock Dam, built seven miles upstream from Lyons on the North St. Vrain River. It paid for itself almost immediately, holding what could have been a disastrous flood in check, and filling the reservoir in a few days rather than the years it was projected to take.

In the 1960s, Longmont began to see a shift toward an economy based on advanced technologies. In 1962, the U.S. government built an air traffic control center in Longmont. Three years later, IBM built a large facility seven miles from the city, which accelerated Longmont’s growth. Up to this point the city had grown modestly, but it doubled in size between 1960 and 1970, and again between 1970 and 1980.

Events in the 1970s and 1980s forced Longmont residents to re-examine their community. Two of Longmont’s long-time employers, the Kurer-Empson vegetable cannery and the Great Western Sugar factory, closed in the 1970s, leaving few links with Longmont’s agricultural heritage.

Recessions and cutbacks at IBM and StorageTek, a computer storage company founded by several ex-IBM employees, slowed growth during the 1980s, but rapid growth resumed in the 1990s. The 2000 Census measured Longmont’s population at 71,093, a jump of nearly 20,000 since 1990. Growth in high-technology businesses continued throughout the 2000s, which fueled continued population growth.

By 2010 Longmont's population had grown to 86,270. In September 2013, a major flood struck Colorado's Front Range, with serious impacts to Longmont. Both the St. Vrain River and Left Hand Creek overflowed into neighborhoods and business districts. Rebuilding began immediately and continues still today, with continued investment in the Resilient St. Vrain Project (RSVP). In 2019, the City's population was estimated at 97,530.

D.1.1 Population

With a growth rate of approximately 1.5%, the estimated 2019 population of the City of Longmont was 97,833. The Census American Community Survey (ACS) 1 – Year estimate of 2019 demographic and social characteristics for Longmont are shown in Table D-1.

Table D-1 Longmont's Demographic and Social Characteristics

Characteristic	
Gender/Age	
Male	48.3%
Female	51.7%
Under 5 Years	5.5%
65 Years and Over	15.3%
Race	
White	91.9%
Asian	1.7%
2 or more races	1.8%
American Indian & Alaska Native (AIAN)	0.3%
Black/African American	2.3%
Native Hawaiian & Other Pacific Islanders	0.0%
Ethnicity	
Hispanic or Latino (Of Any Race)	23.8%
Other	
Average Household Size	2.58%
High School Graduate or Higher	89.3%

Source: U.S. Census Bureau, 2019- 1 Year Estimate ACS & Longmont Community Profile 2019

D.1.2 E.1.2 Economy

According to the 2019 American Community Survey (ACS) 1-Year Estimate, the industries that employed most of Longmont's labor force were educational, health, and social services (20.4%); professional, scientific, management, administrative, and waste management services (15%); manufacturing (14.3%); retail trade (11%) and arts, entertainment, and recreation, and accommodation and food services (9.8%). Select economic characteristics for Longmont from the ACS Census estimate are shown in Table D-2.

Table D-2 Longmont's Economic Characteristics

Characteristic	
Families below Poverty Level	6.2%
Individuals below Poverty Level	8.2%
Median Home Value	\$436,700

Characteristic	
Median Household Income	\$82,974
Per Capita Income	\$39,797
Population in Labor Force	71.5%
Unemployment*	2.0%

Source: U.S. Census Bureau, 2019 1-Year ACS & 5-Year ACS

D.2 HAZARD SUMMARY

The most significant hazards for Longmont are floods, dam and levee failure, drought, tornado, severe winter storm and wildfire. Refer to Section 4.3 Vulnerability Assessment for detailed analysis for the county as a whole. There are no hazards that are unique to Longmont. The overall hazard significance takes into account the geographic location, probability of occurrences and magnitude as a way to identify priority hazards for mitigation purposes. Section D.5 Vulnerability Assessment, where possible, analyzes the population, property, and other assets at risk to hazards ranked of medium or high significance that may vary from other parts of the planning area. Other hazards that could impact Longmont include Communicable/ Zoonotic Disease and Outbreaks. Dam and Levee Failure, Drought, Floods, Landslide/Mud and Debris Flow/ Rockfall. Also Lightning, severe Winter and Windstorms. Also tornadoes and wildfires have a medium risk of affecting Longmont.

Table D-3 City of Longmont Hazard Summaries

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	Limited	Highly Likely	Limited	Low	Low
Communicable / Zoonotic Disease Outbreak	Extensive	Occasional	Critical	Substantial	Medium
Dam and Levee Failure	Significant	Unlikely	Catastrophic	Moderate	High
Drought	Extensive	Likely	Catastrophic	Substantial	High
Earthquake	Extensive	Occasional	Catastrophic	Low	Medium
Expansive Soils	Significant	Highly Likely	Limited	Substantial	Low
Extreme Temperatures	Extensive	Likely	Critical	Severe	Low

Hazard Type	Geographic Extent	Probability of Future Occurrences	Magnitude / Severity	Increased Threat (Climate Change)	Hazard Significance
Flood	Significant	Highly Likely	Critical	Severe	High
Hailstorm	Extensive	Likely	Limited	Moderate	Limited
Landslide/Mud and Debris Flow/Rockfall	Limited	Occasional	Limited	Substantial	High*
Lightning	Extensive	Likely	Limited	Moderate	Medium
Severe Winter Storm	Extensive	Highly Likely	Catastrophic	Substantial	Medium
Subsidence	Significant	Likely	Limited	Low	Low
Tornado	Significant	Likely	Limited	Low	Medium
Wildfire	Significant	Highly Likely	Critical	Moderate	High
Windstorm	Extensive	Highly Likely	Catastrophic	Substantial	High
Geographic Extent <ul style="list-style-type: none"> Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area Increase Threat from Climate Change <ul style="list-style-type: none"> Low- unlikely to become more of a threat due to climate change. Moderate – possibly will become more of a threat due to climate change. Substantial- likely to become more of a threat due to climate change. 		Probability of Future Occurrences <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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 			

- Severe- highly likely to become more of a threat due to climate change
- 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
- Significance**
- Low: minimal potential impact
 - Medium: moderate potential impact
 - High: widespread potential impact

**Note: This is related to the potential for debris flow in the watershed that includes the City's water supply and Button Rock Reservoir.*

D.3 ASSET INVENTORY

D.3.1 Property Inventory

Table D-4 represents an inventory of property in Longmont based on the Boulder and Weld County Assessor's data as of March 2022.

Table D-4 Longmont's Property Inventory

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value
Agricultural	14	36	\$4,366,266	\$4,366,266	\$8,732,532
Commercial	1,076	963	\$975,091,102	\$975,091,102	\$1,950,182,204
Exempt	441	796	\$639,262,943	\$639,262,943	\$1,278,525,886
Industrial	195	271	\$489,665,660	\$734,498,490	\$1,224,164,150
Mixed Use	111	215	\$118,634,626	\$118,634,626	\$237,269,252
Residential	29,478	31,974	\$11,366,791,434	\$5,683,395,717	\$17,050,187,151
Vacant	10	18	\$1,209,367	\$1,209,367	\$2,418,734
Total	31,325	34,273	\$13,595,021,398	\$8,156,458,511	\$21,751,479,909

Source: Boulder and Weld County Assessor's Office, Wood Analysis

D.3.2 Other Assets

Table D-5 is a detailed inventory of assets identified by the City's Planning Division. This inventory includes critical facilities. For more information about how "critical facility" is defined in this plan, see Section 4.3 Vulnerability Assessment. Longmont's base map and critical facility locations are located in Figure below.

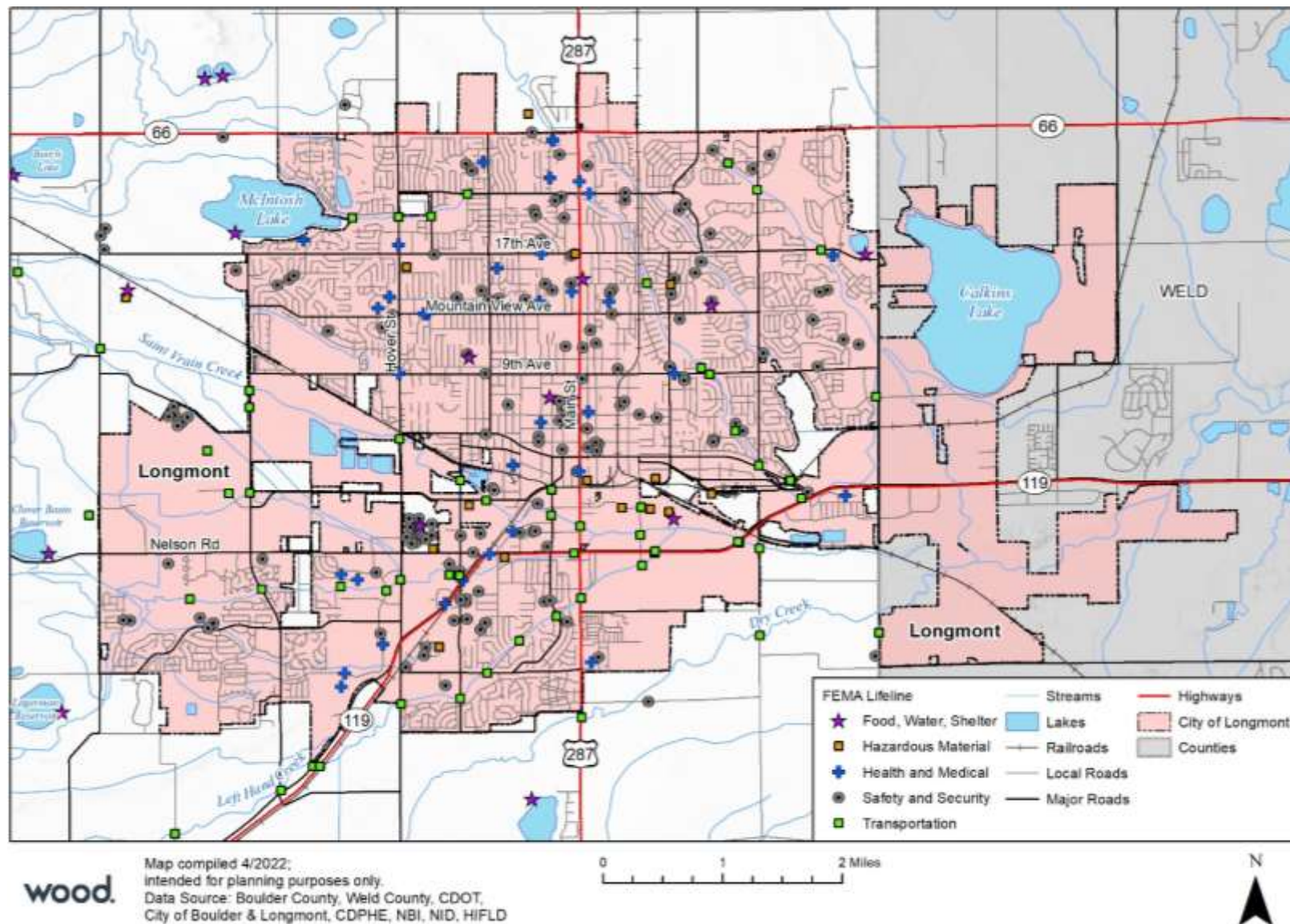
Table D-5 Summary of Longmont's Critical Facilities In GIS

Facility Type	Sub-Type	Count
Food, Water, Shelter	Dam Low Hazard	1
	Red Cross Shelter	5
	Wastewater Treatment	1
	Total	7
Hazardous Material	Hazardous Material	13
	RMP Facility	3
	Total	16

Facility Type	Sub-Type	Count
Health and Medical	Assisted Living Residence/Nursing Home	16
	Disability Care	1
	EMS Facility	1
	End Stage Renal Disease	3
	Federally Qualified Health Center	1
	Home and Community Based Services	8
	Hospice	2
	Hospital	2
	Rehabilitation or Recovery	1
	Surgery or Transplant	4
	Total	39
Safety and Security	Boulder County Building	23
	Childcare Provider	83
	Fire Station	6
	Government Building	1
	Library	2
	Police Station	1
	School	34
	Total	150
Transportation	Airport	1
	Bridge Non-Scour Fair Condition	25
	Bridge Non-Scour Good Condition	19
	Bridge Non-Scour Poor Condition	2
	Total	47
	Grand Total	259

Source: City of Longmont, Boulder and Weld County, CDPHE, NBI, NID, HIFLD

Figure D-1 Location of Critical Facilities in Longmont



D.3.3 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.

Longmont's top employers as of 2020 are listed in Table D-6.

Table D-6 Longmont Area's Top Employers

Company Name	Product	Employees
St. Vrain Valley Schools	School District	3,543
City of Longmont	City government	1,625
Seagate Technology	Computer disk drives	1,430
Intrado	911 Database & mapping services	755
Longmont United Hospital	Regional Hospital	671
UCHealth Longs Peak Hospital	Regional Hospital	540
McLane Western	Grocery distribution center	460
Federal Aviation Administration	Aviation control center	422
Circle Graphics	Digital billboards/personal photography printing	400
AveXis	Biotech gene therapy	354
Crocs	Croc shoes	345
The J.M. Smucker Company	"Uncrustables" food production	250
Baker Hughes	Power generation & energy technology	232
Wiland	Direct marketing services	225
BC Services, Inc.	Professional accounts receivable firm	220
Xilinx	Programmable logic (software)	215
DigitalGlobe	Satellite imagery	206
Micron Technology	Electronic microdisplays & enterprise drives	206
Nite Ize	Mobile, hardware LED lights	200
PharMerica	Regional billing office	200
Intel Corporation	Hardware & software engineering	165
NEOTech	Contract manufacturing	156
Western Digital	Computer disk drives	153
Current, powered by GE	LED light products	125
Sun Construction & Design Services	Construction & design services	122
Mentor Graphics	Software design	118
Woodley's Fine Furniture	Custom furniture	117
Golden Triangle Construction	Construction services	115
Cambrex Pharmaceuticals	Pharmaceutical development	103
PTA Corporation	Plastic injection molding	98

Company Name	Product	Employees
MKS Instruments	Vacuum measurement instruments	97
Claremont Foods	Food packaging	95
Sparkfun Electronics	Electronic kits	95
EnerSys/ABSL Space Products	lithium-ion batteries for spacecraft and launch vehicles.	92

Source: Longmont Economic Development Partnership (LEDP)

D.3.4 Natural, Cultural, And Historic Resources

Assessing the vulnerability of Longmont to disaster also involves inventorying 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

Natural resources of importance in Longmont include Union Reservoir, Golden Ponds, Sandstone Ranch, Jim Hamm Nature Area, St. Vrain Creek Corridor, Lefthand Creek Corridor, Dry Creek Corridor, and Lake McIntosh. For information about natural resources in Boulder County, which includes Longmont, see Section 4.3 Vulnerability Assessment.

Historic And Cultural Resources

Table D-7 lists the properties in Longmont that are on the National Register of Historic Places and/or the Colorado State Register of Historic Properties for more information about these registers, see Section 4.4.5 Community Services, of the Boulder County Hazard Mitigation Plan.

Table D-7 Longmont's Historic Properties/Districts in National and State Registers

Property	Address	Date Listed
Callahan, T. M., House	312 Terry Street	5/16/1985
Dickens Opera House	300 Main Street	7/28/1987
Downtown Historic District	Bounded by 5th Avenue on the north; 3rd Avenue on the South; Coffman Street on the West, and Emery Street on the East.	10/2017
East Side Historic District	Bounded by Longs Peak Avenue, Collyer Street, 4th Avenue, and Emery Street	10/2/1986
Empson Cannery	15 3rd Avenue	1/5/1984
Hoverhome and Hover Farmstead	1303-1309 Hover Road	1/15/1999
Longmont Carnegie Library	457 4th Avenue	11/3/1992
Longmont College	546 Atwood Street	8/12/1987
Longmont Fire Department	667 4th Avenue	5/16/1985
St. Stephen's Episcopal Church, 1881	470 Main Street	2/24/1975
West Side Historic District	Roughly bounded by 5th, Terry, 3rd, and Grant	1/7/1987

Sources: *Directory of Colorado State Register Properties*, www.coloradohistory-oahp.org/programareas/register/1503/;
National Register Information System, www.nr.nps.gov/

The City of Longmont currently has 134 designated historic structures located throughout the city. A structure may be designated for preservation if it has historical, architectural, or geographical importance to the community. Table D-8 lists Longmont's designated historic landmarks.

Table D-8 Designated Historic Landmarks in Longmont

	Property Name	Address	Construction Year	Designation Year
1	Callahan House ¹	312 Terry Street	1892	1973
2	St. Stephens Church ²	470 Main Street	1881	1974
3	Old Mill Park ³	237-239 Pratt Street	1859-80's	1974
4	Central School	1000 Block Fourth Avenue	1878	1976
5	Imperial Hotel	301 Main Street	1881	1977
6	Fire Station ⁴	667 Fourth Avenue	1907	1977
7	Wiswall-Denio House	902 Third Avenue	1892	1977
8	Robert Stephens House	503 Bross Street	1891	1977
9	William Butler House	255 Pratt Street	1884	1978
10	Library Hall	335 Pratt Street	1871	1978
11	Mead House	502 Collyer Street	1883	1978
12	Old Allen House	924 Second Avenue	1870's	1978
13	Longmont Presbyterian College ⁵	546 Atwood Street	1886	1978
14	Kiteley House	220 Ninth Avenue	1891-92	1978
15	George W. Allen House	703 Third Avenue	1892	1978
16	Presbyterian Church	402 Kimbark Street	1905	1978
17	Corner House	600 Baker Street	ca 1905-11	1980
18	J.B. Thompson House	537 Terry Street	ca 1887	1980
19	Starbird-Hartman House	324 Eighth Avenue	ca 1889	1980
20	P.E. Hamm House	709 Third Avenue	ca 1906	1980
21	D.C. Donovan House	347 Pratt Street	1900	1980
22	Spangler House	1032 Collyer Street	1903	1981
23	Zimbeck House	601 Collyer Street	1896	1981
24	Lutes Drug Store	379 Main Street	ca 1890	1983
25	Webb House	536 Collyer Street	ca 1900	1983
26	Kuner-Empson Cannery ⁶	15 Third Avenue	ca 1903	1983
27	Dickens Opera House ⁷	300 Main Street	1881	1983
28	Andrews House	719 Third Avenue	1907	1985
29	Dobbins House	419 Collyer Street	1885	1985
30	Traylor Hardward	346 Main Street	1879	1985
31	Bemis-Rowen House	545 Collyer Street (6th & Collyer)	1886	1985
32	Hubbard House	243 Pratt Street	1873	1985
33	M.J. Perrin House	501 Emery Street	1902	1985
34	Beckwith House ¹¹	207 Bowen Street	Late 1880's	1985

	Property Name	Address	Construction Year	Designation Year
35	A.M. Preston House ⁸	314 Bross Street	1905	1985
36	Turrell House	201-203 Bowen Street	1880's	1986
37	Sullivan-Mahony House	326 Bross Street	1892	1986
38	Fox-Downer House	920 Third Avenue	1897	1986
39	Van Zant-Fry House	1237 Third Avenue	1906	1986
40	Margaret Hertha House	615 Emery Street	1883	1986
41	Emmons-Adler House	858 Third Avenue	1903	1986
42	James W. Bacon House	407 Bowen Street	1885	1987
43	Earl Sprague House	902 Fifth Avenue	ca 1905	1987
44	F.J. Miller/Lou Allen House	1236 Third Avenue	1905	1987
45	Atwood-Jones House	503 Collyer Street	1883	1987
46	S.D. Arms House	437 Collyer Street	1887	1987
47	Williams-Pennock House	403 Collyer Street	1901	1987
48	J.E. Bump House	1117 Third Avenue	1902	1987
49	Sprague-Large House	413 Collyer Street	1901	1988
50	Golden-Miner House	817 Collyer Street	1893	1988
51	Masonic Temple	312 Main Street	1905	1988
52	W.P.A. Post Office	501 Fifth Avenue	1936	1988
53	H.W. Preston House	319 Bross Street	1880	1988
54	Judge Secor House	247 Pratt Street	1903	1988
55	J. Crawler House	734 Baker Street	1888 est.	1988
56	Friend Wright House	824 Collyer Street	1905	1989
57	Charles Lewis House	517 Collyer Street	1899	1989
58	J.J. Beasley/Sheeder Drug	372 Main Street	1886	1990
59	Trojan Theater	513 Main Street	1939	1991
60	J.M. Anderson House	436 Pratt Street	1902	1991
61	Great Western Hotel	250 Kimbark	1919	1993
62	U.S. Post Office/American Legion Building	525 Third Avenue	1905	1994
63	Mumford/Cole House	525 Collyer Street	1881	1994
64	L.F. Steuerwald House	914 Third Avenue	1897	1994
65	Historic Hover Farm (east portion)	1303 Hover Road	1893	1994
66	Johnson/Gunning House	1206 Third Avenue	1924	1995
67	Carnegie Library ⁹	457 Fourth Avenue	1912	1995
68	Kistler/Gunning House	1005 Third Avenue	1909	1995
69	Ludlow House	812 Third Avenue	1917	1995
70	Grosjean House	321 Gay Street	1919	1995
71	H.P. Nelson House	306 Collyer Street	1901	1995
72	Dobbins/Pierce	509 Collyer Street	1919	1995
73	Carlton-Calkins Commercial Building	416 Main Street	1906	1996
74	Pump House Brewery	540 Main Street	1912-1918	1996
75	Hover Farmstead (west portion)	1303 Hover Street	1913-1914	1996

	Property Name	Address	Construction Year	Designation Year
76	Pike Road Barn	13076 Pike Road	1898	1997
77	Carlson/Wallace Property	10662 Pike Road	1910	1997
78	Hover Home	1309 Hover Street	1913-1914	1997
79	Old City Electric Building	103 Main Street	1931	1997
80	Charles A. Ball House	1021 Third Avenue	1917	1997
81	Park Hotel	246 Main Street	1907	1997
82	E.B. Hanson	438 Collyer Street	1906	1998
83	Nowlen Home	345 Mountain View	1900	1998
84	Secor Clarke home	318 Pratt Street	1891	1999
85	Baker House	730 Kimbark Street	1889	1999
86	Kramer Home	1110 Longs Peak Avenue	1920s (?)	1999
87	Alex Bloom House	524 Emery Street	1908	1999
88	Morse Coffin House ¹⁰	990 SH 119 (Sandstone Ranch)	1880s	1999
89	3rd Avenue Grocery	1283 3rd Avenue	1915	2000
90	Historic Longmont City Hall	505 Fourth Avenue	1922	2001
91	Hildreth House	726 Kimbark Street	1910	2001
92	Booth House	634 Emery Street	1907	2001
93	St. Stephens Episcopal Church	513 Emery Street	1894	2002
94	O'Connor / Bragg House	415 Emery Street	1904	2002
95	Carrie Rendahl House	511 Gay Street	1904 est.	2003
96	Historic City Warehouse	375 Kimbark Street	1927	2003
97	Ed Jones Building	519 Fourth Avenue	1897	2003
98	John Jr. and Nellie Townley House	960 5th Avenue	1928	2003
99	Busch House	724 Collyer Street	1908	2003
100	G.W. Booth House	1019 3rd Avenue	1908	2003
101	Hartman-Greenamyre House	535 Collyer Street	1908	2004
102	White-Smith House	426 Emery Street	1885-1887	2004
103	Mellinger-Spangler House	731 Collyer Street	1909	2004
104	Longmont National Bank	400 Main Street	1888-1889	2004
105	Dickens Homestead	136 S. Main Street	1872	2004
106	Graham House	616 Baker Street	1906	2004
107	Jennings House	102 4th Avenue	1895	2004
108	Lockling House	1130 Collyer Street	1915	2004
109	Slater House	608 Emery Street	1906	2004
110	Davis-Price House	542 Collyer Street	1887	2004
111	Smith-Abbot House	802 Baker Street	1899	2004
112	Miller House	428 Baker Street	1900	2004
113	German Congregational Church	641 Martin Street	1881	2005
114	Wymann-White House	420 Terry Street	1886	2006
115	Clawson House	535 Baker Street	1906	2006
116	Blakeslee House	202 Pratt Street	1933	2006
117	Higbee House	251 Gay Street	1895	2006

	Property Name	Address	Construction Year	Designation Year
118	Secor House	430 Pratt Street	1907	2006
119	Young - Blum House	422 Pratt Street	1907	2006
120	Smith-Balliet House	545 Baker Street	1910	2007
121	Knott House	437 Vivian Street	1907	2007
122	Johnson's Corner	1117 Neon Forest Circle	1937	2007
123	First Baptist Church	701 Kimbark Street	1921	2009
124	Jacobsen House	619 Collyer Street	1925	2009
125	B.F. Flemming House	1249 3rd Avenue	1909	2010
126	Rider House	352 Collyer Street	1910	2012
127	G.W. Butler House	1241 3rd Avenue	ca 1920	2015
128	Lavridson House	408 4th Avenue	ca 1920	2015
129	Christopher/Copeland House	208 5th Avenue	ca 1900	2016
130	Nicholas House	1266 Longs Peak Avenue	ca 1910	2016
131	Reinert House	330 Collyer Street	1907	2016
132	Dell House	430 Emery Street	ca 1900	2017
133	Price/Hartman House	1400 E 9th Avenue	1898	2017
134	Anaya House	710 Martin Street	1951	2019
135	Barger / Nickell House	719 Atwood Street	1905	2019
136	Turrell/ Andrew House	864 4th Avenue	1862	2019

1 Entered in the National Register of Historic Places on May 16, 1985.

2 Entered in the National Register of Historic Places on February 24, 1975.

3 Includes Affolter Cabin, Hauck Milk House, Townley House, Billings Cabin, Secor Centennial Gardens and Mill Pond

4 Entered in the National Register of Historic Places on May 16, 1985.

5 Entered in the National Register of Historic Places on August 12, 1987.

6 Entered in the National Register of Historic Places on October 28, 1983.

7 Entered in the National Register of Historic Places on July 28, 1987.

8 Ne: Jones Townley House

9 Entered in the National Register of Historic Places on December 3, 1992.

10 Entered in the National Register of Historic Places in 1984.

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.

D.4 Growth and Development Trends

Table D-9 illustrates how Longmont has grown in terms of population and number of housing units between 2010 and 2019. The table illustrates that Longmont is undergoing significant, and rapid, growth.

Table D-9 Longmont's Change in Population and Housing Units, 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
86,429	96,672	+11.9	35,075	41,696	+18.9

Source: US Census Bureau, City of Longmont

D.5 Vulnerability Assessment

The intent of this section is to assess Longmont'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.

Table D-5 lists summary information about the 259 critical facilities and other community assets identified by Longmont's HMPC as important to protect or provide critical services in the event of a disaster. For additional information on the definitions behind each critical facility category, source, and other details refer to Section 3.3.2 of the Base Plan.

D.5.1 Vulnerability by Hazard

The hazard summaries in Table D-3 above reflect the hazards that could potentially affect City. Based on this analysis, the priority hazard (High Significance) for mitigation are Floods and Severe Winter Storms. Those of Medium or High significance for the City of Longmont are identified in Table D-3.

Due to the ability to quantify vulnerability further with available data, only the dam, 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

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 county parcel layer and the available dam inundation mapping (for planning purposes only), the following potential damages would be expected in Longmont.

Table D-10 Estimated Dam Inundation Exposure to Properties in Longmont

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
Agricultural	2	7	\$539,400	\$539,400	\$1,078,800	
Commercial	359	459	\$432,560,779	\$432,560,779	\$865,121,558	
Exempt	136	240	\$95,407,941	\$95,407,941	\$190,815,882	
Industrial	103	141	\$141,326,960	\$211,990,440	\$353,317,400	
Mixed Use	28	86	\$58,101,126	\$58,101,126	\$116,202,252	213
Residential	3,981	4,598	\$1,393,086,271	\$696,543,136	\$2,089,629,407	11,403

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
Vacant	1	1	\$66,760	\$66,760	\$133,520	
Total	4,610	5,532	\$2,121,089,237	\$1,495,209,582	\$3,616,298,819	11,616

Source: Boulder and Weld County Assessor's Office, DWR, Wood Analysis

People, Critical Facilities and Infrastructure

Based on the GIS analysis summarized in the table above, it is expected that around 11,616 people in Longmont might be at risk of dam inundation hazards. Also based on the GIS analysis summarized in the table below, it is expected that around 81 critical facilities in Longmont might be at risk of dam inundation hazards.

Table D-11 Longmont Critical Facilities at Risk of Dam Failure

FEMA Lifeline	Count
Food, Water, Shelter	2
Hazardous Material	12
Health and Medical	14
Safety and Security	31
Transportation	22
Total	81

Source: City of Longmont, Boulder and Weld County, DWR, CDPHE, NBI, NID, HIFLD

Economy

In addition to commercial and residential building impacts, a dam inundation event that affected the major roads which give access to the city. 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

The major drainageway through Longmont is the St. Vrain River and Left Hand Creeks. The streambed is straight and rough containing large rocks. The floodplain is largely confined to the channel but does increase to between 300 to 400 feet in width in the ponds and behind some of the culverts.

Flooding in Longmont is primarily caused by the overflow of the St. Vrain River, and smaller tributaries such as Left Hand and other surround creeks. Flooding is mostly likely to occur in mid-June due to runoff from snowmelt. Major past flooding within the town was caused by backwater from blocked culverts and bridges. Many of the culverts have since been replaced; however, if these become blocked, they would again cause flooding around major crossings.

General Property

Vulnerability to flooding was determined by summing potential losses to Longmont's properties in GIS, by using the latest FEMA NFHL data along with the Boulder County parcel layer provided by the Assessor's Office. FEMA's NFHL data depicts the 1% annual chance (100-year) and the 0.2% annual chance (500-year) flood events. Figure below displays Longmont'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 with the county parcel layer and the available FEMA flood mapping, the potential risk for the Town is shown in Table D-12 and Table . Longmont's 1% annual chance flood zone presents has 716 properties and over an estimated \$382 million total value exposed. The 0.2% annual chance event would add an additional 2,722 properties, with loss estimates for both flood events equaling about \$12.9 million in Longmont. Most properties at risk of flooding from both events are residential.

Table D-12 Summary of Longmont Properties Vulnerable to 1% Annual Chance Flood Events, by Property Type

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Estimated Loss	Population
Commercial	68	126	\$47,857,800	\$47,857,800	\$95,715,600	\$23,928,900	
Exempt	67	89	\$28,918,637	\$28,918,637	\$57,837,274	\$14,459,319	
Industrial	44	72	\$49,676,560	\$74,514,840	\$124,191,400	\$31,047,850	
Mixed Use	10	34	\$5,469,300	\$5,469,300	\$10,938,600	\$2,734,650	84
Residential	300	397	\$63,630,540	\$31,815,270	\$95,445,810	\$23,861,453	985
Total	489	718	\$195,552,837	\$188,575,847	\$384,128,684	\$96,032,171	1,069

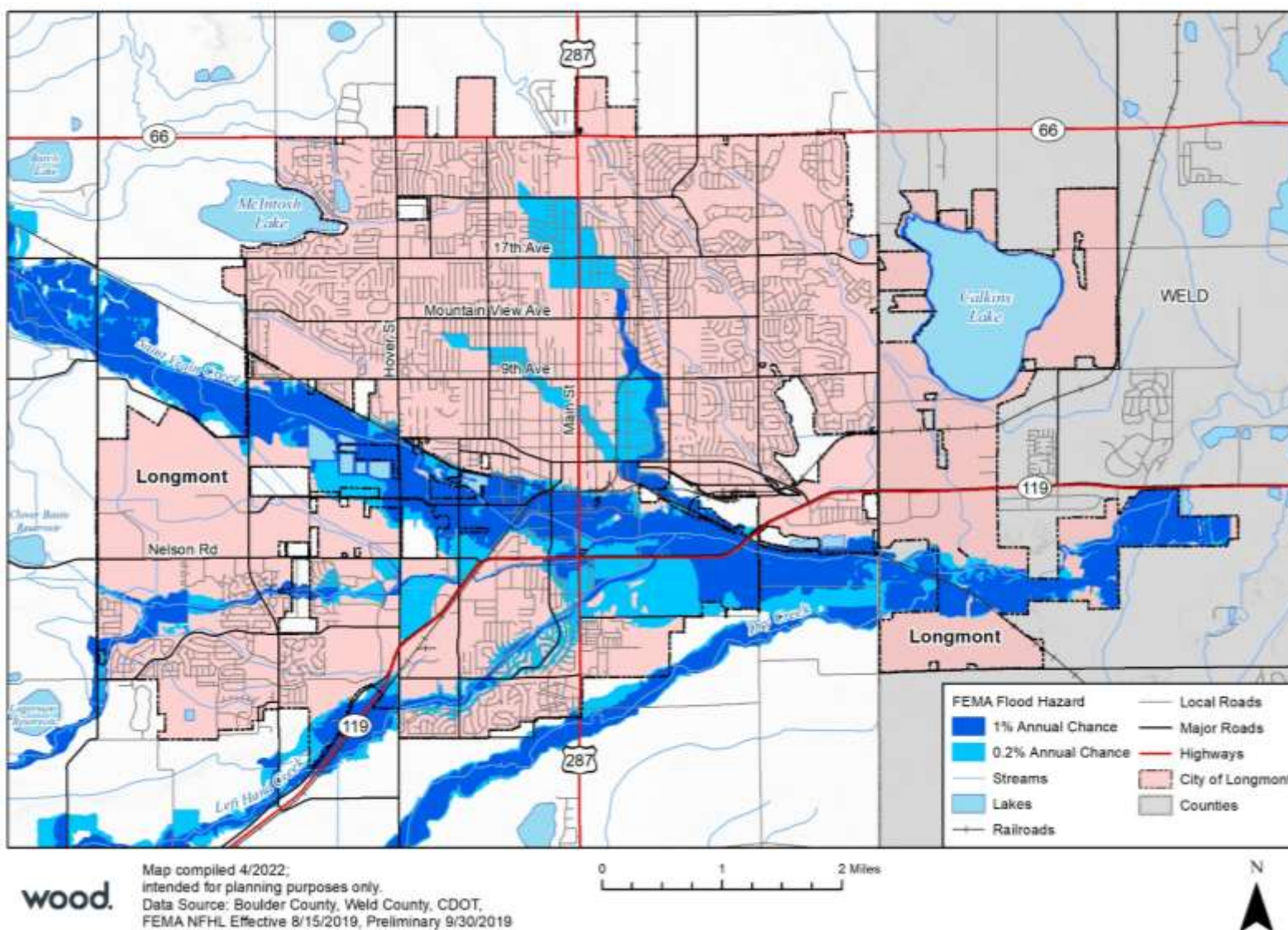
Source: Boulder and Weld County, FEMA NFHL Effective 8/15/2019 & Preliminary 9/30/2019, U.S., Census Bureau, Wood Analysis

Table D-13 Summary of Longmont Properties Vulnerable to 0.2% Annual Chance Flood Events, by Property Type

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Estimated Loss	Population
Agricultural	2	6	\$451,800	\$451,800	\$903,600	\$225,900	
Commercial	192	257	\$264,786,201	\$264,786,201	\$529,572,402	\$132,393,101	
Exempt	55	93	\$54,167,417	\$54,167,417	\$108,334,834	\$27,083,709	
Industrial	33	42	\$68,778,500	\$103,167,750	\$171,946,250	\$42,986,563	
Mixed Use	18	45	\$10,978,300	\$10,978,300	\$21,956,600	\$5,489,150	112
Residential	1,810	2,279	\$557,649,627	\$278,824,814	\$836,474,441	\$209,118,610	5,652
Total	2,110	2,722	\$956,811,845	\$712,376,282	\$1,669,188,127	\$417,297,032	5,764

Source: Boulder and Weld County, FEMA NFHL Effective 8/15/2019 & Preliminary 9/30/2019, U.S., Census Bureau, Wood Analysis

Figure D-2 FEMA Special Flood Hazard Areas in Longmont



People

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 Longmont. These estimates yielded the population exposures shown in the table above in Table and Table. As such, the combined 1% and 0.2% annual chance floods would potentially displace 6,833 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 64 critical facilities located in both the 1% and 0.2% flood hazard areas. The main critical facilities within Longmont located in the 1% floodplain are transportation with 17. Within the 0.2% flood hazard area, Safety and Security facilities possess the highest amount with 19.

Table D-14 FEMA 1% Annual Chance Flood Hazard for Critical Facilities in Longmont

FEMA Lifeline	Count
Food, Water, Shelter	1
Hazardous Material	9
Safety and Security	6
Transportation	17
Total	33

Table D-15 FEMA 0.2% Annual Chance Flood Hazard for Critical Facilities in Longmont

FEMA Lifeline	Count
Food, Water, Shelter	2
Hazardous Material	1
Health and Medical	3
Safety and Security	19
Transportation	6
Total	31

Source: City of Longmont, Boulder and Weld County, FEMA NFHL Effective 8/15/2019 & Preliminary 9/30/2019, CDPHE, NBI, NID, HIFLD

Source for 1% Annual Chance Also

Economy

Flooding can have a major economic impact on the economy, including indirect losses such as business interruption, lost wages, and other downtime costs. Flooding often coincides with the busy summer tourism months in Boulder County, and may impact, directly or indirectly (such as from the negative perception of potential danger to his hazard), the revenues of shops, restaurants, hotels, and other major industries which keep the local economy thriving.

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 Longmont are shown in in Table , Table and Figure D-3 below.

Table D-16 Property Values in High Wildfire Zones by Parcel Type for Longmont

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
Exempt	2	2	\$12,372,386	\$12,372,386	\$24,744,772	
Residential	380	51	\$233,620,240	\$116,810,120	\$350,430,360	126
Vacant	4	4	\$407,460	\$407,460	\$814,920	
Total	386	57	\$246,400,086	\$129,589,966	\$375,990,052	126

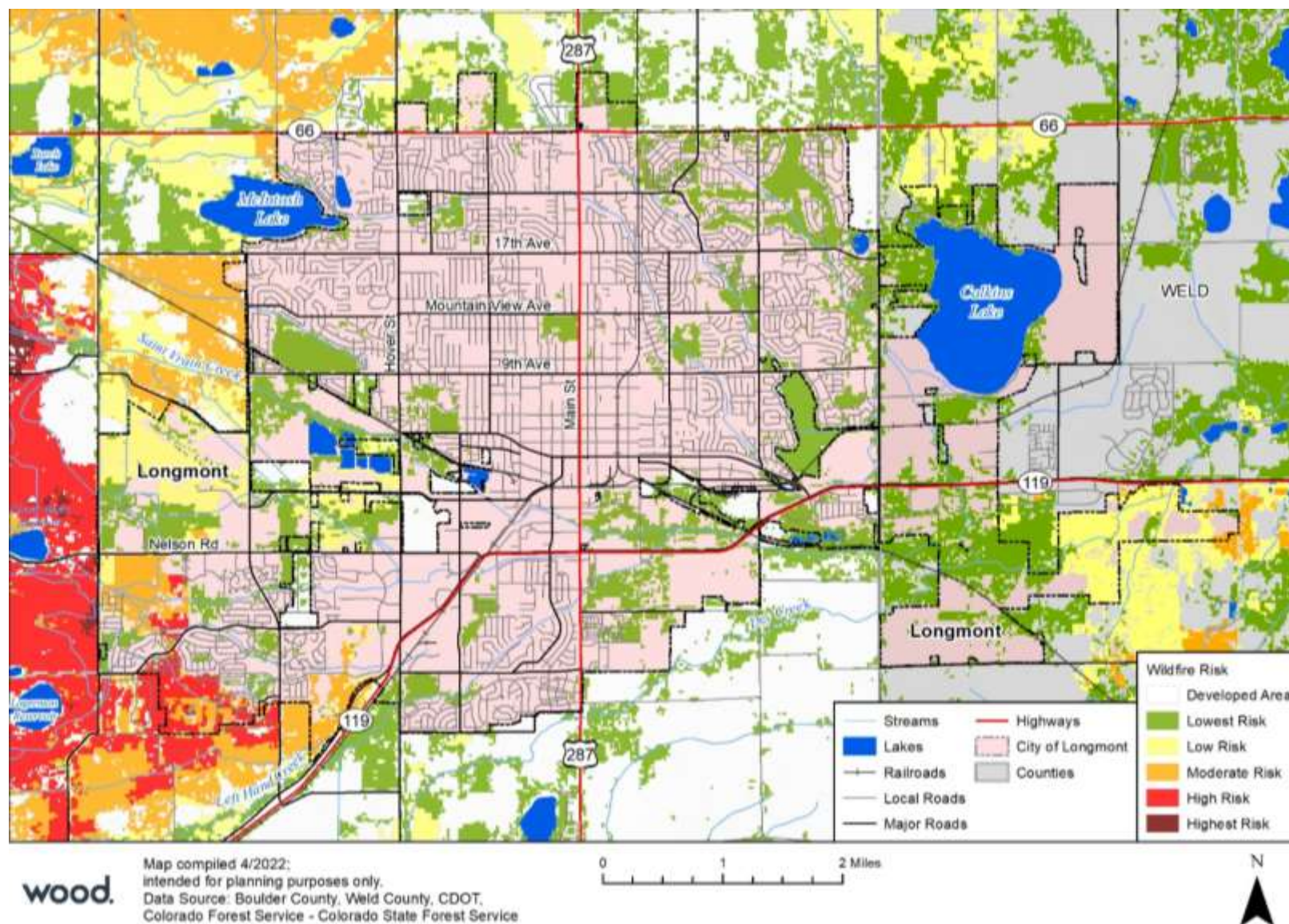
Source: Boulder and Weld County, Colorado Forest Service, U.S., Census Bureau, Wood Analysis

Table D-17 Property Values in Moderate Wildfire Zones by Parcel Type for Longmont

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
Commercial	1	2	\$3,094,000	\$3,094,000	\$6,188,000	
Exempt	3	8	\$5,099,777	\$5,099,777	\$10,199,554	
Residential	288	276	\$197,532,890	\$98,766,445	\$296,299,335	684
Total	292	286	\$205,726,667	\$106,960,222	\$312,686,889	684

Source: Boulder and Weld County, Colorado Forest Service, U.S., Census Bureau, Wood Analysis

Figure D-3 City of Longmont Wildfire Risk



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 Longmont is mapped in Figure D-4.

Figure D-4 City of Longmont WUI Risk

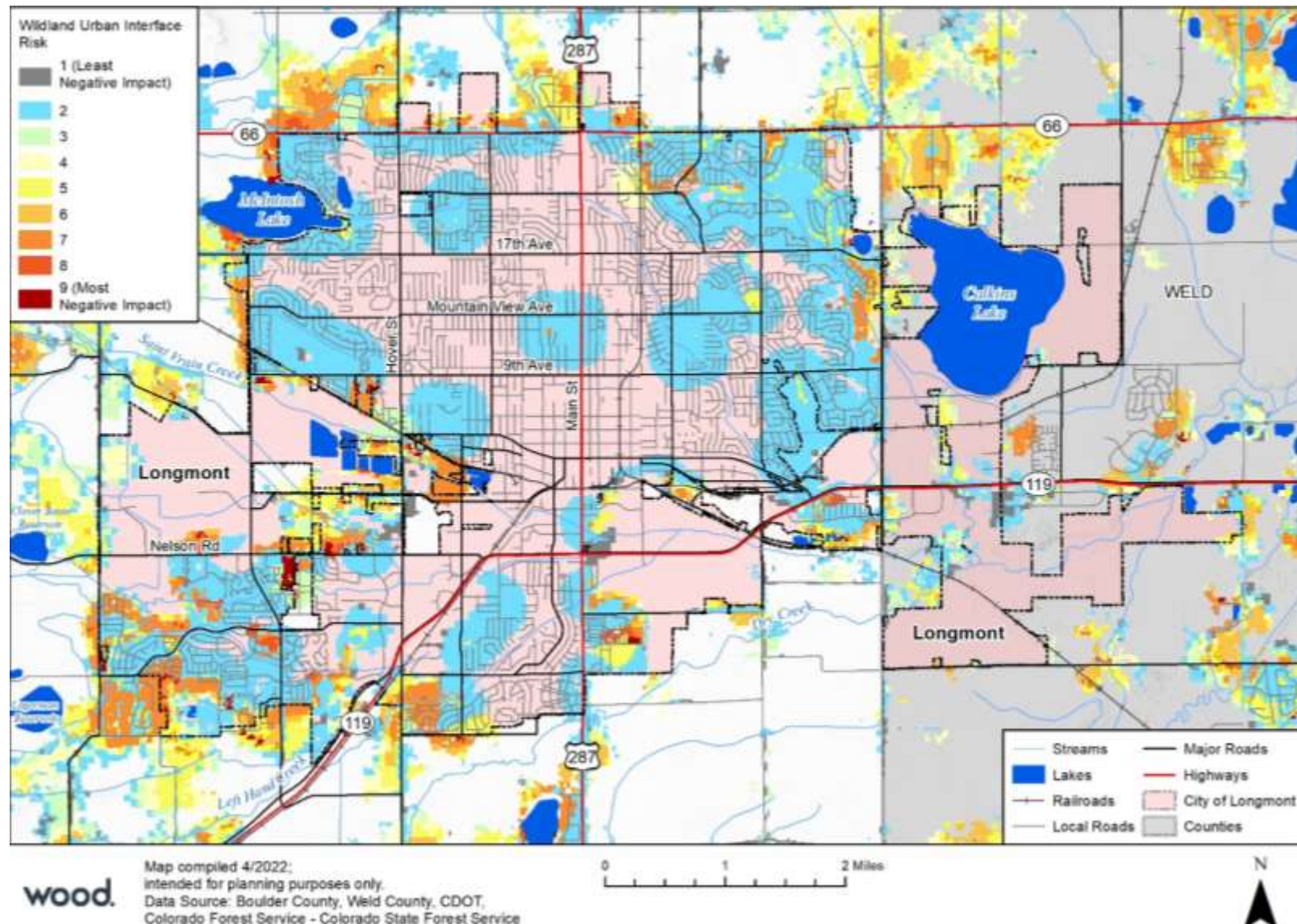


Table D-18 WUI High Risk Hazard for Longmont

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
Agricultural	3	1	\$1,356,800	\$1,356,800	\$2,713,600	
Commercial	5	11	\$7,474,400	\$7,474,400	\$14,948,800	
Exempt	9	11	\$5,421,685	\$5,421,685	\$10,843,370	
Industrial	4	4	\$16,454,300	\$24,681,450	\$41,135,750	
Mixed Use	3	3	\$2,222,700	\$2,222,700	\$4,445,400	7
Residential	922	947	\$489,734,431	\$244,867,216	\$734,601,647	2,349
Vacant	2	2	\$311,600	\$311,600	\$623,200	
Total	948	979	\$522,975,916	\$286,335,851	\$809,311,767	2,356

Source: Boulder and Weld County, Colorado Forest Service, U.S., Census Bureau, Wood Analysis

Table D-19 WUI Moderate Risk Hazard for Longmont

Property Type	Improved Parcels	Building Count	Improved Value	Content Value	Total Value	Population
Agricultural	3	7	\$797,300	\$797,300	\$1,594,600	
Commercial	1	10	\$1,100,000	\$1,100,000	\$2,200,000	
Exempt	15	28	\$25,065,214	\$25,065,214	\$50,130,428	
Industrial	1	1	\$3,919,700	\$5,879,550	\$9,799,250	
Mixed Use	1	4	\$3,715,300	\$3,715,300	\$7,430,600	10
Residential	949	815	\$359,672,776	\$179,836,388	\$539,509,164	2,021
Vacant	3	4	\$400,660	\$400,660	\$801,320	
Total	973	867	\$394,670,950	\$216,794,412	\$611,465,362	2,031

Source: Boulder and Weld County, Colorado Forest Service, U.S., Census Bureau, Wood Analysis

The properties most at WUI Risk in Longmont are residential with 947 and 813 for high and moderate risk respectively. Along with a total of 4,387 people within Longmont being at WUI Risk. Not pictured is the low WUI related risk within Longmont. 14,785 properties are at a low WUI risk and a total of 35,524 people have a low WUI related risk as well.

People

The last column of Table and Table above summarizes the number of people at risk to wildfire in the analyzed fire zones. Based on the assessment conducted, Longmont has an estimated 126 people at risk in the wildfire zone considered to be high. Also 684 of the population in Longmont live in a moderate wildfire risk area for wildfires and a total of 53 residential properties are considered to be at a low risk of wildfire damage to people and property. These totals were estimated by multiplying the average persons per household in Longmont by the number of residential properties falling within the fire zones. Smoke resulting from fire is an issue to local populations also.

Critical Facilities and Infrastructure

A total of 3 critical facilities were identified to be in medium wildfire zones in Longmont as listed in Table below.

Table D-20 Critical Facilities in Longmont Wildfire Risk

FEMA Lifeline	Count
Health and Medical	2
Safety and Security	1
Total	3

Source: City of Longmont, Boulder and Weld County, Colorado Forest Service, CDPHE, NBI, NID, HIFLD

Economy

Tourism, the accommodation and food services industry (e.g. hotels and restaurants), and retail are major components of Boulder County's economy, and Longmont'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. This can severely impact water quality and watershed health for years after a fire.

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.

D.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 Longmont'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.

D.6.1 Mitigation Capabilities Summary

Table D-21 lists planning and land management tools typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in Longmont.

Table D-21 Longmont's Regulatory Mitigation Capabilities

Regulatory Tool (ordinances, codes, plans)	Yes/No	Comments
Comprehensive plan	Yes	Envision Longmont Multimodal & Comprehensive Plan
Zoning ordinance	Yes	Land Development Code
Subdivision ordinance	Yes	Land Development Code
Growth management ordinance	Yes	Signatory to Mile High Compact, Super IGA with Boulder County and

Regulatory Tool (ordinances, codes, plans)	Yes/No	Comments
		Weld County Coordinated Planning Agreement
Floodplain Management Plan	No	
Participate in the National Flood Insurance Program	Yes	Joined July 5, 1977
Elevation Certificates	Yes	On file at DRC
Participate in the Community Rating System	Yes	May 2019, Class 5
Floodplain ordinance	Yes	Municipal Code, Title 20
Site plan review requirements	Yes	Land Development Code, Title 15
Other special purpose ordinance (stormwater, steep slope, wildfire)	Yes	Land Development Code
BCEGS Rating	Yes	Under review, previously a 4
Building code	Yes	2021 International Building Code
Fire department ISO rating	Yes	Rating 2
Erosion or sediment control program	Yes	Land Development Code
Stormwater management program	Yes	Land Development Code, Title 14
Capital improvements plan	Yes	
Economic development plan	Yes	Advance Longmont 2.0
Local emergency operations plan	Yes	Longmont EOP 2019, Office of Emergency Management
Other special plans	Yes	Many listed in Section E.5.2
Flood insurance study or other engineering study for streams	Yes	Post 2013 flood Preliminary FIRMs dated 9/30/2019
Other	Yes	

Table D-22 identifies the personnel responsible for mitigation and loss prevention activities as well as related data and systems in Longmont.

Table D-22 Administrative and Technical Mitigation Capabilities

Personnel Resources	Yes/No	Department/Position	Comments
Planner/engineer with knowledge of land development/land management practices	Yes	Planning Division, Public Works and Natural Resources	
Engineer/professional trained in construction practices related to buildings and/or infrastructure	Yes	Public Works and Natural Resources (PWNRR), Building Services	
Planner/engineer/scientist with an understanding of natural hazards	Yes	Public Works and Natural Resources (PWNRR)	
Personnel skilled in GIS	Yes	ETS, PWNRR, Planning, Consolidated Services	
Full-time building official	Yes	Building Services	
Floodplain manager	Yes	PWNRR	
Emergency manager	Yes	Public Safety	

Personnel Resources	Yes/No	Department/Position	Comments
Grant writer	Yes	Grant Writers housed in various city departments, and contracted out	
Transportation Planner	Yes	External Services, Planning	
Resiliency Planner	Yes	Environmental Services	
Other personnel	Yes		
GIS Data – Hazard areas	Yes	Consolidated Services	Floodplain
GIS Data – Critical facilities	Yes	Consolidated Services	City CIKY & Schools
GIS Data – Building footprints	Yes	Consolidated Services	Download from BoCo
GIS Data – Land use	Yes	Consolidated Services	
GIS Data – Links to assessor's data	Yes	Consolidated Services	Download from BoCo
Warning systems/services (Reverse 9-11, cable override, outdoor warning signals)	Yes	Longmont OEM	Refer to D.6.2 Public Information

Table D-23 identifies financial tools or resources that Longmont could potentially use to help fund mitigation activities.

Table D-23 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	With voter approval
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	Yes	
Incur debt through general obligation bonds	Yes	With voter approval
Incur debt through special tax bonds	Yes	With voter approval
Incur debt through private activities	Yes	With voter approval
Withhold spending in hazard-prone areas	Yes	
Stormwater Service Fees	Yes	\$14.90 per Residential and Non-Residential Customers
Other: Longmont Urban Renewal Authority (LURA) tax increment proceeds	Yes	Upon negotiations with taxing entities and approval of LURA Board. Can only be accessed for mitigation efforts within designated urban renewal districts subject to availability of funds.

Longmont has had one Hazard Mitigation Grant Program Project (HMGP). The project is now closed and was in relation to DR-4145 in 2013. The cost share percentage was 0.64 and the project amount \$2,159,074. This project was state side and had a benefit cost ratio of 1.028.

Table D-24 identifies existing education and outreach capabilities that the City of Longmont uses to inform

the public about hazards and risks in the community.

Table D-24 City of Longmont's Education and Outreach Capabilities

Capability/Program	Yes/No (Briefly Describe)
Local Citizen Groups That Communicate Hazard Risks	Yes
Firewise	Yes
StormReady	Yes
Be Ready Longmont	Yes
Community Emergency Response Team (CERT)	Yes

D.6.2 Opportunities for Capability Enhancement and Improvement

The plan update process provided the City of Longmont 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:

- Integrate risk assessment information into future updates to the City's Comprehensive Plan.
- Integrate risk assessment information into future updates of the City's Land Use Code.
- Providing training for staff members related to hazards or hazard mitigation grant funding in partnership with the County and DHSEM

D.6.3 Community Rating System Activities (All Hazards)

National Flood Insurance Program

The City of Longmont joined the National Flood Insurance Program (NFIP) on July 5, 1977. In exchange for a community adopting and enforcing a floodplain management ordinance, the NFIP makes affordable flood insurance available to private property owners 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 2019, there were 418 policies in force in Longmont, resulting in \$138,617,000 in flood insurance benefits. Of these policies, 138 are in the 100-year floodplain, out of a current total of 499 buildings in the 100-year (2012 FIRMs). Therefore, there are buildings in the current effective 100-year floodplain that do not have flood insurance.

In Longmont, the 2022 data indicates that there have been 48 claims paid for a total of \$4,189,811.08. Fortunately, there are no repetitive or severe repetitive loss structures in Longmont.

Since the 2013 flood, the governor of Colorado (Hickenlooper) allocated State funds to update the hydrology, hydraulics and floodplain mapping of the creeks and streams most impacted by the flood. In Longmont, the revisions included St. Vrain and Left-Hand Creeks. The Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRMs) were issued as Preliminary FIRMs on 9/30/2019 and are planned to become effective sometime mid-to late 2022

Continued Compliance with the NFIP

Recognizing the importance of the NFIP in mitigating flood losses, the City of Lafayette 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

The Community Rating System (CRS) is a voluntary program for NFIP-participating communities. It provides flood insurance premium discounts to policyholders in communities that provide higher floodplain management standards than the minimum NFIP requirements. As of May 2019, Longmont had a CRS class rating of 5 (on a scale of 1-10, 1 being the best). This rating provides a 25 percent discount for all policyholders until they reach the max amount allowed.

Community Rating System Categories

The City of Longmont was initiated into the Community Rating System (CRS) on October 1, 1992. The goals of the CRS program include: reducing and avoiding flood damage to insurable property, supporting the benefits of flood insurance, and to foster comprehensive floodplain management. The CRS program categorizes hazard mitigation activities into four major categories. These categories, and applicable Longmont activities, are described below.

A CRS Class 5 rating means:

- This rating provides a 25 percent discount for all policyholders until they reach the max amount allowed.
- The discount applies to all current flood insurance policy holders and all new policies
- The discount is applied to flood insurance policies by an insurance agent, not by the City
- Contact your insurance agent to ensure the discount is applied to your flood insurance policy

Public Information Activities

For this category CRS credits local activities that advise people about flood hazards, encourage the purchase of flood insurance and provide information about ways to reduce flood damage. These activities generally serve all City of Longmont residents.

Activities that Longmont receives CRS credit for include:

- Floodplain map and flood protection information provided on the City's website
- Several protection outreach events regarding, flood insurance, floodplain mapping changes, updates on CIP projects that impact the floodplain and flooding, every year including presentations at various venues and participation in other events.
- Copies of all previous floodplain studies and submittals
- Copies of Elevation Certificates
- Flood insurance rating support
- In person meetings

Mapping and Regulations

These activities provide increased protection from new development for growing communities. Credit is given for providing information that are not normally shown on FIRM maps, enforcing higher than FEMA's minimum regulations, preserving open space, protecting natural floodplain functions, and managing storm water.

Some of the activities that Longmont receives CRS credit for include:

- Providing previous versions of floodplain maps to the public
- Providing 2013 flood extents on the City's website
- Enforcing a ½ ft floodway as required by the State of Colorado
- A robust Open Space program that includes property in the floodplain (a large portion of Longmont's credit comes from having a large amount of open space in the floodplain)

- Strong MS4 program that manages water quality

Flood Damage Reduction Activities

This series of activities credits communities for programs that support existing structures and or property that is already in the floodplain. Credit is provided for floodplain management plans, flood damage reduction, and maintenance of the natural channel system.

Some of the activities that Longmont receives CRS credit for include:

- Multi-Hazard Mitigation Planning with Boulder County
- Longmont's Wildlife Management Plan (2018)
- Annual Inspection and maintenance of Longmont's natural channel systems

Warning and Response

This series provides credit for measures that protect life and property during a flood, through flood warning and response programs. There is credit for the maintenance of levees and for state regulatory program for dams as well as for program that prepare for the potential failure of levees and dams.

Longmont currently has no levees but there are 8 high hazard dams that are near enough to Longmont to affect the city if one of them were to breach. Longmont receives CRS credit for keeping emergency action plans for each of these high hazard dams. Credit for the City's Emergency Operations Plan and warning system is included in this series as well.

Prevention of Hazards

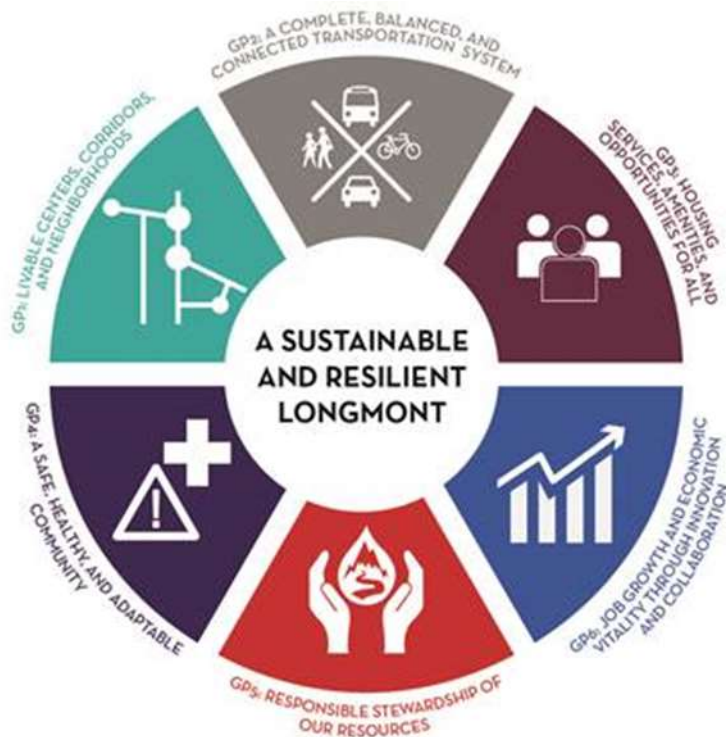
Preventive activities keep problems from getting worse. The use and development of hazard-prone areas is limited through planning, land acquisition, or regulation. They are usually administered by engineering, building, zoning, planning, and/or code enforcement offices. The plans and documents summarized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

Envision Longmont Multimodal and Comprehensive Plan (2016)

In 2016, City Council adopted the Envision Longmont Multimodal and Comprehensive Plan. An update to the plan is scheduled to commence in 2022. The plan identifies Longmont's priorities for the next 10 – 20 years. It provides strategic guidance for the long-term needs and desires of the community and identifies ways to achieve them. This includes addressing changes in population, where and how to grow, ways to expand transportation options, plus approaches to balance growth and embrace diversity.

The plan is organized around six guiding principles that reflect elements of Longmont's desired future. The principles and their supporting goals and policies are intended to promote a more sustainable and resilient Longmont. The guiding principles include:

- Livable centers, corridors and neighborhoods
- A complete, balanced, and connected transportation system
- Housing, services, amenities, and opportunities for all
- A safe, healthy, and adaptable community
- Responsible stewardship of our resources
- Job growth and economic vitality through innovation and collaboration



Sustainability Plan

In 2016, the City of Longmont updated its Sustainability Plan to focus on actions that can be implemented within the next five to ten years to help promote environmental stewardship, social equity, and economic vitality for all residents and businesses of Longmont. The Plan includes actions that will be led by internal City departments to enhance sustainability, but also emphasizes involvement of other partner organizations, the business community, and Longmont residents in creating and maintaining a thriving, sustainable community.

The purpose of this Sustainability Plan is to clearly articulate Longmont’s sustainability vision and objectives, establish meaningful targets, and define actionable strategies to support achievement of the vision. It is intended to serve as a tool for City of Longmont leaders and departments to guide decision-making as it relates to prioritizing projects, implementing programs, and communicating and interacting with the public. This Sustainability Plan is also intended to be used by the Longmont community as a guide for how to take action to enhance sustainability at all levels – individual, household, business, neighborhood, and community.

The sustainability vision for Longmont sets the stage for future decision-making and actions. In addition to an engaged community, the underlying dimensions of this vision include environmental stewardship, social equity, and economic vitality (the “triple bottom line”). Each of these dimensions are connected and inter-related. All dimensions support one another in creating a sustainable community.

Municipal Code

Title 20 Floodplain Regulations

Longmont’s Title 20 Floodplain Regulations protect new, existing, additions to existing buildings and critical facilities from flooding by requiring freeboard, flood proofing and most importantly, removal from an existing floodplain before construction can begin.

The purpose of this title is to promote the public health, safety, and general welfare; to minimize public and private flood losses due to flood conditions in areas subject to flood hazards; and to promote wise use of the floodplain by provisions designed to do the following:

- 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 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 damages
- Ensure that potential buyers are notified that property is in an area of special flood hazard
- Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions
- Protect floodplain occupants from a flood which is or may be caused by their own or other land use and which is or may be undertaken without full realization of the danger, through:
 - Regulating the manner in which structures designed for human occupancy may be constructed so as to prevent danger to human life within such structures
 - Regulating the method of construction of water supply and sanitation systems so as to prevent disease, contamination, and unsanitary conditions
 - Delineating and describing areas that could be inundated by floods so as to protect individuals from purchasing floodplain lands for purposes which are not in fact suitable

Specifically, the regulations require

- A Floodplain Development Permit for any construction and/or development in all areas of the 1% chance floodplain (one-hundred-year) within the corporate limits of the City,
- Establishment of the Floodplain, Floodway and Floodplain Fringe Zones,
- Sets use and development requirements for each flood zone,
- Outlines the duties and responsibilities of the floodplain administrator, chief building official and the Public Works director in administering this ordinance.

Title 20 update is planned for 2022.

City of Longmont participated in the “Mitigating Hazards Through Land Use Solutions” workshop with several other Colorado communities where floodplain management improvements were discussed, listed and prioritized. Longmont’s solutions focused on updating and revising Title 20, Floodplain Regulations.

Title 15 Land Development Code Update (2018)

The Land Development Code (LDC) update was one of the implementation projects identified in the Envision Longmont Multimodal and Comprehensive Plan (Envision Longmont Plan). The LDC is Title 15 of the Municipal Code and regulates items related to the physical development of the City including annexation, zoning, subdividing and developing property, permitted uses for specific properties, building placement and height, building design, parking, lighting, and landscaping, among other items. The last comprehensive update to the LDC was in 2001.

Changes were made to all sections of the LDC. However, the following is a brief description and summary of the most substantive changes related to floodplain management.

Chapter 15.02 - Development Procedures

This chapter addresses the procedures and criteria associated with major, minor, and administrative development applications required under the LDC. Revisions include:

Figure 2.1: Major Development Applications



- Added a table and flowcharts to further clarify procedures and decision making authority
- Changed the review of appeals of administrative decisions and nonconforming uses from the Board of Adjustment (BOA) to the Planning and Zoning Commission (PZ)
- Changed preliminary planned unit developments (PUDs) to overall PUDs – the goal is to allow for a review of overall PUD plans without the level of detail currently required for preliminary PUDs, which will save applicants review time and cost.
- Added short term rentals as an administrative application
- Included modifications for infill and redevelopment to administrative modifications and revised consistent with current practice in the former code
- Provided clarifications for the section regarding public and common/private improvements

Chapter 15.03 - Zoning Districts

This chapter addresses all of the proposed zoning districts and dimensional standards, including lot dimensions and areas, setbacks, building height, etc. Revisions include:

- Substantially revised the lineup of zoning districts to correspond to the Envision Longmont land use categories
- Included additional mixed-use zoning districts to accommodate the demand for this type of development and to provide another important tool in implementing the Envision Longmont Growth Framework.
- Updated dimensional standards within districts to provide more flexibility for creative and innovative development, while protecting existing stable neighborhoods
- Added easy to read tables and labeled graphics to provide information on dimensional standards such as lot size, building setbacks, and building height
- Added the alley incentives for reduced lot area and width to the dimensional standards tables for easier

reference

- Revised the dimensional standards tables to remove stories in residential districts and feet in mixed use and nonresidential districts to allow more flexibility in terms of building design (for example a 2-1/2 story residential design could be built within the 35 foot height limit)
- Added a section regarding residential density to reference the density ranges in the Envision Longmont land use categories and allowed exceptions
- Clarified the exceptions/allowances to height requirements, such as affordable housing, developments near transit centers and vertical mixed use developments within a major center or along a major corridor, as well as greenfield development on larger parcels in the R-MN district, that would be eligible for additional building height

Chapter 15.05 – Development Standards

This chapter addresses standards for development, including rivers/streams, riparian area, wetland, species and habitat protection, landscaping, vehicle and multi-modal pedestrian access and connectivity, parking, oil and gas, fences and walls, residential, mixed-use and nonresidential design, outdoor storage and screening, outdoor lighting, adequate public facilities/quality of life benchmarks, wireless telecommunications, mobile homes, and residential compatibility. Many sections within this chapter were updated substantially, some have minor changes recommended. Other sections are not being updated at this time, but will be included as future updates. Revisions include:

- Based on recent Council direction, revised the river/stream, riparian areas and wetlands setback modification section so that Council will need to approve any request to reduce the setback. P/Z will provide a recommendation to Council
- Removed required open space percentages, while retaining landscaping requirements for specific areas including: pocket parks, plazas and courtyards, buffers, parking lots, streetscapes, individual lots, etc. to help reduce landscaping costs while still providing a quality site design
- Added an exception to the pocket park standards for residential developments near existing, planned and/or budgeted public neighborhood parks
- Reorganized the off-street parking and loading section and expanded the parking table to correspond with table of allowed uses in Chapter 15.04
- Moved the oil and gas operations and facilities section from the use regulations in Chapter 15.04. No revisions are proposed other than section reference changes
- Expanded the residential design standards to include more specific attached residential standards
- Consolidated the nonresidential and mixed use design standards
- Updated the graphics for design standards
- Added an exemption for unshielded low level lighting, such as porch lights and patio light strings
- Revised standards for mobile homes consistent with 2016 recommendations from a mobile home consultant
- Added residential compatibility standards to address transitions between more intensive zoning districts and less intensive residential zoning districts – see additional discussion below.

Chapter 15.09 – Enforcement and Penalties

This chapter addresses enforcement of the provisions of the LDC and associated penalties for noncompliance. This section was revised to improve enforcement and penalties provisions consistent with code enforcement and legal recommendations.

Open Space Master Plan

The Open Space Master Plan Update was completed in 2018 is the plan for acquiring and managing land as open space.

In November of 2000, the residents of Longmont voted to approve an additional 0.2 cent sales tax to be specifically used for the acquisition and development of Open Space in and around the community. It was originally scheduled to sunset in 2020 but the sales tax was extended in 2007 and the sunset clause was extended to 2034.

Wildlife Management Plan

In the fall of 2018, the City of Longmont launched a planning effort to conduct an update to the existing 2006 Wildlife Management Plan. Since 2006, the City has experienced many changes including growth, a significant flood event in 2013, the purchases of properties as designated Open Space, and several major planning efforts that support the City's intent to be a sustainable community. Both the City's 2016 "Sustainability Plan" and the 2016 "Envision Longmont: Multimodal & Comprehensive Plan" call for environmental stewardship and responsible stewardship of natural resources within Longmont. This Plan provides City Council and Staff with science-based recommendations for working toward these so that wildlife can be enjoyed by future generations.

This 2019 Wildlife Management Plan Update (Plan) builds off a number of important City planning efforts and integrates pertinent ecological principles and concepts of biological conservation with proven science-based management techniques. Inclusion of the community's input was at the forefront of the City's vision for this project, and the City worked diligently at providing a variety of opportunities for public participation throughout the development of the Plan. Additionally, adherence to the City's philosophy of "coexistence with wildlife," and the principles, objectives, and strategies for stewardship of the natural environment established in the 2016 "Longmont Sustainability Plan" was of substantial importance to the City.

Natural Stream Management Plan

The City of Longmont completed a plan to maintain and improve the City's natural stream systems. The plan not only addresses the existing conditions of the City's natural drainage channels but also includes plans to improve the habitat and functioning of the channels.

Emergency Operations Plan

A new Emergency Operation Plan was adopted by the City in 2020. Emergency service measures are taken during an emergency to minimize its impacts. These measures are the responsibility of city or county emergency management staff and the owners or operators of major or critical facilities.

Structural Projects

In addition to plans and documents that support hazard mitigation, the City also completes structural projects to 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.

The Public Works and Natural Resources Department, manages the administration, engineering, and planning for the City's storm drainage utility and manages flood control.

Capital Improvement Projects (CIP)

- For existing structures in the floodplain, the City has a list of CIP projects to reduce the floodplain in some areas.
- The City's CIP list also includes storm water infrastructure projects that reduce urban flooding.

Resilient St. Vrain Project Example

The Resilient St. Vrain Project (RSVP) is Longmont's extensive, multi-year project to fully restore the St. Vrain Greenway and improve the St. Vrain Creek channel to protect people, property and infrastructure from future flood risk. In addition, RSVP will substantially reduce the 100-year floodplain, containing 100-year

flood flows in the improved creek channel once fully constructed. The project will coordinate with other transportation related Capital Improvement Program (CIP) projects to replace existing bridge crossings over St. Vrain Creek with new structures that pass 100-year flood flows – thereby protecting critical transportation corridors through the City. (e.g. Main Street, S. Pratt Parkway, Boston Avenue, Sunset Street, Hover Road and Airport Road which were all impacted during the September 2013 flood event.) The lack of emergency access across St. Vrain Creek during the 2013 flood event impacted not only, Longmont, but the surrounding region. Initial phases of the RSVP are complete, some are currently under construction and others are in final design with construction funded and scheduled.

- Sandstone Ranch is complete with the St. Vrain Greenway Trail to Sandstone Ranch Park open to the public.
- City Reach 1 (Main Street downstream to Left Hand Creek) is complete.
- The Main Street Bridge and S. Pratt Parkway bridge replacement projects are complete.
- Replacement of the S. Sunset Street Bridge which was destroyed in the flood, was constructed in collaboration with Boulder County, and is also complete.
- City Reach 2A (Colorado Way downstream to Main Street) is complete.
- City Reach 2B, which includes the complete replacement of the BNSF railroad bridge, is complete.
- Izaak Walton Reach 1 (Boston Ave. downstream to Price Road/BNSF railroad bridge) is in final design. under construction and is anticipated to be completed in 2022.
- Izaak Walton Reach 2 (S. Sunset Street downstream to Boston Ave. including Boston Ave. bridge replacement) is currently designed by the US Army Corps of Engineers (USACE) as a project reach under their Section 205 Program.

Longmont Design Standards and Construction Manual

Longmont Design Standards and Construction Manual is being updated and is waiting for final City Council approval expected in 2022.

Storm Drainage Criteria Manual (1984)

The Storm Drainage Criteria Manual (1984) specifies the design and technical criteria for all drainage analysis and construction.

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 implemented by Public Works and Natural Resources, Office of Emergency Management and the City's Communications group.

Emergency Information

The City's Emergency Information web page provides information and links regarding emergency preparedness, evacuation, and relocation and other helpful resources.

Longmont uses the Everbridge System for emergency notification. The system will be used to notify residents about imminent threats to health and safety such as the need to evacuate due to a wildfire, hazardous spills or other emergencies. It may also be used in situations where a child or adult is missing who is in need of medical attention.

All landlines are automatically registered to receive emergency alerts. Anyone living or working within the City of is also encouraged to register additional communication devices i.e. cell phones, VoIP (voice over Internet protocol), email to receive emergency notifications. Residents and visitors are also encouraged to use NOAA All-Hazards Weather Radios to receive weather alerts from the National Weather Service. At the

time of the adoption of this plan, the Boulder Office of Emergency Management is deploying the use of IPAWS (Integrated Public Alert and Warning System) across all jurisdictions in the county.

Flooding Information

The City's website also has a Flooding Information page where links to the City's floodplain maps, flood preparedness and safety, stream status and monitoring, flood insurance pages and detailed information on floodplain management.

D.7 City of Longmont Mitigation Strategy

A hazard mitigation action planning committee re-evaluated the Hazard Identification Risk Assessment (HIRA) to reassess risk based on actions taken since the previous plan was adopted. The following mitigation actions were identified and evaluated by the committee. These represent new or continued actions identified in supporting plans and documents or actions identified by the committee that support overall hazard mitigation.

Staff identified projects in part by building off previously identified implementation strategies in related planning and sustainability documents. Specifically, the following documents were used to develop these strategies: Tree Canopy Study (2008), Climate Action Task Force Recommendations (2020), Water Efficiency Master Plan (2017); the development of strategies was also more broadly informed by the Envision Longmont Multimodal & Comprehensive Plan (2016), the Sustainability Plan (2016), and efforts of the 2012 Joint Front Range Climate Change Vulnerability Study (2012). In addition, these were vetted through detailed conversations with City staff to identify preferable options for moving forward.

Other mitigation projects listed below are proposed solutions from other studies, existing conditions, and on-going programs. These descriptions are included in the detailed Mitigation Action descriptions below.

D.7.1 Status on Previous Mitigation Actions

The City of Longmont has been successfully implementing mitigation actions which were identified in their previous 2018 Local Hazard Mitigation Plan. The 2018 mitigation strategy for Longmont contained several mitigation actions, eight of which been carried forward into this 2022 update. Twelve new actions were developed during the 2021-2022 planning effort and are detailed in the next section, giving a total of 20 mitigation actions currently identified for the 2022 plan update. While these actions are "new" to this hazard mitigation plan 2022 update, many of these actions have been ongoing or identified in related planning mechanisms. They are captured here to have a comprehensive compendium of mitigation actions for the City.

Table D-25 Longmont Mitigation Action Summary and Status

Mitigation Action Title	Responsible Office	Hazard(s)	2022 Status
Floodplain Management	Longmont Department of Public Works and Natural Resources (PWNR)	Flooding	Continuing in Process
Expand the City of Longmont CERT Program	Longmont Office of Emergency Management (OEM)	Multi-Hazard	Continuing in Process
Fire Mitigation at Button Rock Preserve	PWNR	Wildfire	Continuing in Process

Mitigation Action Title	Responsible Office	Hazard(s)	2022 Status
Community Rating System (CRS)	PWNR	Flooding	Continuing in Process
St. Vrain Creek Improvement Project/ Resilient St. Vrain Project	PWNR	Flooding	Continuing in Process
Channel Improvements on SVC at 119 th Street	PWNR	Flooding	Continuing in Process
Increase Tree Canopy	PWNR	Extreme Heat	Continuing in Process
Vulnerability Assessment for Climate Impacts, development and engagement strategy	PWNR	Extreme Heat, Flood	New in 2022
Neighborhood/Community-based Resilience Plans	PWNR, Planning, Community Services	All Hazards	New in 2022
Outdoor water efficiency/conservation	PWNR	Drought, Extreme Heat	New in 2022
Upgrade Power System Protection	Longmont Power & Communications (LPC)	Wildfire	New in 2022
Tree Trimming near Power Equipment	LPC	Wildfire	New in 2022
Power Grid Modernization	LPC	Wildfire, Long Term Electric Power Outages, Climate Emergency	New in 2022
Stormwater Master Plan	PWNR	Flooding	New in 2022
Natural Channel Maintenance Plan	PWNR	Flooding	New in 2022
Storm Drainage Criteria Manual	PWNR	Flooding	New in 2022
Ecological Restoration	PWNR	Flood, Wildfire, Drought	New in 2022
Floodplain Regulations Update	PWNR	Flooding	New in 2022
Stormwater System Improvements	PWNR	Flooding	New in 2022
Airport Road Flood Protection Project (Western Boundary Flood Protection Project)	PWNR	Flooding	Continuing- Not Started

The City has made progress on implementing the mitigation strategy identified in previous versions of this annex. The table below identifies those projects that have been completed that have helped to improve the resiliency of the City to hazards such as flood and drought.

Table D-29 Completed Mitigation Actions

Mitigation Action Title	Responsible Office	Hazard(s)	2022 Status
St. Vrain Creek Overflow Channel west of City-Golden Property, Heron Lake Channel	PWNR	Flooding	Completed 2016

Mitigation Action Title	Responsible Office	Hazard(s)	2022 Status
City of Longmont Wastewater Treatment Plant Flood Protection	PWNR	Flooding	Completed 2016
Pressurization of the South St. Vrain Pipeline	PWNR	Flooding, Drought	Completed
North Pipeline reconstruction to minimize future flood damage	PWNR	Flooding	Completed in 2022
South St. Vrain Pipeline Flood Repair	PWNR	Flooding	Completed in 2015
Left Hand Creek at Kanemoto Park	PWNR	Flooding	Completed in 2013

D.8 Longmont Mitigation Action Plan

Below is the list of continuing and new mitigation actions.

Name of Action: Floodplain Management

Hazard Addressed: Flooding

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

Community Lifeline Addressed: Safety and Security| Food, Water, Shelter | Transportation

Issue/Background: There are 4 FEMA mapped floodplains and 2 City-mapped floodplains within the City of Longmont. The 2013 flood severely damaged the area around the City's two largest creeks, St. Vrain and Left Hand Creeks. The State and FEMA updated the Flood Insurance Study (FIS) and Flood Insurance Rate Maps for those two creeks after the 2013 flood resulting in a much larger floodplain for St. Vrain Creek and some changes to the Left Hand Creek mapped floodplains. However, the other two FEMA mapped creeks were not updated with the current mapping update. The other two creeks through Longmont that have not been updated (Dry Creek No. 1 including Old Dry Creek and Spring Gulch No1.) appear to not have been updated since the floodplains were first delineated in 1977.

Other Alternatives: No action

Action Status: Longmont joined the NFIP on October 26, 1973. Significant work has been completed since that time and a major flood event in September 2013 has influenced the public's perceptions related to flooding. Longmont's Community Rating System Number is 5. Longmont is striving to improve their CRS score by continuing to participate in the NFIP and promoting floodplain management activities that mitigate and help:

- Climate change
- Floodplain, stormwater, water quality and groundwater regulations
- Floodplain mapping practices
- Prioritization of capital improvement projects

Responsible Office: Public Works and Natural Resources Department

Priority (High Medium, Low): High

Cost Estimate: \$225,000 to update modelling and mapping for both creeks.

Existing or Potential Funding: No existing Longmont funding is available. Currently neither the Storm Drainage CIP Fund nor the Storm Drainage Operations Fund have any available funds for either CIP projects or plans beyond servicing existing bond debt. Potential funding would be BRIC funding.

Benefits (avoided losses): Minimize flood related damage. Development has occurred on both sides of both of these creeks and there is no doubt that the floodplains have changed and Longmont is not managing the actual risk these creeks present especially for new development.

Potential or current subject matter expertise: Hydrology and Hydraulics modeler expertise, GIS expertise, FEMA submittal expertise, Project Manager. Longmont can manage this project in-house and has FEMA submittal expertise but Longmont does not have the in-house expertise to do floodplain modelling or mapping

Schedule: Continuing in Process

Name of Action: Expand the Longmont Community Emergency Response Team (CERT) Program

Hazards Addressed: Multi-Hazard

Mitigation Goal or Objective Addressed: Prepares residents for multiple types of hazards and engages them in the planning process. Goals 1, 4

Community Lifeline Addressed: Safety and Security

Issue/Background: After the 2013 Floods many residents voiced that they were not prepared for the severity of the emergency. Many residents left behind important documents and items, such as medication, when they were evacuated to a shelter.

Other Alternatives: Expand the BeReady Longmont Preparedness Outreach Program

Action Status: In Progress

Responsible Office: City of Longmont Office of Emergency Management (OEM)

Priority (High, Medium, Low): Medium

Cost Estimate: \$10,000 (\$2,000 per year)

Existing or Potential Funding: Colorado North Central Region Citizen Corps Grants

Benefits (avoided losses): This education program will better prepare our residents to act during an emergency saving the time it takes them to take lifesaving action.

The program also prepares residents to help one another during an emergency. Groups can help staff a shelter, staff the EOC and assist in river watch during run off season.

Potential or current subject matter expertise: CERT Trainers, community outreach specialist, program management, grant specialist

Schedule: Continuing in Process. By 2026, the plan is to educate and train 250 (50/year) community members to prepare themselves, their families, and be prepared to assist their neighbors after an emergency or disaster. FEMA recognized CERT Basic Courses are delivered twice a year.

Name of Action: Fire Mitigation at Button Rock Preserve

Hazards Addressed: Wildfire

Mitigation Goal or Objective Addressed: Goals 2

Community Lifeline Addressed: Food, Water, Shelter

Issue/Background: The Button Rock Preserve is a reservoir watershed with a mixed conifer forest comprised primarily of ponderosa pine interspersed with Douglas-fir. While fire is often beneficial for Front

Range ecosystem health, decades of fire exclusion policy have increased the risk of extensive high severity stand replacing fires leading to a high threat to life, property, and infrastructure, as well as important natural resources and ecosystem services. Following the Big Elk fire adjacent to Button Rock Preserve, the City began developing implementing the Button Rock Stewardship Plan in 2002 to preserve forest health and reduce the risks of catastrophic fires and noxious weed invasion. The plan outlines management actions in various areas in the preserve to achieve the forest health and safety goals including forest thinning. As an example, since 2004, 918 acres have been thinned to reduce wildfire risk. In addition to forest thinning, prescribed fire is a necessary tool to help reduce fuel loads by way of burning existing and future slash piles created by thinning projects and through burning accumulated ground fuels and overly dense young trees. Additionally, the City has created the Wildfire Rehabilitation (Management) Plan to maximize the efficiency and effectiveness of both administrative and resource management actions following a fire within the Button Rock Preserve and its immediate surrounding area. Wildfire mitigation is important to protect the water quality in Ralph Price Reservoir as it is the City of Longmont's primary water supply.

Other Alternatives: None

Action Status: In progress. The City has been thinning the forest since 2004. The last time the City conducted any prescribed burning at Button Rock Preserve was in 2010 to burn slash piles. Discussions about burning existing slash piles and conducting prescribed broadcast burning through areas of forest previously thinned have been held but no firm plans are in place.

Responsible Office: Public Works and Natural Resources

Priority (High, Medium, Low): High

Cost Estimate: \$75,000 - \$100,000 annually. Forest management and thinning is an on-going effort and currently costs between \$75,000 - \$100,000 annually based on the current level of effort. Additional resources may be required to conduct prescribed burning but have not been determined.

Existing or Potential Funding: Annual grants from Colorado State Forest Service (CSFS) and City funding from water rates. To date, these funding sources are the only ones available and limit the amount of thinning that can be accomplished annually.

Benefits (avoided losses): The mitigation efforts reduce fire fuels around Ralph Price Reservoir, which reduces the risk of large wildfires that can threaten Longmont's water supply.

Potential or current subject matter expertise: forest health, water supply water quality, forest thinning techniques, wildfire modelling

Schedule: Continuing in Process. Forest management and thinning has been underway since 2004 with 918 acres of thinning completed. An additional 10 – 15 years is needed to initially address all areas around in Preserve. On going annual management of the forest will be needed.

Name of Action: Community Rating System (CRS)

Hazards Addressed: Flooding

Mitigation Goal or Objective Addressed: Goals 1-4

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter

Issue/Background: This is a FEMA program that is monitored by Insurance Services Office (ISO). The City provides services in many of the general activities, including: Public Information Activities, Mapping and Regulations, and Flood Reduction Activities. The City's CRS classification went from Class 8 to Class 5 in 2018 resulting in a 25% discount on flood insurance for property that is still within the 1% chance (100-year) floodplain and a 10% discount for properties outside the 1% chance floodplain, i.e. lower risk zones.

Other Alternatives: Drop CRS activities resulting in no (0%) discount on flood insurance premiums.

Action Status: Continue - In Progress

Responsible Office: Public Works and Natural Resources

Priority (High, Medium, Low): High

Cost Estimate: Currently use Senior Civil Engineer and other staff time + \$15,000 for outreach activities

Existing or Potential Funding: Storm Drainage Fund

Benefits (avoided losses): Minimize flood risks, public education on mapping changes, information on what to do before, during, and after a flood and flood insurance, updated floodplain information on the City's website, creek and drainage system maintenance.

Potential or current subject matter expertise: Floodplain and hydrologic modelling and mapping, GIS, CFM, FEMA, ISO, and CRS Manual

Schedule: Requires annual recertification by May 1 and verification every 3 to 5 years. Cycle Verification August 2022.

Name of Action: St. Vrain Creek Improvement Project/Resilient St. Vrain Project

Hazards Addressed: Flooding

Mitigation Goal or Objective Addressed: Increase in community safety and resiliency by increasing the capacity of the St. Vrain Creek channel to carry the updated 100 year flood flows for St. Vrain Creek through Longmont. Goals 1, 2,3

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Energy | Transportation

Issue/Background: The Resilient St. Vrain Alternatives Analysis Study focused on the 100 year storm flows in the St. Vrain Creek through Longmont that range from approximately 13,300 cfs at Airport Road to 17,700 cfs at County Line Road. The existing capacity of the Creek channel through the City is approximately 3,500 to 5,000 cfs resulting in a floodplain that is over half a mile in width impacting hundreds of individual properties and significant City infrastructure that will be damaged in any flood exceeding the capacity of the existing Creek channel. This was demonstrated during the 2013 flood event that caused over \$45 million in damage to the community in one event. Many projects have been initiated based on this study, some have already been constructed but overall project is not yet complete. The remaining projects needed to complete the upstream reaches through Longmont are described below.

Other Alternatives: Do Nothing; large detention facility west of town (not feasible)

Action Status: Continuing in progress.

Responsible Office: Public Works and Natural Resources Department

Priority (High, Medium, Low): High

Cost Estimate: \$140,000,000

Existing or Potential Funding: Existing: City Funding = approx. \$32 million; FEMA PA = \$30 million; FEMA HMGP = \$1.6 million; CDBG-DR = \$13.8 million. Potential: U.S. Army Corps of Engineers = \$10 million; FEMA PDM = \$10 million; other.

Benefits (avoided losses): This project would result in significant increased public safety and resiliency to the community protecting private property and public infrastructure and significant reduction in public safety risks due to future flooding events.

Schedule: Preliminary Design – complete.

- Final Design and Construction is being completed in phases as work is funded.
- Sandstone Ranch Reach (County Line Road to Boulder Creek) – complete.
- City Reach 1 (Main Street to Left Hand Creek) – complete.
- City Reach 2A (Colorado Way to Main Street) – complete.
- City Reach 2B (upstream of BNSF RR to Colorado Way) – under construction.
- Izaak Walton Reach 1 (Boston Ave. to upstream of BNSF RR) – final design complete; construction 2021.
- Izaak Walton Reach 2 (S. Sunset Street to Boston Ave.) – final design 2021; construction 2022.
- City Reach 3 (Airport Road to S. Sunset Street) – unfunded.

Name of Action: Channel Improvements on St. Vrain Creek at 119th Street

Hazard Addressed: Flooding

Mitigation Goal or Objective Addressed: Increase in community safety and resiliency by increasing capacity of the St. Vrain Creek channel at the 119th Street bridge crossing to carry the 100-year (1-percent annual exceedance probability) flood flows. Goals 1, 2

Community Lifeline Addressed: Safety and Security | Transportation

Issue/Background: The remapping of St. Vrain Creek after the 2013 floods by the state and FEMA (Preliminary FIRMs dated 9/30/2019) showed the City of Longmont large areas of inundation that were either not within the City’s jurisdiction at the time when the Resilient St. Vrain Alternatives evaluation Study was conducted in 2014 or were not recognized as a potential hazard until the Preliminary Maps were completed. As such, the Preliminary FIRMs show that the existing capacity of St. Vrain Creek from approximately 2,100-ft upstream of the State Highway 119 bridge crossing downstream to County Line Road (Weld County Road 1) is undersized and 100-year storm flows cause out of bank flooding and road overtopping at 119th Street. City owned property and infrastructure (i.e. St. Vrain Greenway and the 119th Street Trailhead) are subject to damages in large storm events. Additionally, overtopping of 119th Street causes road closures, potential damages due to roads washing out, and is a hazard to public safety.

Other Alternatives: None

Action Status: New in 2022

Responsible Office: Public Works and Natural Resources

Priority (High Medium, Low): Low

Cost Estimate: \$6,000,000

Existing or Potential Funding: FEMA Mitigation Funding and City Storm Drainage Fund (local match).

Benefits (avoided losses): This project would result in a significant increase in public safety and resiliency to the community protecting public and private property and public infrastructure and significant reduction in risks from future flooding events.

Potential or current subject matter expertise: floodplain management, project management, engineers, landscape architects, and irrigation designers

Schedule: 2023 depending on funding availability

Name of Action: Increase Tree Canopy

Hazards Addressed: Extreme Heat

Mitigation Goal or Objective Addressed: Goal 1: Reduces loss of life and personal injury by reducing the

heat island affect and minimizing the impacts of extreme heat.

The short term goal is to maintain tree canopy through the 15 year life-cycle of the emerald ash borer in Longmont. Long term goals are to increase tree canopy within the Longmont Planning Area. Increasing the tree canopy will increase shade, which can provide protection from extreme heat.

Community Lifeline Addressed: Safety and Security | Health and Medical

Issue/Background: The 2008 Tree Canopy Study determined that current tree canopy in the Longmont Planning Area is 8% with the potential of 47%. Since that study, the goal has to sustain and expand tree canopy while dealing with the emerald ash borer. The City is also competing with rising water costs (residents water their trees less) and a hotter and drier climate. Most trees within the City require some supplemental water to maintain good health and the City is currently seeking new varieties that are more drought tolerant.

It is important to not lose tree canopy because it can help reduce the number and impact of extreme heat days in Cities by providing cooling. A 2016 study in Toronto Canada, found that heat-related ambulance calls were reduced by 80% by just a 5% increase in tree canopy.¹ Currently, due to a hotter climate, the emerald ash borer and reduced budget from COVID-19, the City's short-term goal is to maintain tree canopy.

Tree canopy should be expanded in a strategic method. A study in Ann Arbor Michigan used a health impact assessment to identify neighborhoods more vulnerable to the negative impacts of extreme heat.² This study will analyze health, pollution, crime, and demographic indicators of neighborhoods in relation to tree canopy and identified the need for targeted tree planting.

Other Alternatives: Besides planting trees and vegetation, the other alternative recommended by the U.S. EPA is green roofs.

Action Status: Continue In Progress. In 2022, the City will complete an updated tree canopy study to better understand progress made since 2008.

Responsible Office: Public Works and Natural Resources

Priority: Medium

Cost Estimate: \$25,000/year

Existing or Potential Funding: Existing: Tree Mitigation Fund, Potential: Boulder County Sustainability Tax Funding

Benefits (avoided losses): Reduced extreme heat days, reduced hospitalizations due to extreme heat

Potential of current subject matter expertise: Forestry, natural resources analyst, project management

Schedule: In Progress. Will better understand current tree canopy by the end of 2020 and will have a better idea of when we will reach the 18% Tree Canopy target.

¹ Graham, D. A., Venus, J. K., Kenny, N. A., & Brown, R. D. (2016). The relationship between neighbourhood tree canopy cover and heat-related ambulance calls during extreme heat events in Toronto, Canada. *Urban Forestry & Urban Greening*, 20, 180–186. doi: 10.1016/j.ufug.2016.08.005

² Cameron, Lorraine & Smith, Dominic & Wirth, Julia & Stanbury, Martha. (2013). Health Impact Assessment of Targeted Tree Planting in Ann Arbor Michigan and Identification of Neighborhoods Vulnerable to Climate Change.

Name of Action: Vulnerability Assessment for Climate Impacts, Development and Engagement Strategy

Hazards Addressed: Extreme heat/cold, Flood, Wildfire

Mitigation Goal or Objective Addressed: Goal 2 – Reduce impacts of hazard events on property, critical facilities/infrastructure, and the environment OR Goal 4 – Improve public awareness regarding hazard vulnerability and mitigation

There is not yet a specific goal or objective that addresses identifying and reducing risks associated with climate change. However, the Climate Action Task Force Recommendations Report called for the creation of a climate adaptation plan to prepare for the impact of climate change. Staff are currently developing a climate risk and vulnerability map which is the first step of creating this plan.

Community Lifeline Addressed: Safety and Security | Health and Medical

Issue/Background: Even as many communities, including Longmont, work to reduce greenhouse gas pollution to mitigate the effects of climate change, we know that our community will suffer some climate change impacts – most likely more high and extreme heat days, worsening air pollution, and increased risk of wildfires and flooding. Recent studies show that we have already begun experiencing those impacts, but action within the next decade is critical if we are to avoid the most catastrophic impacts of climate change. Those most likely to suffer impacts disproportionately are low-income residents, older adults, children, and those with certain health conditions.³

Staff is conducting a climate risk and vulnerability assessment in order to understand what the projected impacts are likely to be for Longmont and where those most vulnerable to impacts reside within Longmont. In addition, it will be necessary to develop a community engagement strategy to then work with those most vulnerable to climate impacts in order to determine strategies to best mitigate and adapt to projected impacts that effectively and equitably meet community needs.

Resource on Extreme Heat: C40 Cities Climate Leadership Group (2019). How to adapt your city to extreme heat. C40 Knowledge Hub. https://www.c40knowledgehub.org/s/article/How-to-adapt-your-city-to-extreme-heat?language=en_US

Other Alternatives: N/A

Action Status: New in 2022

Responsible Office: Public Works and Natural Resources – Sustainability

Priority: High

Cost Estimate: \$80,000 for the assessment and community engagement plan; community engagement and implementation TBD

Existing or Potential Funding: Existing: Boulder County Sustainability Tax Funding in 2021 and 2022

Benefits (avoided losses): Reduced hospitalizations and deaths due to extreme heat and poor air quality; reduced need for potential crisis response during unexpected extended heat waves.

³ IPCC, 2018: Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Goris, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)]. In Press.

Potential of current subject matter expertise: Sustainability, Senior Services, Community Services, Longmont OEM, Boulder County Public Health

Schedule: In Progress. The assessment and mapping work began in 2021, with anticipated completion in 2022; community engagement strategy should be developed in 2022, with community engagement and strategy development happening in 2022; implementation beginning in 2023.

Name of Action: Neighborhood/Community-based Resilience Plans

Hazards Addressed: Pandemic/Communicable/Zoonotic Disease Outbreak, Drought, Extreme Heat, Flood, Wildfire

Mitigation Goal or Objective Addressed: Goal 2 – Reduce impacts of hazard events on property, critical facilities/infrastructure, and the environment OR Goal 4 – Improve public awareness regarding hazard vulnerability and mitigation

Community Lifeline Addressed: Safety and Security | Health and Medical

Issue/Background: Several hazards identified for Longmont and Boulder County may impact neighborhoods or specific segments of the community differently. Identifying plans, policies, and projects to help diverse populations adapt and thrive in the face of challenges like pandemic, drought, and extreme heat. Neighborhood residents and other hyper-local stakeholders know their neighborhoods best. Preparing neighborhood-based plans will enable the city to identify local solutions that have the best opportunities for successful implementation. These plans can identify physical improvements (e.g. areas to plant additional trees to provide shade and offer relief from extreme heat) or can offer programmatic solutions (e.g. identifying local streets where vehicle access could be limited to promote opportunities for bicycling and walking while having to maintain social distance during a pandemic). The 2021 and 2022 wildfires in Boulder County have also shown a need to educate residents not just in forested areas but also in grasslands on wildfire preparedness and steps they can take to protect themselves and their homes.

Other Alternatives: Incorporate information and actions into other subarea/neighborhood plans, comprehensive plan, or sustainability plan.

Action Status: New in 2022

Responsible Office: Planning Division, Sustainability, Community & Neighborhood Resources, Fire Department

Priority: Medium

Cost Estimate: TBD – based on scope of plans, number of plan, individual components

Existing or Potential Funding: Grants, internal funding TBD

Benefits (avoided losses): More prepared and resilient neighborhoods

Potential of current subject matter expertise: Planning Division, Sustainability, Community & Neighborhood Resources

Schedule: Anticipated implementation beginning in 2023.

Name of Action: Outdoor Water Efficiency/Conservation

Hazards Addressed: Drought, Extreme Heat

Mitigation Goal or Objective Addressed: Goal 2 – Reduce impacts of hazard events on property, critical facilities/infrastructure, and the environment OR Goal 4 – Improve public awareness regarding hazard vulnerability and mitigation

Reduce citywide water consumption by 10% by the City planning horizon (assumed to be 2048) compared to the 2004 baseline. Increase ability to meet future water demands with increasing population, increasing temperatures, and climate variability.

Community Lifeline Addressed: Food, Water, Shelter

Issue/Background: If future water conservation goals are not met, then the water supplies for the City of Longmont will be approximately 2,250 acre-feet short during a seven-year-long drought (using the variability assumption of water conservation saving of 928 acre-feet for Longmont's planning horizon).

The impact of climate change and climate variability was approximated at an eight percent impact on treated water demand, with a possible range between six to ten percent. This variability was calculated using the different climate variability scenarios for the Front Range of Colorado from the 2012 Joint Front Range Climate Change Vulnerability Study (Woodbury, Baldo, Yates, & Kaatz, 2012). If climate extremes follow the hot and dry model and cause a ten percent increase in treated water demand, this could lead to a future shortage in water supply. Water conservation methods is an important strategy to ensuring an adequate water supply.

Outdoor irrigation is approximately half of water consumption within the City of Longmont. Indoor plumbing codes have become significantly more efficient, so developing strategies for water wise landscaping helps ensure that during times of drought, water demand is being met by the community.

Other Alternatives: Indoor water conservation programs (the City has these programs), increase new supply (could be more costly)

Action Status: New in 2022. This is an ongoing effort, the City has had a Water Efficiency Master Plan since 2008. The Water Efficiency Master Plan was last updated in 2017. The next update will begin in 2022 and will evaluate more ambitious water conservation goals to address the impacts of climate change on water quality and availability. The next plan will be finalized by 2024.

Responsible Office: Public Works and Natural Resources

Priority: High

Cost Estimate: Current Program: \$200,000/year; Expanded program: TBD, depends on new program development

Existing or Potential Funding: Public Works Natural Resources Water Budget, Cash-in-Lieu Water Fund, Northern Water Conservancy District Collaborative Water-Efficient Landscape Grant Program, Colorado Water Conservation Board Grants, USBR WaterSMART Grants

Benefits (avoided losses): Decreased impact of seven-year droughts

Potential of current subject matter expertise: Water conservation, land management, data management, waterwise landscaping, project management, marketing and outreach

Schedule: Annual implementation; by 2024: Update the Water Efficiency Master Plan

Name of Action: Upgrade Power System Protection

Hazards Addressed: Wildfire, windstorm

Mitigation Goal or Objective Addressed: Goals 1 and 2, Reduce potential electric system from starting fires

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Energy | Communications

Issue/Background: On an electrical power system, a "fault" occurs when the normal operation is disrupted

by a foreign object (for example, a tree touching the power lines, or a small animal getting too close to the lines) or a piece of equipment fails and allows electricity to flow where it normally does not. When a fault occurs on an overhead power line, equipment can be damaged when excessive current flows. In these situations, the electrical system is protected by some means that clears the fault by turning off the power to that portion of the circuit. The simplest of these protective devices is an overhead expulsion fuse. When these fuses operate, they are designed to fall away from the mechanism that holds them in place to create a visual opening to allow the crews to know it has failed and the power is off to that portion of the circuit. The least expensive way of doing this is to release some of the energy from the fault in a small flash that mechanically opens the fuse support, called a cutout. This, however, sends sparks flying when it occurs. Much of this energy can be contained within the fuse, however, by using a much more expensive fusing device that is current-limiting, often called a “sand fuse” because the fuse element is surrounded by sand. LPC has chosen to use these more expensive fuses only in areas that in our evaluation have an elevated fire danger.

Other Alternatives: In addition to using sand fuses to replace the less expensive expulsion versions, a more versatile and safer alternate is a protective device known in the industry as a “Trip Saver.” When they operate to clear a fault, these devices contain all the released energy within the device. They also have the capability to reenergize the line after waiting a prescribed period for the fault to clear, since the majority of problems on an overhead line are intermittent (such as a branch falling across some lines, creating a momentary short). A secondary advantage is rapid restoration of power to customers with minimal interruption, versus requiring a crew to travel to the location of the fuse to restore power. Another important factor to consider is that, while more than 10 times the cost of a sand fuse, a Trip Saver does not need to be replaced after each operation and does not always require a crew to reset or replace it, potentially saving on overall costs.

Action Status: New in 2022

Responsible Office: Longmont Power & Communications (LPC)

Priority: High

Cost Estimate: \$200,000 - \$1 Million

Existing or Potential Funding: Current Electric Rates include a portion for replacing depreciated and failing equipment, but new initiatives for system improvement, such as wider use of sand fuses or Trip Savers, will likely result in rate increases if other funding sources are not identified.

Benefits (avoided losses): Lower wildfire risk, faster power restoration

Potential of current subject matter expertise: LPC has personnel currently on staff that are fully capable of designing and constructing the project.

Schedule: 2022-2025

Name of Action: Tree Trimming Adjacent to Power Equipment

Hazards Addressed: Wildfire, windstorm

Mitigation Goal or Objective Addressed: Goals 1 and 2; Reduce potential for electric system to start wildfires; Minimize damage from falling branches and trees

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Energy | Communications

Issue/Background: Electric and Communication utilities with both overhead and above-ground facilities must actively manage vegetation growth or run the risk of damages and/or not being able to access equipment from over growth. If not kept in check, trees and other vegetation can damage or destroy

equipment thru added moisture retention, abrasion, and of course falling into lines and other facilities. This project would entail strategic tree trimming to reduce potential power system impacts.

Other Alternatives: None

Action Status: New in 2022

Responsible Office: Longmont Power & Communications (LPC)

Priority: High

Cost Estimate: Currently budgeted at \$330,000 / year

Existing or Potential Funding: Current Electric Rates include a portion for vegetation management focused on outage prevention and minimizing physical harm to infrastructure (such as a tree falling in a storm and knocking down a line, or a branch repeatedly rubbing against a cable and wearing through the insulation)

Benefits (avoided losses): Lower fire risk, more reliable electric service, fewer work-hours to restore power during unplanned outages, reduced damage to existing infrastructure

Potential of current subject matter expertise: LPC has personnel currently on staff that are fully capable of designing and constructing the project

Schedule: Annual Implementation 2022-2027.

Name of Action: Power Grid Modernization

Hazards Addressed: Wildfire, Windstorm

Mitigation Goal or Objective Addressed: Goals 1 and 2; Reduce potential that electric system starts wildfires or is out of service for an extended period of time; use power more efficiently to reduce carbon footprint

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Energy | Communications

Issue/Background: It has been established that electric infrastructure has been the cause of some of the largest and costliest wildfires in terms of lives lost and economic impact in recent years. This clearly was the case in California during 2018 with the devastating Camp Fire, where about 153,000 acres burned, 18,800 structures were destroyed, and 85 people perished. Pacific Gas & Electric, along with its management team, have been held liable for more than \$13.5 Billion in damages for this and other fires caused during 2017 & 2018. Grid Modernization or "Smart Grid" deployment has many tools that can aid with all the hazards listed above by reducing the energy to a persistent fault, automatically healing the grid, and allowing the power on the grid to be better managed.

Other Alternatives: Pre-emptively turn off power to high-wildfire risk areas during periods of high fire danger; however, this would lead to businesses and residents to turn to back up and portable generators that also present a potential to spark a fire. Use of these portable generators could also work contrary to LPC's response to the climate emergency, as many backup generators run on fossil fuels.

Action Status: New in 2022

Responsible Office: Longmont Power & Communications (LPC)

Priority: High

Cost Estimate: Currently budgeted at \$1.7 Million over the next 5 years for a project that will likely take 10 to 15 years to complete and potentially cost upwards of \$25 Million to complete.

Existing or Potential Funding: Current Electric Rates include a portion for replacing depreciated and failing equipment, but new initiatives to modernize the grid will likely result in rate increases if other funding sources are not identified.

Benefits (avoided losses): Lower wildfire risk, faster power restoration

Potential of current subject matter expertise: LPC has personnel currently on staff that are fully capable of designing and constructing the project

Schedule: In progress 2022-2027 as funding and work crew availability permits

Name of Action: Stormwater Master Plan

Hazard Addressed: Flooding

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

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Transportation

Issue/Background: Annual urban flooding issue due to no or undersized stormwater facilities throughout the City. The City is currently working on a city-wide stormwater master plan update. Existing Conditions analysis is nearly complete but the project is a 3-year project and due to COVID-19 there may not be enough funds available to complete the project. Once complete, many projects needed to reduce urban flooding will be identified.

Other Alternatives: Allow stormwater flooding to continue to occur throughout the City.

Action Status: New in 2022

Responsible Office: Public Works and Natural Resources

Priority (High Medium, Low): High

Cost Estimate: \$500,000 to complete the master plan.

Existing or Potential Funding: Existing: Storm Drainage Operations not a CIP fund, Potential: BRIC grant funding

Benefits (avoided losses): Minimize continuous flood damage to City infrastructure and private property from an undersized stormwater system for the City.

Potential or current subject matter expertise: Project Management, hydrology and hydraulics modelling expertise, GIS expertise, report production expertise and PLS surveying. None of this expertise is available in-house.

Schedule: In Progress and expected to be completed late 2022- early 2023

Name of Action: Natural Channel Maintenance Plan

Hazard Addressed: Flooding

Mitigation Goal or Objective Addressed: Goals 1 and 2; Create a plan with standard operating procedures to perform regular maintenance on the City's stream corridors to maintain flood capacity and infrastructure while also identifying projects to increase the hydraulic, geomorphic, ecological, and physicochemical functions of streams.

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Transportation

Issue/Background: The City of Longmont has approximately 28.5 miles of stream corridors that convey flood flows and sediment through the City. As many of these streams flow through urban areas, it is

essential for the City conduct routine maintenance to remove flood impediments and make sure that infrastructure on the stream is functional to protect the residents of Longmont as well as to comply with Federal regulations. This became even more apparent after the 2013 flood. The City also recognizes that these streams provide critical aquatic and terrestrial habitat. Planning is necessary to identify needs for maintenance and stream restoration as well as to provide guidance on how to perform these tasks.

Other Alternatives: None

Action Status: New in 2022

Responsible Office: Public Works and Natural Resources Department

Priority (High Medium, Low): High

Cost Estimate: \$95,000

Existing or Potential Funding: The City spent \$50,000 in 2019 on Phase I of the plan which included existing conditions assessment and data collection. The City has budgeted \$30,000 in 2021 and 2022 to publish the plan. The City has a 5-year CIP to implement stream restoration projects with guidance from the plan funded at \$277,500 in 2022, \$1,107,500 in 2023, \$1,107,500 in 2024.

Benefits (avoided losses): The plan, when implemented, would reduce future flooding as well as make streams more resilient to flood events requiring less restoration.

Potential or current subject matter expertise: The City has several staff within the Public Works & Natural Resources Department that are subject matter experts.

Schedule: Publishing of the plan in 2022. Additional funding necessary to complete phase II data gathering such as floodplain mapping and vegetation influence on flooding.

Name of Action: Storm Drainage Criteria Manual

Hazard Addressed: Flooding

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

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Transportation

Issue/Background: Longmont's Storm Drainage Criteria Manual has not been updated since 1984. It is seriously outdated. It doesn't even include a chapter on Floodplain Management. The City of Longmont Public Improvements Design Standards and Construction Specifications was updated by Longmont staff during 2018 and 2019. However, it has not been adopted yet, partially because Section 300 – Storm Drainage Improvements updates were not acceptable to the CAO. There is no Floodplain Management Section in the Design Standards manual. The COA recommended that the Storm Drainage Criteria Manual be updated instead of trying to do that within the Design manual. Consultants and CIP projects need standards for design of stormwater and flood protection projects.

Other Alternatives: Continue as we have been without a useful Drainage Criteria Manual.

Action Status: New in 2022

Responsible Office: Public Works and Natural Resources

Priority (High Medium, Low): High

Cost Estimate: \$300,000

Existing or Potential Funding: There is no existing City funding available for this project at this time. Potential funding would be BRIC Grant funding.

Benefits (avoided losses): Longmont has been using revised storm drainage and floodplain management criteria but it has not been documented or officially adopted by City Council. Floodplain Management is done on a case-by-case basis as there is no written criteria beyond the Floodplain Management Ordinance which includes very little specific criteria. Consistent criteria will provide consultants and CIP engineers with the necessary information to complete their projects within the expectation and criteria set forth by the City. In addition, consistency is key to managing expectations from submitters i.e. every project is treated the same.

Potential or current subject matter expertise: Engineers familiar with stormwater criteria needed for development, CIPs and regulatory agencies, publication specialists, and lawyers (CAO and outside with expertise in stormwater regulations). None of this expertise is available in-house.

Schedule: 2022-2024 contingent upon funding.

Name of Action: Ecological Restoration

Hazards Addressed: Flood, Wildfire, Drought

Mitigation Goal or Objective Addressed: Goals 1 and 2; Restore diverse, functioning, native ecosystems such as grasslands, riparian areas, wetlands, and forests to increase resiliency to natural disasters such as floods, wildfires and drought.

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Health and Medical |Energy |Transportation

Issue/Background: Ecosystems are critical to human survival through the provisioning of such ecosystem services as flood retention, pollination, pollutant filtration, and carbon sequestration. Diverse, functioning native ecosystems are able to withstand natural disasters and recover which in turn reduces the negative impact on human life. The more diverse an ecosystem's plant and animal species are, the more they are able to adapt to environmental changes caused by disasters. Also, ecosystems are more resilient when such functions as floodplain connectivity, natural fire regimes, and habitat connectivity are able to occur. Many of Longmont's ecosystems are in a degraded state as described in the existing conditions evaluation undertaken in 2019 for the Natural Streams Management Plan, still in production. Ecological restoration activities such as noxious weed control, seeding and planting native plants, prescribed burning, forest thinning, and stream channel reshaping aim to create more healthy ecosystems.

Other Alternatives: None

Action Status: New in 2022

Responsible Office: Public Works & Natural Resources Department/Parks& Natural Resources Division

Priority: High

Cost Estimate: There has not been an analyses of the cost for all restoration projects across all City of Longmont properties. \$300,000 annually would be a reasonable starting point.

Existing or Potential Funding: Multiple City operating budgets such as Open Space, Water, Sanitation, Parks, Stormwater Operations contribute \$20,050 to annual weed control as well as to the salaries of staff performing vegetation management. Open Space operating budget also earmarks \$40,000 annually for native plant propagation. There are potential grants that could be pursued for ecological restoration such as Great Outdoors Colorado RESTORE Colorado Grant.

Benefits (avoided losses): Implementing ecological restoration would help mitigate losses associated with flooding, wildfire, and drought such as flood related erosion damage and sedimentation of water bodies following catastrophic wildfire.

Potential of current subject matter expertise: Staff within the Parks & Natural Resources Division are experts in ecological restoration

Schedule: 2022-2027 with annual implementation

Name of Action: Floodplain Regulations Update

Hazard Addressed: Flooding

Mitigation Goal or Objective Addressed: Goals 1 and 2

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Transportation

Issue/Background: Longmont experienced a significant and damaging flood in 2013. The Floodplain Management Ordinance should be updated with lessons learned from that event. Several updates have been proposed through the "Mitigation Solutions through Land Use" workshop Longmont participated in (2018).

Other Alternatives: No action.

Action Status: New in 2022

Responsible Office: Public Works and Natural Resources

Priority (High Medium, Low): High

Cost Estimate: \$50,000

Existing or Potential Funding: There is no existing City funding available for this project. Potential funding would be a BRIC grant.

Benefits (avoided losses): Avoidance of flooding and flood damages to public and private property and public safety.

Potential or current subject matter expertise: Code language expertise, there is 1 in-house expert in this area but would require a significant time investment that is not available. Expert consultant help would be required.

Schedule: 2022

Name of Action: Stormwater System Improvements

Hazard Addressed: Flooding

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

Community Lifeline Addressed: Safety and Security | Food, Water, Shelter | Transportation

Issue/Background: The City of Longmont stormwater system (minor system) is severely undersized or completely lacking in the older areas of the City which causes flooding nearly every time it rains. Longmont has commissioned a City-wide Stormwater Master Plan update (2019) which will result in a preferred plan to address flooding and conveyance problems. Longmont expects the list of projects to be extensive and expensive. A preliminary analysis of the known problem areas and improvements that were not completed from the last master plan update resulted in a large of costs.

Other Alternatives: Allow continuous flooding from smaller rain events to occur throughout the City and only address the worst problem areas. However, the public is very vocal about problems with stormwater flooding and likely someone would have to be hired by the City just to support public complaints.

Action Status: New in 2022.

Responsible Office: Department of Public Works and Natural Resources

Priority (High Medium, Low): High

Cost Estimate: \$9,000,000 (total for 10-year priority project list)

Existing or Potential Funding: Storm Water CIP Fund which is currently only generating enough money to cover outstanding bond repayments. There are no funds after 2020 for Stormwater Improvements.

Benefits (avoided losses): Decrease damages to private and City property and infrastructure due to urban flooding.

Potential or current subject matter expertise: stormwater engineer, GIS, Hydrology and Hydraulics modelling expert, construction management, project management

Schedule: Annual CIP process for these projects each year. Most often these projects are completed after runoff season has been completed on an annual basis.

Name of Action: Airport Road Flood Protection Project

Hazards Addressed: Flooding

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

Community Lifeline Addressed: Safety and Security

Issue/Background: Flood damage occurs in the western portion of the City of Longmont caused by breaches in the St. Vrain Creek. This project would also protect the community from flood flows to the north that could overtop McIntosh Reservoir and flow south and west to the same areas of the City. By using concrete jersey barriers we will reduce the risk of flooding to this part of the city. Flood damage, occurred in the 2013 flood where flood flows breached the existing St. Vrain Creek channel and flowed to the north causing severe damage to private property and public infrastructure in several neighborhoods in western portions of the City.

Other Alternatives: No action

Action Status: Continuing – not started. Deferred action due to lack of funding source.

Responsible Office: Public Works and Natural Resources Department

Priority (High, Medium, Low): High

Cost Estimate: \$2,000,000

Existing or Potential Funding: City Enterprise Fund

Benefits (avoided losses): This project would result in significant increased public safety and resiliency to the community protecting private property and public infrastructure and significant reduction in public safety risks due to future flooding events. Though the barriers will not remain permanent fixtures, per resident discontent, we now have the supplies and pre drilled holes to put these out at the last minute if needed.

Potential or current subject matter expertise: floodplain management, project management, landscape architect, irrigation, engineers

Schedule: 2022-2024. Project start is dependent on an approved funding source which is not identified at this time.