



# GRAND COUNTY GENERAL PLAN 2030

*"Adventurous Small Town Spirit"*

## SECTION ELEVEN: ENVIRONMENT

### 1. NATURAL AND ENVIRONMENTALLY SENSITIVE AREAS

Utah State Statute provides for the development and adoption of county-level plans under Title 17 27a-401. Components that are required to be addressed within these plans include: land use, transportation, environmental issues, public services and facilities, rehabilitation and redevelopment, economic concerns, recommendations for plan implementation, and "any other elements that the county considers appropriate".

In 2015, the Utah Legislature amended Title 17-27a-401 to also require that county general plans include a "resource management plan" to provide a basis for communicating and coordinating with the federal government on land and resource management issues.

The economic, social-political, and environmental characteristics of Grand County are, in many ways, heavily influenced by the public lands within its borders and in surrounding regions. The County's clear preference is that public lands remain owned and managed for public purposes and ecological integrity. For this reason, Grand County will continue to encourage monitoring, policy-making, and plan implementation related to the responsible use and development of its natural resources. Decisions affecting resource use and development on public lands directly impact the County. In this regard, it is in the County's interest, and their expectation, that federal and state resource management planning efforts provide the County with every opportunity to proactively participate in all relevant public land and resource planning processes.

The environment is the third leg of the sustainability tool and emerges as the paramount bellwether of urban and rural comprehensive planning. Grand County's founding and future relies on resources including minerals, water, land and air. A robust and vigilant County wisely stewards and protects environmental values, preserves and conserves important assets and judiciously supports healthy places for future generations. Schedules 16.32 – Farm and Land Cover; Schedule 16.4 – Opportunities and Constraints; 16.9 Land Ownership status; 16.31 Soils and slope stabilities and Utah Geological Survey 2020 ( <https://geology.utah.gov/map-pub/survey-notes/new-geohazard-guidelines/>) portrays sensitive areas and challenges citizens to continue to improve and voice these values.

Through land use and other elements, sensitive areas are shown as protected and yet not excluded from public enjoyment or experience. Maximizing natural protection but capitalizing development is the capstone of sound comprehensive planning policy.

Protecting significant natural areas conserves resources with ecological, recreational and aesthetic value. One of the value statements of this Plan is that the County will be a growing community that respects its natural environment.

"Grand County is located in the middle-eastern part of Utah, stretching from the eastern bank of the Green River to the edge of the state of Colorado. The Colorado River runs across the southeastern portion of the county. Grand County is approximately 3,694 square miles and is situated on the Colorado Plateau which is largely composed of sandstone and limestone. Erosion by wind and water has created large canyons and formations, making the region rugged but amazingly scenic" (Grand Conservation District 2012).

Grand County consists largely of public lands-----87 percent of the county is a mix of state and federal lands



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managed by different agencies for a range of users and purposes (Headwaters Economics 2017). These lands and the associated resources are managed by federal agencies including the U.S. Forest Service (USFS), Bureau of Land Management (BLM), Bureau of Reclamation (BOR), U.S. Fish and Wildlife Service (FWS), and National Park Service (NPS). Traditionally, County has used public lands and resources for economic growth and stability. These local associations with, and dependence on, public lands continues today. Specifically, local use of public lands and resources include, but are not limited to minerals, recreation, oil and gas, timber, water, agriculture, fisheries and wildlife. Refer to Schedules 16.9 Land Ownership, 16.32 Farm and Land Cover, and 16.20 and 21 Minerals.

Grand County supports the spirit and use of National Environmental Policy Act (NEPA) public procedures, consideration of alternatives, and commitments to scientific integrity in consideration of management of natural resources in Grand County.

Therefore, the County will ensure that its forested areas, the river valley and other natural areas and features are used in a sustainable manner to ensure their conservation for future generations. This could be achieved by integrating the design guidelines and implementation strategy of *Parks and Recreation Master Plan* into the overall development of the County. This can also be achieved by encouraging land uses within natural areas that are compatible with the ecological integrity of such areas.

Environmentally and Archeologically Sensitive Areas and Features include:

- Colorado River and River Valley (riparian areas and habitat corridors);
- Wetlands;
- Forests and rural/urban interface;
- Ridgelines and view corridors;
- Historically significant areas;
- Watershed areas;
- Designated steep slopes; and
- Other archeological sites including indigenous areas.

### COLORADO RIVER

The Colorado River winds through the County from east to west. The river fronts rural and wilderness areas and urban potential in the Kane Creek area. The stewardship and protection of the river valley is essential to the quality of life of our residents. The riverbank has not only an ecological function, but also cultural and aesthetic/urban design functions, which are all interconnected.

### WETLANDS

#### Goal

Preserve wetlands and riparian habitats in all areas of the County, and classify them according to best available science. Reference Schedules 16.26-30 Watershed boundaries.

#### Policies

- i. Regulate riparian and wetland areas are high-priority open space in the Land Use Code;
- ii. Develop a fee-in-lieu of the voluntary open-space incentives offered in the land use code;
- iii. Use revenues to acquire land and/or easements in order to acquire riparian property and/or easements from willing landowners;



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- iv. Establish trail design standards that minimize impacts on sensitive riparian corridors;
- v. Support the establishment of a local land trust to acquire land and facilitate the establishment of conservation easements.

### FEDERAL FOREST

The County's landscape – earth, sky and water - is incredibly diverse with wetlands, farm land, forested land and the Colorado River watershed. Multiple agencies invest in the development and protection of the forest and neighboring developments. Forested lands and habitat requires protection and cultivation both to manage wildfire potential and maximize the natural experience of all generations.

Forging partnerships, with definitive action plans, helps us mesh with our surroundings and reduce conflict. Conservation efforts are never successful in isolation, therefore, the goals and policies contained in the Plan will relate, reflect or respect those of other interested parties.

#### **Goal:**

Map and identify wildfire interface areas and promote policies and regulations that mitigate the impacts of development.

#### **Policy:**

- i. Support prescribed burning and forest management techniques; and
- ii. Accentuate defensible space restrictions within all interface areas.

### INDIGENOUS AREAS

The preservation of Indigenous historical sites has been limited and accurate data regarding current locations needs better identification. Development policy needs to recognize the importance of this cultural heritage and ensure actions are clearly mediated.

Significant development projects should be subject to environmental and archaeological surveys to reduce the loss of historical sites. The number of parties interested in such policies is numerous including Indigenous interests and acknowledgements, historical and cultural societies and museums. We must work together to enhance our past and to strengthen our future.

#### **Goal**

Identify and acknowledge the importance of protecting significant Indigenous areas and artifacts and include in land use planning and code compliance actions.

#### **Goal:**

Plan for growth and development in harmony with the natural environment (reference Schedules 16.4 Constraints, Flood Plain – Schedule reference number 27, 16.33 Noxious Weeds, and 16.26 – 30 Watershed Boundaries).

#### **Policies:**

- i. Draft an Environmental acknowledgement document that is integrated and consistent with all County related actions and policies;
- ii. Work in partnership with any/all interested parties to identify and protect environmentally



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and archeologically sensitive areas, features, elements and traditions;

- iii. Require an environmental analysis before the sale, lease or license of County owned lands including appropriate environmental and archeological impact assessments;
- iv. Integrate educational actions and policies within tourism and visitor ventures to protect our cultural heritage;
- v. Protect and rehabilitate environmentally sensitive lands from the "no-net-loss" perspective using native species and locally appropriate naturalization methods including xeriscaping;
- vi. Create and maintain a database of invasive or harmful plant and animal species to be avoided or removed; and
- vii. Ensure no invasive or environmentally inappropriate species are introduced within the municipal boundary or adjacent rural municipalities by reviewing all applications for new development, redevelopment and monitoring the built environment.

## **2. PROTECTION OF FORESTS, RIVERS, WATERSHED AND ENVIRONMENTALLY SENSITIVE WATER BODIES**

To the east, much of the County is forested with a significant portion managed by the US Forest Service. Given the multitude of uses within the region including residential, recreational, agriculture, and industry, we must consider the overall function of the forest and water bodies, and balance it with our development and economic needs.

There are multiple agencies invested in continued development with active forest management and protection of watershed and riparian areas. Collaboration and cooperation actualize conservation efforts and ensure consistency of principle and practice.

### **Goal:**

Enhance, promote and protect the Colorado River watershed, its banks, groundwater sources, aquifers and adjacent natural bodies of water. Conserve and protect the natural, historical, and recreational functions and features of the Watershed and its riparian areas. See Schedules 16.4 Constraints, Flood Plain – Schedule reference number 27, 16.33 Noxious Weeds, and 16.26 – 30 Watershed Boundaries

### **Policies:**

- i. Apply best practice principles in Riverbank Development Planning when considering focused development and ensure impacts are suitably mitigated;
- ii. Establish aquifer protection zones conforming to best practices, and ensure water source protection is enshrined in regulation and policy;
- iii. Protect the riparian and habitat areas through land use designation, land conservancy and trusts considering tools like a municipal reserve or environmental reserve;
- iv. Buffer the watershed through natural habitat, stormwater filtering techniques and restoration projects while considering quality development that enhances land value;
- v. Preserve view corridors, historic values and public access with well managed techniques such



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- as public recreation, preservation, partnerships and conservation;
- vi. Treat and reuse stormwater, managing source contaminants through rain gardens, retention basins, filtration beds and other best management practices (see Appendix 17.3);
  - vii. Remove cross contamination opportunity by regulating aquifer sources;
  - viii. Regulate all classified wetlands with buffering and setbacks through best management practices;
  - ix. Consider buffer width averaging as a tool to protect undeveloped land and leverage land values; and
  - x. Upgrade, in partnership, water and wastewater treatment facilities to reduce contaminant sources and impacts.

### **Goal:**

Ensure the ecological function of forests, rivers, watershed areas, and sensitive water bodies located in and around the County are prioritized appropriately. Ensure development impacts are suitably gauged and mitigated.

### **Policies:**

- i. Incorporate the existing forest master plans into our own Parks and Recreation Master Plan;
- ii. Create high quality, well connected, functioning, natural or naturalized corridors which enhance local biodiversity and facilitate species movement, migration and longevity;
- iii. Develop growth plans and policies that incorporate the value and function of the forest;
- iv. Restrict developed lands within the forested areas to their fullest extent and discourage subdividing and developing new land in the wildland interface;
- v. Develop suitable review criteria and establish appropriate review processes, in partnership with interested parties, for permit applications which fall within the forested areas;
- vi. Develop and maintain areas within the forested area as park for recreational use and enjoyment, which complement and enhance the natural landscape; and utilize existing state and federal legislation and programs, such as the defensible principles (see State Code reference - <https://www.grandcountyutah.net/DocumentCenter/View/3611/2006-Utah-Wildland-Urban-Interface-Code?bidId=>) and Schedule 16.40 – Wildland/Urban interface risk areas; and
- vii. Create policies and procedures for: (a) the appropriate development within the forested area, (b) safety and emergency response procedures for incidents that may occur within the forested area and (c) foster a culture of environmentally conscious use, growth and stewardship of the forested area.

### **3. URBAN AND RURAL FORESTS AND HABITAT CONTINUITY**

Protecting the habitat of the urban and rural forest can be critical to the natural element within our urban system by connecting migration areas, building species resiliency and ecological function, fostering public recognition – visual and aesthetic value, and improving air and groundwater quality.

Without a strong, healthy urban forest and habitat protection zones, we will experience habitat



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fragmentation, outmigration or additional threat to rare and endangered species, reduced air and water quality, a diminished visual aesthetic, and a lower quality of life.

Our role, through regulation, policy, procedure and best practice, is to improve and maintain the urban forest system to a standard capable of meeting or exceeding all these objectives.

### **Goal:**

Develop and maintain, in perpetuity, a strong and healthy urban and rural forests and habitat protections systems.

### **Policies:**

- i. Require conservation and best management strategies for trees, shrubs and any salvageable plantings for new development, infill or intensification projects;
- ii. Maintain and expand a healthy and diverse urban and rural tree canopy to improve air quality, increase carbon sequestration, reduce heat island effect, and enhance the aesthetic value;
- iii. Develop an Urban and Rural Forest Master Plan, list of preferred tree and planting species and planting guide, with helpful design and maintenance best management practices, guidelines and demonstration projects;
- iv. Ensure all plantings are situationally appropriate, non-invasive, easy to maintain and enhance the overall urban and rural forest;
- v. Require landscaping through the use of landscape plans and landscape agreements in all zones within the County boundary;
- vi. Formulate consistent landscaping plans for public and private space and partner with private landowners on preservation and enhancement methodologies;
- vii. Manage fencing and barricades that impact habitat migration zones and corridors; and
- viii. Require that urban and rural forest and habitat plans be consistent with state and federal legislation and policies.

## **4. HISTORIC AND ARCHEOLOGICAL SITE PROTECTION**

For the County to enliven its future it must recognize and preserve written, oral and heritage elements and artifacts. The lack of accurate data hampers identification and protection of Indigenous sites.

### **Goal:**

Identify, protect and preserve historic artifacts, sites and knowledge through all development actions.

### **Policies:**

- i. Work in partnership with interested parties to identify and protect historically and archeologically sensitive areas, features, elements and traditions;
- ii. Require an archeological and/or historic analysis of all lands, establishing a database along



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with policies and regulation for protection;

- iii. Require environmental or archeological analysis of land prior to any development action;
- iv. Capitalize the County's unique past through events, shows, and displays that engage all citizens, visitors and residents;
- v. Invest in signage and limit access through protected areas to minimize the impact of resident and visitor recreational use on historical and archeological sites; and
- vi. Integrate historic features, artifacts, sites and knowledge into County projects and significant development projects.

### **5. PLANT AND ANIMAL SPECIES – NATIVE, RARE AND ENDANGERED**

Development brings intensity that can lead to habitat fragmentation; therefore, we must consider the risk and threat to the biodiversity of rare and endangered species. State and federal legislation must be reflected in local regulations and policies. Adequate training and resources need to leverage awareness and effectively apply and implement directives. The County will be an important steward for habitat and species protection.

The following goals and policies outline how the County can actively work to ensure environmental values are upheld.

#### **Goal:**

Encourage, restore, expand and protect the biodiversity of our plant and animal species including habitat protection and restoration of all native, rare, threatened or endangered species – minimizing habitat fragmentation.

#### **Policies:**

- i. Require the planting of native or preferred species (xeriscaping) using recycling and native watering and stormwater management;
- ii. Create high quality, well connected, functioning, natural or naturalized corridors enhancing local biodiversity and facilitate species migration, movement and longevity;
- iii. Maintain and expand a healthy and diverse urban tree canopy to improve air quality, increase carbon sequestration, reduce heat island effect, and enhance the aesthetic value;
- iv. Ensure all plantings are situationally appropriate, non-invasive, easy to maintain and enhance the overall ecology;
- v. Continue to educate the public on the impact of non-native plants and promote public programs that incentivize the removal of non-native plants such as grasses and goatheads. Reference Schedule 16.33 Noxious Weeds; and
- vi. Require conservation and best management strategies for all species in new development, infill or intensification projects.

### **6. CONTAMINATED SITES (BROWNFIELDS), OTHER CONTAMINANTS AND WASTE MANAGEMENT**



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## **Landfill**

Solid waste management can activate economies of scale for various waste reduction strategies. A scrap metal recycling and yard waste program is underway. The 5-10 year solid waste management plan needs to be updated, and is required by the State on county by county basis. A list of benchmarks and indicators will form part of these plans.

The organizational structure for the Waste Management system has been updated, although the special district has limited resources - the labor force and staff experience is improving. All State permits are currently in place and up to date.

The North Klondike landfill has potential for expansion as it is built on shale which has low permeability. The Moab city landfill parcels are partially owned by City of Moab - 80% and Grand County - 20% and is now managed by Grand County Solid Waste Management Special Service District No. 1. The Moab landfill has a 20-30 year capacity. Due to the arid climate in Grand County ground water monitoring is not as stringent, and there are no liners or leaching collection systems. The groundwater study did not report any contaminant.

There are a series of closed "open dumps" within the County that are being decommissioned. Historic collaboration with BLM is evident in older records. Timeframes of dump filling/usage need to be clarified.

## **Brownfields**

Most jurisdictions have contaminated sites located in developed areas with urban service levels. For this reason, opportunities for redevelopment and reclamation should always form part of comprehensive plans. As noted on the County Website:

*The U.S. Department of Energy (DOE) has moved more than 70% of the estimated 16 million tons of uranium tailings from the banks of the Colorado River, near the city of Moab, to a permanent disposal site 32 miles north, near Crescent Junction. This project is called the Moab Uranium Mill Tailings Remedial Action (UMTRA) Project.*

*The Moab Tailings Project Site is located in northern Moab Valley northwest of Moab in Grand County, Utah, and includes the former Atlas Minerals Corporation (Atlas) uranium-ore processing facility. The site is situated on the west bank of the Colorado River at the confluence with Moab Wash. The site encompasses about 480 acres, of which approximately 130 acres is covered by the uranium mill tailings pile*

This type of historical development and adjacent industry can bring significant pollutants into the environment. But most brownfield sites, like UMTRA, offer tremendous redevelopment potential.

### **Goal:**

Evaluate and develop land banking and remediation opportunities for all Brownfields lands.

### **Policies:**

- i. Inventory all Brownfields and develop an action plan for uses;



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- ii. Conduct Phase 1 or scoping analysis of all Brownfields and prioritize remediation plans and map locations; and
- iii. Seek funding and grant opportunities with specific development proposals.

### **Goal:**

Develop contaminant and waste management strategies to minimize all impacts.

### **Policies:**

- i. Minimize health risks from air pollution and sustain the county's Class I air quality status;
- ii. Encourage the National Park Service to continue monitoring air quality at Island in the Sky, to expand its air quality monitoring program and to notify the county of trends and potential air quality issues;
- iii. Uranium Mill Tailings Remediation Action (UMTRA) (Project Public Lands Policy 18- The County will continue to be an active participant in planning for the future use of the UMTRA site;
- iv. Align development permit standards and review procedures with state and federal air-quality rules and regulations and mobilize state and federal air-quality agencies for enforcement;
- v. Enforce dust regulations in the Land Use Code;
- vi. Support efforts to establish an air quality committee to compile and share data with local and regional agencies and maintain relations with state and federal air-quality agencies;
- vii. Update the Solid waste management and strategic plan and utilize the latest imagery and topographical technology;
- viii. Benchmark and develop indicators for all solid waste programs;
- ix. Evaluate the Solid Waste service and governance system and suggest improvements;
- x. Consider construction waste recycling partnerships and best management practices and models;
- xi. Incorporate reduction, reuse and recycling action plans in County systems to model for other industries;
- xii. Consider reducing the use of pesticides on all sports fields;
- xiii. Consider replacing sod turf grass in high volume public areas with alternatives that decrease the need for pesticides;
- xiv. Develop grass management strategies to promote less cutting especially in sensitive areas;
- xv. Continue to develop a littering and graffiti program that reduces visual impacts;
- xvi. Develop educational and information programs in concert with the schools to inform youth of the social detriment of graffiti and litter;
- xvii. Consider corporate sponsorship of fast food restaurants in litter reduction;
- xviii. Incorporate best management practices for snow dumping by providing bio-filters and retention ponds;
- xix. Evaluate the air shed and identify methods of reducing contaminants especially particulate matter 2.5 microns from wood heat, street sanding operations and untreated dirt or gravel roads;
- xx. Consider regulation governing light pollution and incorporate dark skies regulations and policies;



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- xxi. Support noise mitigation measures when redeveloping and adaptive reuses of land and buildings;
- xxii. Evaluate all truck and car routes and merge with land use policy to reduce noise and dust impacts.
- xxiii. Amend the land use code to require applicants seeking development permits to submit a plan for the removal and/or screening of visible refuse, debris and inoperable vehicles on the property proposed for development;
- xxiv. Invest in public policies that offset or remove the cost of waste removal such as abandoned cars and construction waste;
- xxv. Initiate a public information campaign (including, but not limited to radio, newspapers and flyers in property tax mailings) promoting the benefits of clean-up efforts and recycling, and explaining the health and safety risks from refuse, debris and inoperable vehicles; Update the land use code to outline a clear process for enforcing clean-up of refuse, debris and inoperable vehicles:
  - 1. Establish a clear definition of refuse, debris and inoperable vehicles;
  - 2. Review county staff capacities, including enforcement personnel and attorney staff time;
  - 3. Review the county’s role and responsibility in responding to citizen complaints;
  - 4. Create a method for documenting violations;
  - 5. Establish deadlines for clean-up; and
  - 6. Establish a cost recovery system for county initiated clean-up of properties in violation.
- xxvi. Include clean-up policies and design guidelines in a US 191 south corridor gateway plan for future Development.

### **7. ENVIRONMENTAL PROTECTION METHODOLOGIES AND PRACTICE**

The County cannot achieve many improvements to the environment without focused research and development partners. Working with universities and corporate partners, the County can be a model for “green” technologies including demonstrating low impact development, xeriscape landscape techniques and energy conservation.

#### **Goal:**

Establish best management practices with demonstration projects to manage environmental impacts and reach out to research partners. Establish greenhouse gas reduction targets that promote a win-win result.

#### **Policies:**

- i. Engage a major university and student partnership evaluating easy wins in all environmental sectors; and
- ii. Establish a land use checklist and educational program around environmental stewardship.

### **8. FLOOD HAZARD AREAS**

Lands adjacent to rivers and watershed areas are subject to periodic flooding. Development on these lands needs to be regulated to manage land impacts and protect the safety and wellbeing of



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residents.

The federal government through the Federal Emergency Management Act (FEMA) initiated flood evaluation modeling and mitigation through the National Flood Insurance Program (NFIP) in 1969. The program manages assistance payments, regulates development in flood areas and manages the need for costly structural flood control measures.

Grand County now uses Flood Insurance Rate Maps (FIRM) to identify flood Special Flood Hazard Area (SFHA) risk areas and control development in the floodplain fringe. Flooding may occur from multiple sources that sometimes play a combined role such as, localized storm events, ground or overland flooding from swollen watersheds.

Definitions essential to interpreting floodplain management policies need to be incorporated. The following definitions inform this policy and help establish the basis for Floodplain Development Regulations.

Community Rating System (CRS) means a program that provides a flood insurance premium rate reduction based on a community's floodplain management activities.

Flood Insurance Rate Map means an official map of a community, on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazards and the risk premium zones applicable to the community.

**Freeboard** means an additional height of 1' (12 inches) above the base flood elevation as a factor of safety.

**Special Flood Hazard Area (SFHA)** means the boundary encompassing the 1:100 (1%) year flood event as identified on the Flood Insurance Rate Map (FIRM) (see County Ordinance No. 598).

**Substantial Damage** means damage of any origin sustained by a structure whereby the cost of restoring the structure before the damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**Substantial Improvement** means any reconstruction, rehabilitation, addition or other improvement to a structure, the total cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement.

## **Goal:**

The Special Flood Hazard Areas (SFHAs) in the County have been identified in Flood Insurance Rate Maps and County Ordinance 598. Any development on lands within the SFHA need to provide suitable area wide or site specific mitigation measures and preclude flood vulnerable development to protect human life and health, minimize expenditures on control projects, minimize prolonged business interruptions, and minimize property damage and loss.

## **Policies:**

- i. Effectively manage development in SFHAs;
- ii. Determine the infrastructure and mitigation measures necessary to protect planned or



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- affected development in SFHAs;
- iii. Undertake or facilitate the development of infrastructure necessary to protect SFHAs;
  - iv. Regulate development in SFHAs to minimize risk to life and property;
  - v. The risks vary depending on topography, development orientations and the flow of water. Development on these lands needs to be regulated to protect the safety and wellbeing of citizens and infrastructure. Develop best practices for site or area mitigation and improve the best available science to suitably assess the levels of risk and acceptable mitigation measures;
  - vi. The County will continue to work with FEMA to accurately delineate and update the limits of the SFHA and Floodways through improved mapping techniques, modeling and demonstration projects;
  - vii. The County will encourage financial and technical partnerships with state and federal agencies that undertake periodical flood hazard mitigation projects;
  - viii. The Land Use Code (LUC) and other development regulations will identify the SFHA based on the mapping information provided by FEMA. The SFHA be will referenced in the zoning districts and prescribe regulations that mitigate the impact on development. Performance criteria will consider hydraulic analysis, controls to acceptably reduce flooding impacts and possible dedication of open space;
  - ix. The Flood Development Regulations in the LUC and other regulations will be classified in one zone Restricted Floodway main channel of the 100 year flood event elevation (see online map at <https://grandcountyutah.maps.arcgis.com/apps/webappviewer/index.html?id=10d6e158878d4530b9ffeb1fa641defb>;
  - x. Residential, commercial, institutional or industrial development shall be regulated within the 100 year (1%) flood event elevation except for recreational and agricultural related development in accordance with the Flood Risk Regulations in the LUC. Covenants or land title restrictions may be established to manage non-habitable areas and equipment or storage materials that could be affected by flooding;
  - xi. Replacement of existing development, interior renovations and limited new development within the 100 year flood event elevation for uses permitted by the LUC that will not significantly increase the density and intensity of use are permitted subject to the Floodplain Development Regulations in LUC and State Building Codes, and as regulated by County Ordinance 598;
  - xii. Existing development will be allowed to continue in the Floodplain including regular maintenance. Any structural alterations required to maintain existing development will be subject to compliance with the Floodplain Development Regulations in the LUC and development regulations, the State Building Codes and for Substantial Damage/Substantial Improvement;
  - xiii. New residential subdivision (expansion of existing neighborhood or new neighborhood) will not be allowed within the SFHA (as identified in the LUC and development regulations) except for infill development and in areas where suitable mitigation measures can be applied, i.e. cluster development, PUD or per County Ordinance 598;
  - xiv. Lot filling, foundation superstructures and flood infrastructure may be allowed as examples of flood proofing methods to reduce flood risk subject to the Floodplain Development.



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Regulations in the LUC and development regulations, the State Building Codes in concert with a hydraulic analysis of potential flooding impacts;

- xv. To ensure compliance with the policies of this Plan and the Floodplain Development Regulations in the LUC and development regulations, the County may require a surveyor and/or a qualified professional engineer licensed to practice in the State of Utah, and knowledgeable in hydrology, to prepare floodplain development permits and elevation certificates;
- xvi. The County may hire a professional engineer to establish development standards and with hydraulic analysis that achieves consistency in meeting the Floodplain Development Regulations in the LUC and development regulations, and the State Building Codes;
- xvii. The County may develop a long term implementation strategy to mitigate the impacts of the Floodplain Development Regulations on existing and new development to minimize the potential property damage arising from flooding within the Special Flood Hazard Area;
- xviii. The County and partners may consider a voluntary property acquisition and relocation program or transfer of development rights for existing development;
- xix. The County prohibits hazardous and heavy industrial uses within the Floodplain unless mitigated in accordance with Floodplain Development Risk Regulations in the LUC and development regulations, the State Codes; and
- xx. The County may require new developments to be bound by an agreement, registered on title, identifying the compliance with County Flood Risk Regulations including the maintenance of the approved flood proofing measures.

### **Goal:**

The County is an active steward in addressing flood plain impacts and participates in the CRS program of the NFIP.

### **Policies:**

- i. Update and maintain the Flood Hazard Mitigation Plan and the Flood Emergency Action Plan:
  - a. The County will partner and cooperate with other Governmental Agencies and Private Entities to periodically update and improve the Flood Hazard Mitigation Plan;
  - b. The County shall update and maintain existing Floodplain Mapping by adding and tracing existing and new Letters of Map Change (LOMCs);
  - c. The County will work to identify potential projects or programs that will lessen or prevent flood impacts under Flood Hazard Mitigation guidelines:
    - i. Pursue grants and other means to fund mitigation measures;
- ii. The County will maintain and update the Flood Emergency Action Plan:
  - a. As new information is gathered, provided, and LOMCs are incorporated, the County will update and modify the Emergency Action Plan;
  - b. The County will periodically engage a stakeholder group including Moab City, County, State and Federal partners' civic groups and citizens, in active table top exercises and programs;
  - c. Following an event, the County will convene an after action assessment to identify successes and shortcomings and update the Emergency Action Plan accordingly



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