

Environment

The natural environment is a major determinant of the quality of life of Jamestown. The terrain, climate, and geology of the area can be rugged and challenging. The importance of preserving and respecting the unique mountain environment has been recognized by Jamestown residents.

~~In the Household Survey, public meetings, and through the work of a local environmental study group, The~~ desire to ensure safety of new and existing development control development in certain environmentally sensitive areas (hazard areas) that was expressed in the 1981 Comprehensive Plan has been reconfirmed during the planning processes held between 2013 and 2016~~been expressed~~. The policies in this section are an expression of this desire to protect the environment and special interest areas, as well as the health, safety, welfare, and property of residents in the town and surrounding area.

The policies are also an expression of other Jamestown values - the desire for regulations that provide some safety measures for new development but also some flexibility. ~~There is a concern by residents~~ Residents expressed that the cost of development be borne by the developer and that public utilities and service costs and public liability of the ~~town~~ Town not be increased. This is an important consideration as extension of services in hazardous areas is expensive and difficult.

The policies have evolved from this set of values and the basic information on the local environment. ~~(More extensive background information is available in the 1979-“Jamestown Planning Study” and the “1978 Natural Resource Inventory”~~2015 Hazard Identification and Risk Assessment and Land Use and Housing Study as well as the 2016 Boulder County Hazard Mitigation Plan~~).~~

Beyond hazards and development, the importance of preserving and respecting the unique mountain environment has been recognized by Jamestown residents. As expressed during the Jamestown Area Long Term Recovery Plan, community members desire to be good stewards of the region’s ecosystem. By encouraging stewardship of the environment throughout the community, Jamestown can enhance the management of natural resources to support outdoor recreational opportunities, preserve the natural character of the town, and teach respect for the mountain canyon and its flora and fauna. The aim is to enhance management and protection of the community’s natural resources, including James Creek, its watershed, wildlife, clean air and water, and the National Forest lands surrounding the Town.

Natural Hazard Areas of Concern

- **Slopes and soils:** The terrain in and around Jamestown is mountainous with steep slopes. Slopes range from relatively level ground to over 100% slope (land which changes at least 100 feet in elevation per 100 feet horizontal distance on the ground).

Over 70% of Jamestown lies on steep slopes¹ considered to be potentially unstable particularly if disturbed by human activities or by extreme precipitation events. Areas with slopes in excess of about 25% are considered potentially unstable slopes. Most of the mountainous land adjoining the valley floors have slopes in excess of 25%².

Slopes and their soils can produce severe problems for development itself. Engineering technology is now available to develop safely on slopes of up to 50%. However, such engineering and mitigation of hazardous conditions can be very costly. ~~Slopes and their soils can produce severe problems for development and the town itself.~~ Septic system runoff may be difficult to control, erosion tendencies may increase and slope failure is possible. Provision of water services and other utilities is difficult and costly on steep slopes. Extensive grading, cutting, and filling are common in steep hillside development which causes further erosion problems and destruction of the natural beauty of hillsides and view.

- **Rockfall:** Rockfall in general is not a severe constraint within Jamestown although two areas in the north part of town are subject to rockfall hazards according to the Jamestown Hazard Identification and Risk Assessment. The naturally recurring rockfall on Porphyry Mountain is remote enough that it does not present a hazard to present or probable future development within town limits. Rockfall near the southeast section of town along ~~the road coming up from the plains~~ County Road 94 east of town presents a mild hazard to motorists especially during the spring freeze-thaw periods. Also, areas of 100% slope (or more) present potential rock fall problems and hazards should be mitigated when development ~~below~~ is planned below these areas.

- **Flood Hazards:** Jamestown has a history of flooding, with flash flooding presenting the most serious hazard to Jamestown. ~~Five-Six~~ major floods have occurred in Jamestown in the last ~~100-130~~ years, the latest occurring in ~~1969~~ 2013. Because there are a number of narrow gulches that drain hillsides from both the north and south sides of James Creek, peak flooding in Jamestown usually occurs within a few hours after a single storm.

~~Much. A portion~~ of the town is presently built in the floodplain and is therefore in danger. ~~As well as presenting—This development also presents~~ danger to structures downstream as floating or swept along debris can increase the volume and force of the flood. In areas where little advance notice of flooding is available, a careful control of types of land use and engineering in the floodplain is needed to maintain public safety. ~~A 1978 Federal Flood Insurance Administration study was conducted for the Jamestown area. The 100-year floodplain (area inundated in a flood likely to occur once in a time span of 100 years) was identified and a town ordinance was passed forbidding construction in this area. At present another study is underway by the Federal Flood Insurance Administration that will more accurately define flash flood corridors, and floodplains, as well as give recommendations for mitigation and suitable development in these areas.—~~

After the 2013 flood event, the floodway and 100-year floodplain (area inundated in a flood event that has a 1% probability of occurring in any given year) for the James and Little James Creeks were remapped due to the change in conditions caused by the flood and emergency watershed protection projects done to stabilize the creeks. The 1% annual chance flood event is the standard

¹ Jamestown Hazard Identification and Risk Assessment, 2015.

² Ibid.

national measurement for flood mitigation actions and the National Flood Insurance Program (NFIP). The new floodplain data is used to update the Federal Emergency Management Agency's Flood Insurance Rate Maps (FIRMs). The floodplain identification is important to property owners since following the flood insurance guidelines is vital for obtaining federal or private lender/bank funds for most private development and town improvements.

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- **Debris Flows:** Debris flows pose the most serious geological hazard to the town in the near term. About thirteen percent of the town is within debris flow hazard areas, with about thirty basins being capable of producing debris flows that could affect the town in the future. Six of these basins generated debris flows during the 2013 storm event.

- **Alluvial Soils:** Alluvial soils or alluvial debris fans exist where gulches drain into the stream flowing through the valley floor where Jamestown is located. Water flows quickly through these very permeable soils. This quality of the soil is troublesome for building foundations and controlling septic runoff, especially since they are usually adjacent to streams where contamination and pollution can easily occur. Mitigation of the hazard is possible, although the soils are usually located on floodplains and mitigations for flooding is of overriding concern.

- **Wildfire Hazards:** Jamestown and the vicinity are vulnerable to wildfires during periods of high fire or greater fire danger. Most Jamestown and vicinity fall into a ~~severe~~ moderate or high threat wildfire hazard area according to the Jamestown Hazard Identification and Risk Assessment. These areas have potential for difficult-to-contain, rapidly spreading crown fires. Density of vegetation, population, and steepness of slopes (winds and access problems) increase the hazards. Flammable woody debris and vegetation support rapid fire spread and high intensity flames that are difficult to control. There are a number of public education, and preventive/mitigation measures possible to address this hazard. This hazard has other significant impacts on Jamestown because the cost of homeownership is ~~high~~ increased due to fire insurance rates and the cost of public roads/utilities is high for necessary access and water service. The road system, terrain and land ownership patterns pose serious impediments to wildfire suppression and hazard mitigation. Areas that are a source of drinking water are of critical importance and adverse effects from fire are a key concern.

- **Mines, Mill Tailings, and Radon:** Several mines operated in town limits. Hazards and constraints related to mines and mill tailing include radiation, contamination, and ground stability. Reclaimed tailings from local mills are found at four locations within Jamestown along James and Little James Creeks, the largest being the three-celled tailings pond at and downstream of Elysian Park. Several types of geologic hazards and constraints may exist in areas with inactive mines, mine waste piles, and mill tailings including open shafts, adits, and subsidence features. Mill tailings also may be unsuitable for foundations unless mitigated. Mill tailings may pose environmental problems related to the presence of lead, arsenic, or other harmful elements, and they potentially could cause radiation hazards or be sources of acid drainage³.

Radon is a potential problem in many parts of Colorado, including Jamestown. The types of granitic

³ Jamestown Hazard Mitigation and Risk Assessment, 201.
Jamestown, Colorado Comprehensive Plan ~~1984~~2017

and metamorphic bedrock beneath Jamestown tend to cause a somewhat higher risk of radon than that in some other locations in the state. Presence of uranium minerals in some of the mineralized veins increases the likelihood of radon in those areas⁴.

Areas of Special Interests:-

In the 1981 Comprehensive Plan, cCertain areas in the Jamestown area vicinity have been identified as important to preserve in their present or natural state. These places are scenic visual resources, and provide the community with an appreciation of its local heritage and a common identity. Some of these areas are outside the legal boundaries of Jamestown, but their importance is not lessened by the lack of jurisdiction. By stating community concern and the importance of these areas now, Jamestown hopes to be influential in their preservation for the future. Identified Areas of Special Interests ~~Areas~~ include: the city town-owned cemetery; ~~privately~~ privately-owned Blue Joy Mine and the Glory Hole; three areas in Roosevelt Notional Forest including Porphyry Mountain, Owen's Flats, Gillespie Meadow; and the Little and Big James Creeks. These areas have also been adopted as areas of special interest in the Boulder County Comprehensive Plan. These areas have also been adopted as areas of special interest in the Boulder County Comprehensive Plan. Boulder County owns the land and mineral rights for the Blue Jay Mine area and, in 2003, The Town purchased a conservation easement with the County to preserve the area.

Living With Nature

As conveyed in the Jamestown Area Long Term Recovery Plan, the natural environment is a key factor drawing many residents to Jamestown and the preference is to live with nature rather than in conflict with it. There are several areas of attention when it comes to living with nature. Ensuring that the natural systems remain healthy is important to the community. A healthy watershed supports a viable riparian corridor, excellent water quality, and sustainable forest ecosystem. Healthy vegetation helps stabilize creek banks and slope soils, assist in uptake of metals pollution, and creates a beautiful visual backdrop. Respectful, quiet access to the surrounding National Forest allows for recreational opportunities and personal reflection. Many Jamestown residents deeply appreciate the wildlife in and around town. However human behaviors can draw wildlife and result in conflicts where property is destroyed and the animal is killed. Jamestown residents benefit from having the resources to educate themselves about living in a mountain community.

There are several programs that can assist the community in learning how to live with nature. Programs such as Bear Aware and Bear Smart aim to improve bear / human conflicts. Programs such as FireWise and the assistance from groups such as the Wildfire partners help community members be more knowledgeable about protecting themselves and neighbors against wildfires. Regional groups such as Lefthand Watershed Oversight Group and the James Creek Watershed Initiative can provide guidance on water quality, healthy riparian habitat, and the importance of bank stability. There are a number of strategies outlined in the Jamestown Area Long Term Recovery Plan that aim to educate the community and improve the natural environment.

⁴ Jamestown Hazard Identification and Risk Assessment, 2015.
Jamestown, Colorado Comprehensive Plan ~~1981~~ 2017

Current Regulations and Programs

Development Standards

Jamestown's land development regulations consist of the Comprehensive Plan and a number of ordinances that define land use policy for the Town. The Town has several ordinances that apply to development within hazard areas.

- Ordinance No. 2, Series 1984 acknowledges that many areas in the town are within mapped natural hazard areas and new construction proposed in these areas are subject to Special Review. This Special Review requires studies and reports concerning the mitigation of the hazards.
- Ordinance 2, Series 2003 authorizes the payment of Town funds for the acquisition of a conservation easement for the Blue Jay Mine Property.
- Ordinance 7, Series 2004 sets standards for driveways that include specifics for turnaround areas for emergency vehicles, erosion control, grade and other safety parameters.
- Ordinance No. 2, Series 2009 a set of subdivision regulations, includes considerations to avoid development in hazard areas as well as the enhancement of the environment. It also sets site design standards including how hazards are avoided or mitigated.
- Ordinance 4, Series 2011 is the Town waterworks and watershed ordinance. This ordinance requires review and permitting of certain activities in attempt to protect the Town's water supply from pollution or from activities that will create hazard to health and water quality.
- Ordinance 8, Series 2012, Ordinance 5, Series 2014, and Ordinance 2-1, Series 2016 set standards for development in all Special Flood Hazard Areas and areas removed from the floodplain by the issuance of a FEMA Letter of Map Revision Based on Fill. These ordinances apply to development within a 100-year floodplain. The intent is to reduce potential damage to properties in the defined area in the case of a flood.
- Through the 1997 Intergovernmental Agreement, building permits for properties in Jamestown are reviewed and issued by Boulder County. Soils tests are required when submitting for building and septic permits in hazard areas.

Plans and Programs

The following plans and programs exist for the community's benefit.

- 2015 Jamestown Hazard Identification and Risk Assessment (HIRA) - The HIRA maps local hazards, conveys risks as a result of the hazard, and provides cautions and mitigation measures to exercise in regard to development.
- 2015 Boulder County Hazard Mitigation Plan (HMP) – Jamestown participates in the county-wide HMP which is similar to the HIRA but at a county scale. The HMP frames mitigation and response plans to protect people and property from hazards that threaten the county. The plan also results in eligibility for certain federal disaster assistance including Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program and the Pre-Disaster Mitigation program. Our county also earned credits for the National Flood Insurance Program's Community

Rating System.

- **Drainage and Stormwater Management Master Plan** - The Town is underway with a Drainage and Stormwater Management Master Plan. The plan evaluates drainages in and around town to determine appropriate mitigation for debris flows and other threats; assesses drainages for issues and alternatives to improve the overall drainage system; and identifies stormwater quality measures to address water quality as it enters the area creeks.
- **2014 Jamestown Area Long-Term Recovery Plan** - The Jamestown Area Long-Term Recovery Plan includes a chapter on Living with Nature. The chapter includes goals and strategies for a healthy watershed, a balance of preservation with recreation, coexisting with wildlife and their natural environment, and environmental education.
- **2011 Source Water Protection Plan** – The Source Water Protection Plan focuses on addressing issues that affect water quality such as mining activities, septic systems, impacts from transportation on roads, climate change, flood hazards, public lands, wildland fires, mountain pine beetle, reservoir and diversion operation and maintenance, zebra and quagga mussels, and residential practices. The plan provides several management approaches that could be implemented within the protection area to help reduce the risks of potential contamination to the community’s source water as well as complements existing regulatory protection measures implemented at the state and federal governmental levels by filling protection gaps that can only be addressed at the local level.
- **James Creek Watershed Initiative (JCWI) and Lefthand Watershed Oversight Group** – Jamestown supports and is involved with the James Creek Watershed Initiative and Lefthand Watershed Oversight Group. Both are community organizations working to preserve, improve, and protect the James Creek Watershed and the Left Hand Creek Watershed (in which the James Creek Watershed is located) and to improve water quality. JCWI continues with monitoring water quality of five sites on James Creek with the River Watch program to assess stream health. The Lefthand Watershed Oversight Group participated with the creation of the Left Hand Creek Master Plan that guides recovery of the creek after the 2013 flood event.
- **Floodplain Administrator** – the Town has a floodplain administrator, a volunteer position, who reviews development proposals that would occur in the floodplain and advises the developer on how to be in compliance with the floodplain ordinance.

Environmental Policies

General

1. The Town will consider potential impacts to natural systems when making decisions on public and private development proposals. The natural environment is a crucial factor in determining land use in Jamestown because of its isolated, fragile mountain location. Controls on Types of use, the level of development, and the mitigation of hazards, and damage to the environment should be reviewed prior to use or -development approval instituted. Controls through building Building permit review should allow development when safely possible with the burden of regulation and mitigation borne by the developer- because of limited resources of the town.

Slope Hazard Areas

2. Jamestown should continue to require certified engineering and administration of development in slope hazard areas to eliminate slope failures, erosion, aesthetic deterioration, and hard-to-control septic runoffs. Review of development within areas exceeding 20% slope should include soil reports, detailed site plan, professionally engineered foundation, and erosion control plan for building and road construction.

Rockfall and Debris Flow Hazard Areas

3. Jamestown should discourage development in rockfall and debris flow hazard areas, but allow development if certified mitigation of hazards by stabilizing slopes and reducing the risk of erosion ~~and~~ rock slides and/or debris flows are possible. Mitigation should avoid major visual impact.

Flood Hazard Areas

4. Jamestown should require conformance with the adopted floodplain development ordinance (~~certified "flood proofing" mitigation and limits of density of development to Flood Insurance Administration (FIA) standards in the floodplain zones defined by FIA maps. Open space uses should be encouraged in the flash flood hazard area. These controls on development should limit encroachment of buildings, activities, landfills, utilities, and bridges into the channel.~~) These controls should assure compatibility of uses in the floodplain and protect downstream settlements. Flood Insurance Rate Maps (FIRMs) maps and policies ~~presently being developed~~ should continue to be adopted when available revised over time.

Alluvial Soil Hazard Areas

5. Jamestown should require certified mitigation of hazards and limit on density of development in alluvial soil areas in order to keep ground water clean and at high levels, limit flood danger, and assure safe and solid building foundations in these areas of highly permeable soil.

Wildfire Hazard Areas

6. Jamestown should require certified mitigation of fire hazards for development in severe wildfire hazard areas by the Jamestown Volunteer Fire Department Fire Protection District in order to reduce the possibility of fires and to increase the ability to fight fires once they have started. Mitigations should include adequate roads and access for fire equipment, fire breaks and other means. The Town will continue to encourage defensible site designs that minimize the risks to life and property development in these areas.

Areas of Special Interest Areas

7. Jamestown ~~recommends that~~ should continue to encourage areas of special interest ~~areas to~~ be removed from development and preserved in their natural or existing state. The ~~town-~~ Town recognizes that certain natural, aesthetic, and historic features are an integral part of the small town, mountain environment and contribute to the high quality of life in Jamestown. For areas outside the town jurisdiction, Jamestown should strongly state its interest and exert pressure whenever these areas are threatened. ~~Areas include: Gillespie Meadow, Little James and Big James Creek, the Blue Joy Mine, the Glory Hole, the Cemeterycemetery, Owen's Flats, and Porphyry Mountain.~~

Air and Water Quality

8. Jamestown ~~recommends that~~ encourages that regional and national standards for air and water quality be strictly enforced to preserve the high quality of life in Jamestown and to

protect the environment. The Town supports the monitoring of septic systems to ensure against negative impacts to the watershed and water quality. The Town will continue to work with the local watershed groups, Boulder County, and the State to ensure high air quality and water quality are maintained.

Living with Nature

9. Jamestown will support local efforts to educate the community on how to live harmoniously with the environment. Education efforts include reducing human / wildlife conflicts, the general flora and fauna of the area, water quality, local hazards, and emergency preparedness.

10. Jamestown will work with the United States Forest Service and Boulder County to address forest land access, trail maintenance, and hazard mitigation.

Proposed Programs and Actions

The Town should consider expanding the building permit system should be expanded to include review of safe. The Planning Commission should inspect building sites as well as identification adequate hazard mitigation measures. and review bBuilding permit applications and recommends should be approval approved or disapproval disapproved based on consistency with the Comprehensive Plan. The Town Board should grant or deny all building permits.

The Town should evaluate, prioritize, and implement appropriate recommendations of the 2015 Hazard Identification and Risk Assessment and Land Use and Housing Study and the 2017 Drainage and Stormwater Management Master Plan to better protect the town from potential hazards and to help to safeguard water quality.

Work-The Town should continue to work with local fire districts departments and other agencies to assist private landowners with creating defensible space and participate in programs such as FireWise Communities that encourage and support mitigation.

The Town should continue to implement the Long-Term Recovery Plan and its projects to promote environmental education, protection of the watershed, protection wildlife and wildlife corridors, and the reduction of human/wildlife conflicts.

Jamestown has regularly hosted educational programs including those provided by the EPA, U.S. Forest Service, Boulder County Health, Boulder County Office of Emergency Management, the James Creek Watershed Initiative and the Left Hand Oversight Group. Programs such as these should be continued and incorporated as recommendations into regular HIRA and HMP updates.

The Town should continue to participate in several initiatives that reduce risks to both the Town and residents specifically, including the National Flood Insurance Program (NFIP), and the Community Rating System (CRS).

