



AGENDA  
CITY OF GLENWOOD SPRINGS  
Planning and Zoning Commission  
Regular Meeting  
FEBRUARY 25, 2020  
Council Chambers, First Floor  
101 W. 8<sup>TH</sup> STREET  
6:00 PM

1 Roll Call

2 Receipt of the Minutes

A. January 28, 2020

3 Comments from citizens appearing for items not on the agenda

4 Election of Chairman and Vice Chairman

5 Continued Items

A. 20-19-Consideration of a Code Amendment to Section 070.040.020(d)(24) of the Glenwood Springs Municipal Code regarding riparian setbacks.

6 New Items

A. 02-20 - Consideration of a Variance request from a required 20-foot rear yard setback.

Applicant: Steven B. Pittman

Owner: Steven B. Pittman and Patricia T. Pittman

Address: 604 N. Traver Trail

Zone District: R/2-Multi-family- Oasis Creek Planned Unit Development

B. 01-20 Consideration of a Code Amendment to Article 070, amending Accessory Dwelling Unit standards.

C. 48-19-Consideration of a Location & Extent Review for the construction of a 5-bay 2250 square foot garage/shop building; 3150 square foot covered storage building; 1140 square foot wash bay; fuel station with above ground storage tanks; and a 6-foot tall black chain link fence.

Applicant: City of Glenwood Springs

Owner: City of Glenwood Springs

Address: 2222 Devereux Road

Zone District: 12-River Industrial

D. Quarterly Workshop Topics and Scheduling Discussion

1. Comprehensive Plan Update

2. Variances

3. Housing

4. South Grand Parking Standards

5. Solar Panel Code Revisions

- 7 Commissioner Comments
- 8 Director Comments
- 9 Adjournment





**MINUTES**  
**City of Glenwood Springs**  
**Planning and Zoning Commission**  
**Regular Meeting**  
**January 28, 2020**  
**Council Chambers, First Floor, City Hall**  
**101 W. 8<sup>th</sup> Street**  
**6:00PM**

The Chairman called the meeting to order at 6:00 p.m.

**1. Roll Call**

Present at roll call were Commissioners: Ingrid Wussow, George Shaver, Sumner Schachter, Marco Dehm, Amber Wissing, and Carolyn Cipperly

Absent: Kathryn Grosscup, Tim Malloy and Dean Kinkel

Also present were: Trent Hyatt, Senior Planner  
Hannah Klausman, AICP, Senior Planner  
Jenn Ooton, Asst. City Manager, Director  
Gretchen Ricehill, Assist. Director  
Anna S. Itenberg, City Attorney's Office  
Kathleen Michel, Admin. Assistant

Motion to seat Commissioner Cipperly for this meeting was carried by voice vote.

2. Receipt of [minutes](#) from the [October 22, 2019](#) regular meeting. On motion of Commissioner Shaver seconded by Commissioner Schachter the minutes were approved as written. Motion carried by voice vote.

Receipt of [minutes](#) from the [November 26, 2019](#) regular meeting. On motion of Commissioner Wussow, seconded by Commissioner Shaver, the minutes were approved as written. Motion carried by voice vote; Chairman Dehm did not vote.

Receipt of [minutes](#) from the [December 17, 2019](#) regular meeting. On motion of Commissioner Schachter, seconded by Commissioner Wissing, the minutes were approved as written. Motion carried by voice vote.

3. **Public Comments from citizens appearing for items not on the agenda.** No one appeared.

#### **4. Continued Items**

A. 20-19-Consideration of a Code Amendment to Section 070.040.020(d)(24) of the Glenwood Springs Municipal Code regarding riparian setbacks. ITEM WILL BE CONTINUED TO FEBRUARY 25, 2020.

Motion to continue: Commissioner Schachter moved to continue Item 20-19 to the February 25, 2020 meeting. Commissioner Wissing seconded the motion. Motion carried by voice vote with Commissioner Shaver recused.

#### **5. New Items**

##### ***A. 45-19 Minor Site/Arch Plan, Minor Subdivision, Variance, and Condominiumization for Iron Mountain Hot Springs---***

Hannah Klausman presented the staff report for this item.

##### **Minor Subdivision**

- Minor Subdivision will increase the lot size;
- Shared access drive;
- Utility easements of City will be relocated;
- 9,000 ground floor office space
- Residential units - 19
- Bike and pedestrian pathway
- Variance for plant materials
- Traffic Report includes all development and connections between
- CDOT access permit
- Parking required 63 spaces – 60 spaces shared by office/residential (14 in CDOT lot)

##### **Variance**

- Plant requirements difficult to fit on site
- Staff will bring forward a code amendment to address this issue
- Will meet old code standards
- Staff found aesthetically pleasing

##### **Condominiumization**

- Consistent with Comp Plan
- Housing opportunities for the community
- Regional center
- Reviewing agencies

##### **Actions**

- Approve
- Approve with conditions
- Deny

##### **Recommendations:**

- Staff recommends approval of Variance

- Staff recommends approval of Minor Site/Arch Plan
- Staff recommends Condominiumization

Commissioner Schachter verified that bike path meets parkland standard.

Ms. Klausman explained the sidewalk as planned.

Commissioner Shaver asked about the perennial ratio; does not recall density expressed in plants per square foot.

Ms. Ricehill commented that a code amendment regarding plantings is coming in future.

Terri Partch, City Engineer, explained the connection for LOVA trail, crossing the river in two places.

- Private access easement not held to City road standard; Engineering had no problem with it.
- Public access sidewalks meet park land dedication standards.
- ADA requirement standards for onsite; whether the offsite spaces change the count.

Doug Pratte introduced Steve Beckley, 802 N. Traver Trail, who spoke about his development proposal and presented images explaining the use of the property. CDOT considers the 14 offsite parking spaces theirs. He suggested a cost sharing for the river crossings.

- Distance from ADA parking to elevator; possible to flip stairs and elevator location.
- CDOT needs office space; Iron Mtn. needs employee housing.
- Lift station approved locally; waiting for state approval.
- Status of a master plan for this area; anticipated in future with next phase
- Standard for the access drive; curbs will slow traffic
- Owners association will be developed
- Iron Mtn and CDOT will have priority for the deed restricted housing; then general public
- Green building status

Public comment.

Steve Carver, address 1555 County Road 129, Glenwood Springs, and Manager of Condo Association, River District Building. Expressed concerns about vehicle and pedestrian access on Centennial.

6:59 closed public hearing.

**Action Item 1 – “Consideration of a minor subdivision to amend the boundaries of a single parcel which does not create any additional parcels”: Commissioner Wussow moved to approve Item 45-19, Action Item 1, with findings and conditions on pages 15 and 16 of the staff report. Commissioner Cipperly seconded. Motion carried unanimously.**

**Action Item 2 – “Consideration of a variance to allow for a reduced amount of shrubs and perennials as required by code”: Commissioner Wussow moved to approve Item 45-19 with suggested findings and conditions on page 15 and 16 of the staff report.**

**Commissioner Schachter seconded. Discussion of the need to agree with all required findings. Motion carried unanimously.**

**Action Item 3 – “Consideration of a site architectural plan review allowing for the construction of a three floor mixed use building with the first floor commercial and nineteen residential units which are proposed to be deed restricted”: Commissioner Schachter moved to approve with findings and conditions on pages 15, 16 and 17 of the staff report.** Commissioner Shaver seconded. Discussion touched on a cost sharing request; recommended to cap the amount. Considerable discussion regarding trail consideration and who will build it as well as pay and maintain it. Commissioner Schachter amended motion related to Issue E: in addition, the owner commits to funding 50% of trail construction up to \$300,000 with engineering costs included in the \$300,000. Commissioner Shaver agreed to amendment. **Carried unanimously.**

**Action Item 4 – “Consideration of an application to condominiumization of two units: Commissioner Wussow moved to approve office space/residential units. Commissioner Schachter seconded. Motion carried unanimously.**

***B. 16-18 Major Development Amendment Iron Mountain Hot Springs***

Ms. Klausman presented the staff report including conditions for this item.

- Extend the impervious surface for parking to December 31, 2020.
- Extend deadline for previously approved plan
- Staff recommends approval

Actions:

- Approve
- approve with conditions;
- deny or
- continue hearing

Steve Beckley, the applicant, stated that as they developed, they were reconfiguring a lot of the area including installing a lift station and sewer lines. Milled asphalt is used on the parking area currently and applicant feels that is adequate until they are able to pave it.

**Motion Action Item 1: To extend the paving requirement to June 2021. Commissioner Schachter moved to approve with findings and conditions. Commissioner Shaver seconded. Motion carried unanimously.**

***C. 48-19 Major Site/Architectural Plan Review, Special Use Permit, Variance, and License to Encroach for an 89-unit multi-family apartment building (Lofts Phase III)***

Trent Hyatt presented the staff report for this item.

- Planning & Zoning is recommending body;
- City Council is decision-making body for the major site plan review and license to encroach.
- Current applicant proposed first phase of development in 2015, second phase in 2017.
- Three story building with underground parking with footprint of approximately 21,000 square feet.

- Code calls for 15 percent of site shall be open space; previous agreements with the City address open space requirements. 687 square feet of proposed project is open space, which totals 3%.
- Per parking requirements, this project would require a total of 152 total spaces.
- Parking spaces proposed: 101 spaces. Applicant has requested a reduction per code.
- 60 in garage, 28 on street, 13 excess in Phase II that were allocated but not required. Applicant is requesting to make a payment in lieu of creating the final 6 parking spaces that would be still required by code even after reductions from transit proximity and bicycle parking.
- Applicant is also requesting a variance on the building length for the project. Code allows for a maximum of 125 feet for a multifamily building, applicant is proposing a 337 feet for their project.
- Additional request is to build 51.5 feet height for four-story/north side which requires a Special Use Permit to exceed height requirement set in code of 40 feet.
- Noted neighbor concerns about street lighting
- Approval criteria outlined
- Staff approves Action Items 1 and 2. Staff also recommends approval of Action Item 3 with conditions to City Council.

*Questions for staff regarding project:*

Commission Schachter asked about the building length requirement and how it related to City Code and Glenwood Meadows Development Agreement. The restriction on building length is from the Development Agreement and not from City Code. Commissioner Wussow asked about neighboring building heights and how they compare to proposed project. Commissioner Dehm also had questions about the elevation as there was underground parking. Additional questions were raised regarding snow removal adjacent to areas near to the building.

**Actions**

- Approve
- Approve with conditions
- Deny
- Continue

Bob Moore, 5105 Summit Brook Drive, Colleyville, Texas, representing the applicant and Haley Karmer attorney presented the project. Dan Solberg and Jack Daniels were also present as general contractor and construction site superintendent.

- Phases 1 and 2 are considered a success.
- Phase 1 achieved 100% occupancy shortly after opening.
- Was determined that there was significant demand for smaller studio and one-bedroom units which is what will be included in Phase III.

Commissioner Schachter asked about what requirements there would be regarding prohibiting storage of bicycle on balconies. Commissioner Dehm asked for exact measurements for the building heights of Phase I and II. Applicant representatives estimated that those buildings were about 40 feet tall. Dehm also asked why the building was not broken up into smaller structures and the applicant explained the single building design resulted from the need to use a deep pile structure in designing the building. Dehm also asked if the applicant had considered designating any of the units as deed restricted units. Applicant replied that there was not interest on their part in the deed restricted units for Phase III. Dehm asked for an estimate of rents and applicant estimated \$2.46 per square foot which would be approximately

\$2400 a month for a 1,000 square foot studio. Applicant also mentioned that snow removal services would likely be contracted.

Commissioner Wussow questioned about the impact to nearby areas due the construction methods and boring described in project description. Wussow asked about the timeframe of the work as well as the impact on the soils. Applicant explained there would be noise and that the work should be completed within 40 days with minimal physical vibrations from the process. Applicant also noted that it was in their interest to limit effects to neighboring buildings as they do not want to inconvenience their own tenants. Question was asked if anything in code mentioned decibel levels, and there is no specified decibel limit per code but code does make allowances for construction work outside of times for such noise stipulated in code. Applicant stated that most construction work would be conducted during the time specified in code.

Commissioner Cipperly had questions if 2 ADA spaces was sufficient compared to the number of units in the building. Applicant indicated that they had the required amount of spaces and would look to place those spaces in the underground parking. Commissioner Cipperly also asked if there were any allowances for composting or recycling and how the trash would be removed. Applicant indicated that they would be using roll out dumpster similar in style used by neighboring buildings where a garbage truck picks up the trash. There was also discussion of long-term parking restriction at Glenwood Meadows in relation to the retail parking area. Applicant mentioned that there will be a detailed description of tenant parking areas in the lease.

Commissioner Dehm asked how deep the excavation for Phase I and II went. Dan Solberg, 341 Church Street, Layton, Utah, addressed Dehm's question. Solberg described that the excavation exceeded 5 feet around the building. Dehm also asked for the width of the proposed building, which is 68 feet.

8:34 p.m. The Chair called for public comment. No one wished to speak. Closed public portion.

**Action Item 1 – “Special Use Permit to allow the construction of a 51.5 ft building in the M-2 Zoning District”: Commissioner Schachter moved to approve the special use permit for the building height, findings on page 12. Commissioner Wussow seconded. Motion carried unanimously.**

**Action Item 2: “Variance from Glenwood Meadows Development Plan to allow maximum building length of 337 feet” Commissioner Schachter moved to approve variance of 337 feet length. Commissioner Shaver seconded.** Commissioner Wussow wanted to see shorter length and questioned the scale of deviation from code. Chairman Dehm agreed that length was too long and other construction measures could be employed.

**Ayes: Commissioners Schachter, Cipperly, and Shaver**

**Nays: Commissioners Dehm, Wussow, and Wissing**

**The motion failed due to the tie vote.**

New motion:

**Commissioner Wussow recommended denial as building was not compatible, does not meet design criteria. Seconded by Commissioner Wissing.** Discussion followed.

Commissioner Sumner uncomfortable with the length. Commissioner Dehm was unwilling to approve the building without an engineer's report or any documentation supporting the need for

a building at this scale. Commissioner Schachter also mentioned feeling uncomfortable with the length but argued that it was not that incompatible with surrounding area and that there was a tremendous need for more housing units. Commissioner Shaver commented that the Wulfsohn side was not as imposing; there are a lot of positives for this.

Commissioners Wussow and Wissing withdrew their motion to deny and second. Discussion with Attorney and Director regarding how to move forward.

**A new motion was proposed. Commissioner Wissing moved to approve Action Item 2 and accept building length of 337 feet based on conditions listed on page 12.**

**Commissioner Shaver seconded.**

**Ayes: Commissioners Schachter, Cipperly, Shaver, and Wissing**

**Nays: Commissioners Dehm and Wussow**

**The motion to approve the building length variance carried.**

**Action Item 3 – “Major Site & Architectural Plan Review”: Commissioner Schachter moved to accept following conditions on page 13 and add condition 7 that pylon operating hours be limited to Monday through Friday, 8:00 a.m. to 5:00 p.m.**

**Commissioner Cipperly seconded.** Discussion: Commissioner Shaver thought that condition 7 is heading in the right direction as forty days is a long period of time and also mentioned the possibility of adding sound barrier requirements. Chairman Dehm expressed discontent that there were no deed restricted units in the building. **Motion carried unanimously.**

#### **6. Director Comments**

Jenn Ooton reminded commissioners that a meeting was coming up to talk about housing. Date to be chosen soon.

#### **7. Commission Comments**

Commissioner Schachter thought the new code was difficult to work with especially regarding variance criteria and deserves a second look. It is imperative to have a meeting with the housing commission.

Commissioner Cipperly questioned why we are asking for impervious parking lots when we are concerned with local water quality. Also mentioned needs for more green policies in code such as recycling and composting.

Commissioner Wussow wants to have an actual date for this meeting. She was concerned about the moving sign at Frida's.

Commissioner Shaver agreed with Commissioner Cipperly about impervious parking lots.

Chairman Dehm was concerned about the variance criteria; housing deed restriction program.

Director Ooton reminded him that variance criteria are intended to be restrictive.

#### **8. Adjournment 9:37 p.m.**



## Planning and Zoning Commission Report

Date: February 25, 2020  
To: Planning and Zoning Commission  
From: Trent L. Hyatt, Senior Planner  
Subject: #20-19 – Riparian Setback Text Amendment

|                  |                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>REQUEST</b>   | Consideration of a Code Amendment to Section 070.040.020(d)(24) of the <i>Glenwood Springs Municipal Code</i> regarding riparian setbacks |
| <b>APPLICANT</b> | City of Glenwood Springs                                                                                                                  |
| <b>OWNER</b>     | Multiple public and private properties                                                                                                    |
| <b>LOCATION</b>  | Applies to areas within 35 feet of the ordinary high-water mark of perineal water courses within the City                                 |
| <b>ZONE</b>      | All zone districts City wide, where applicable                                                                                            |

### ACTION ITEM:

The Planning and Zoning Commission (Commission) is the recommending body to City Council on any and all revisions to the *Glenwood Springs Municipal Code* (Code).

**Action 1 - Code Amendment** – to revise the riparian setback standards of Section 070.040.020(d)(24) of the *Glenwood Springs Municipal Code*.

**Staff recommendation:** Staff recommends **approval** of the Code Amendment with the findings on page 10.

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## BACKGROUND/ANALYSIS

### History/Proposal

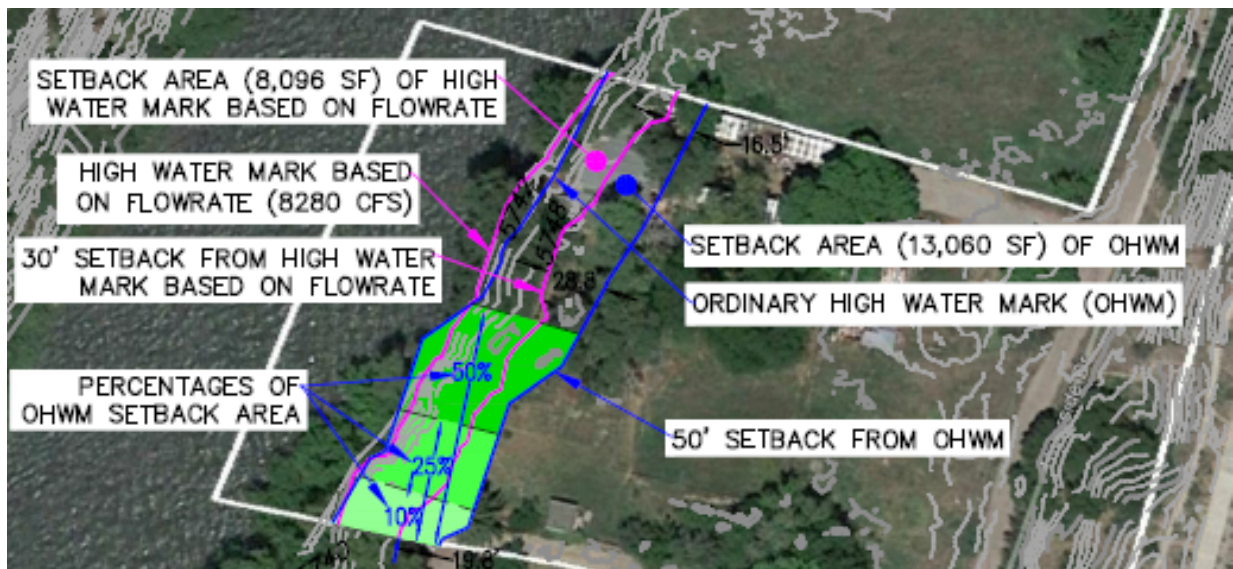
The Commission first considered the proposed text amendment at the July 23, 2019 regular meeting. Discussion regarding the proposal was continued to September 24, 2019. At said meeting, the Commission took additional public comment and discussed various issues related to the impacts of the increased setback on the developability of applicable parcels and to existing nonconformities. Since then, consideration of the proposal has been continued on a monthly basis while staff was collecting the requested information. All information previously provided to the Commission (i.e. staff reports, supporting documentation, comments from various property owners and organizations, etc.) is attached for your review.

While the Commission continued consideration of the text amendment monthly as required, Staff decided to re-notice property owners along the City's applicable water courses that the text amendment would be up for discussion at the February 25, 2020 meeting. Notice was also published in the *Glenwood Springs Post Independent*.

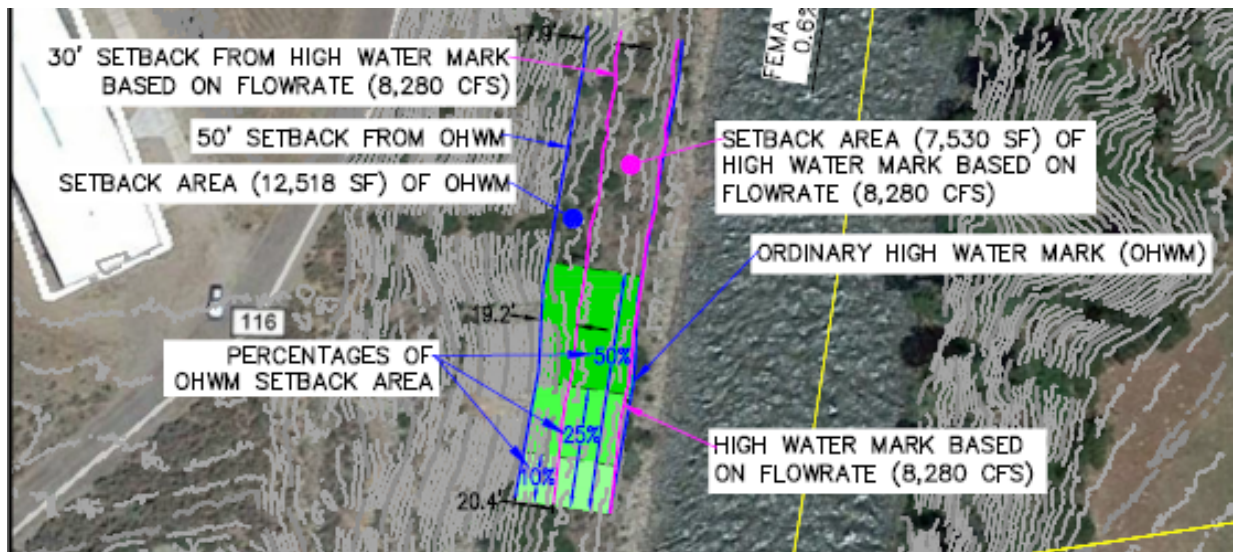


## Mapping Evaluation

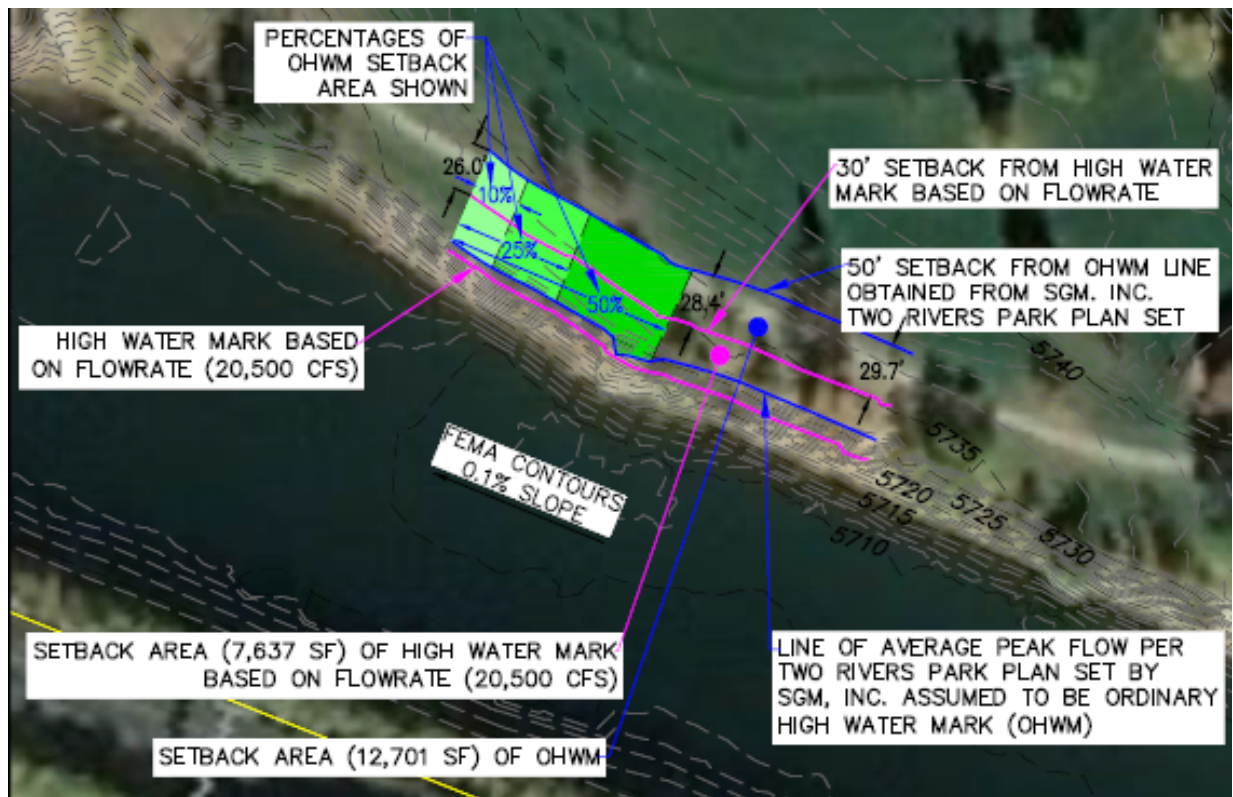
Much of Commission's discussion centered on how to better understand the impacts of the proposed 50-foot setback from the ordinary high water mark (OHWM) as compared to the existing 30-foot setback from the high water mark (defined as 20,500 cubic feet per second (cfs) for the Colorado River, 8,280 cfs for the Roaring Fork River, and the highest known water mark from other perennial streams (which is not widely known)). Staff was asked to provide graphic representations comparing the proposed and existing regulations. High Country Engineering (HCE) was contacted to help with the mapping evaluation and was tasked with determining the approximate flow rates above and the related 30-foot setback on various City owned properties. In contrast, HCE surveyed the OHWM (exclusive of one site provided by others) and depicted a 50-foot setback therefrom. Additionally, the Commission desired to make sense of the proposed 10 percent disturbance area within the area subject to the proposed 50-foot setback. HCE preformed three mapping exercises, two along the Roaring Fork River (adjacent to the former Raymond property and the Airport property) and one on the Colorado River at Two Rivers Park which are attached for your review. Portions of the maps are also depicted below.



Former Raymond property - HCE



Airport Property - HCE



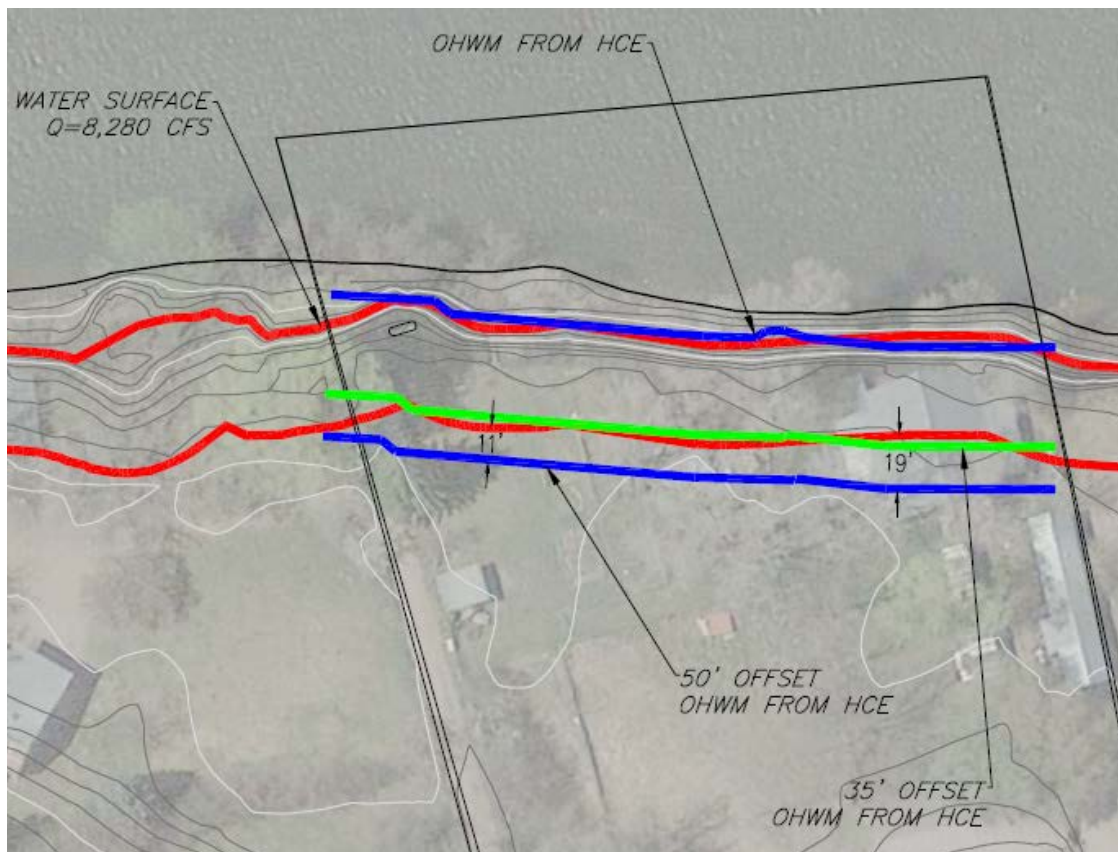
Two Rivers Park - HCE

HCE's mapping depicts the high water mark and related existing 30-foot setback requirement in purple. The estimate of the high water mark was determined by using the flow rate of a 100 year storm event and calculating it down to the flows currently defined in the Code outlined above. The surveyed OHWM and proposed 50-foot setback are shown in blue. Various shades of green depict 10 (proposed), 20, and 50 percent of the proposed setback which could allow for disturbance by property owners. Staff also requested HCE call out the difference/distance between the existing and proposed setbacks.

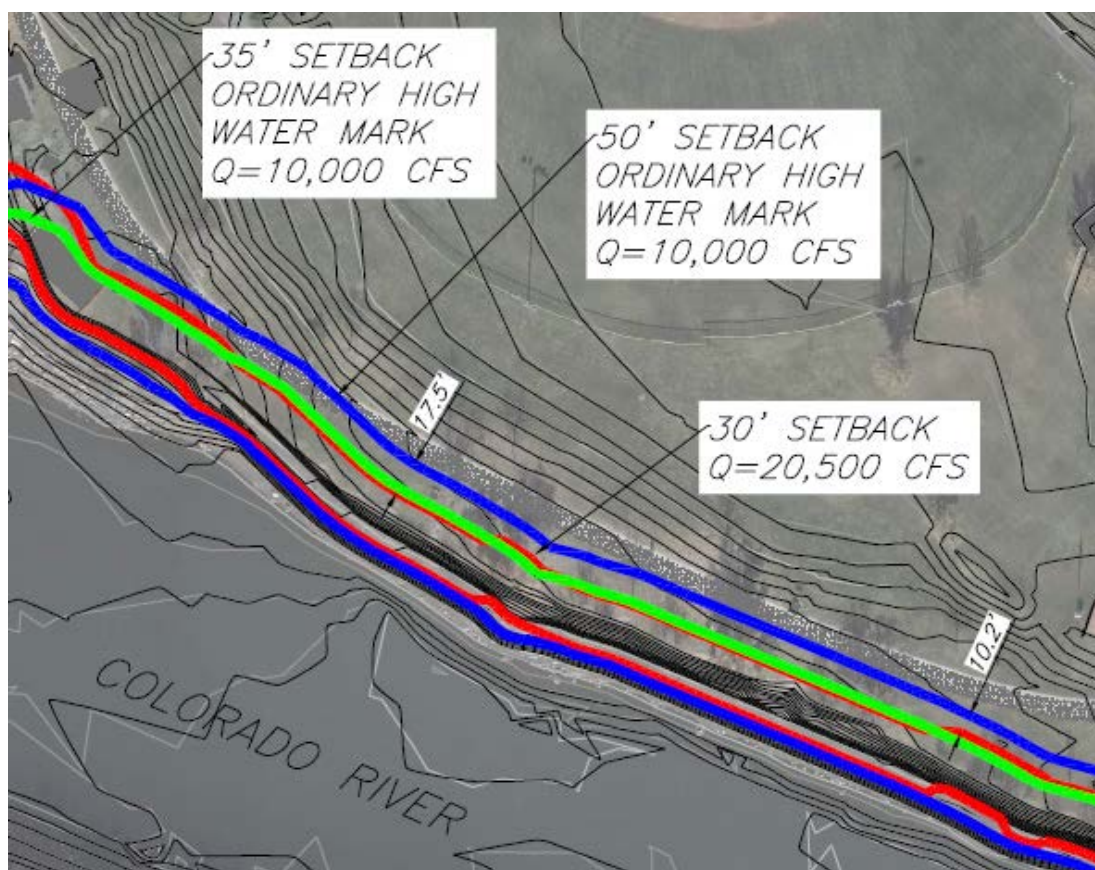
Prior to HCE's mapping analysis, Staff anticipated that area impacted by the proposed 50-foot setback from the OHWM and existing 30-foot setback from high water mark would be similar due to the different points from which each is measured. However, HCE's found the high water mark and OHWM to be fairly similar resulting in an overall setback increase ranging from 17.9 feet (smallest difference found at the Airport) to 29.7 feet (largest difference found at Two Rivers Park) along the three City-owned properties studied.

HCE's findings alerted staff that additional, more detailed analysis was necessary. Therefore, SGM was contacted to review the data against existing hydrologic and hydraulic (floodplain) models previously prepared for the Red Mountain Passage (formerly referred to as the 14<sup>th</sup> Street) Pedestrian Bridge just upstream of the former Raymond property and the Two Rivers Park Shoreline Restoration Project. SGM was able to input the high water mark flow rates directly into the floodplain models prepared for each site to determine where the existing 30-foot setback is located. SGM also determine the proposed 50-foot setback proposed from the surveyed OHWM for each site.





Former Raymond Property (orientation rotated) – SGM



Two Rivers Park – SGM

SGM's mapping (attached and shown above) depicts the high water mark and related existing 30-foot setback requirement in red. The surveyed OHWM and proposed 50-foot setback are shown in blue. Additionally, a 35-foot setback from the OHWM is depicted in green and further discussed below. Again, staff requested SGM call out the difference/distance between the existing and proposed setbacks similar to HCE.

### **Nonconformities**

Section 070.010.070 of the Code provides guidance on various nonconformities (i.e. use, structures, lot, site features, etc.) that may exist on properties subject to both the existing and/or proposed riparian setback and all other applicable development regulations. Questions arose during the Commission's discussion as to how the City will address said legal nonconformities. Staff is of the opinion that Section 070.010.070 already addresses the matter. Subsection (b)(3)a states, "[M]inor repairs and maintenance of nonconformities are permitted and encouraged, provided that the repairs and maintenance do not increase the degree of nonconformity." Further explanation for repairs is provided but it is understood that disturbance of the riparian setback area would likely be necessary to repair/replace (within 18 months as allowed) a nonconforming structure destroyed by flood (subject to existing floodplain regulations as is intended by the reference made in Section 070.010.070(b)(3)b) or fire for instance. Stabilization/revegetation of disturbed areas would be required for any construction site including those within a riparian setback area.

Subsection (f) addresses nonconforming/substandard site features such as parking, landscaping, and buffers and requires the upgrading of these areas when vehicular areas are enlarged, square footages are increased, building façades are changed substantially, or the expansion of outdoor uses (such as storage for contractors' yard) occur. This section of the Code is intended to minimize the impacts of proposed development on adjacent properties. Staff does not believe this section provides guidance for how to address nonconformities within a riparian setback (existing in the Code and/or currently proposed).

### **Proposed Revised Standard**

While the maps prepared by HCE and SGM show differing impacts (varying approximately 5-10 feet) for the proposal, both make it clear that the 50-foot setback is an increase in the existing 30-foot setback regardless of the point from which the two are measured. A significant increase in the riparian setback was never staff's intent as the original proposal was instead meant to prevent the loss/removal of riparian vegetation and improve water quality by eliminating the application of hazardous chemicals in the related riparian zone. As a result, staff is now recommending a 35-foot setback from the OHWM instead. A 35-foot riparian setback from OHWM is also outlined in Garfield County's development regulations and would allow for consistent outreach, messaging, and enforcement across both jurisdictions. A copy of the draft language is attached and provided below which explains staff recommended revisions as compared to the language previously reviewed by the Commission. Additions are red underlined and deletions are ~~struck through~~.

## 070.040.020(d) Development in Waterways and Areas of Special Flood Hazard

### (24) Conservation of Waterways

It is the purpose of this Subsection 070.040.020(d)(24) to conserve and promote the health of the City's riparian ecosystems, ~~and~~ water quality, and protect human drinking water by maintaining a functional natural buffer adjacent to waterways.

#### a. Applicability

All new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfill shall be subject to the requirements of 070.040.020(d)(24)b *Standards* unless the applicant demonstrates to the City Engineer and the Director by clear and convincing evidence that one or more of the following conditions is met:

1. The removal of native vegetation, not to exceed 10 percent of the setback area defined below, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within said area.
2. The construction of bridges, public utilities, public paths for non-motorized use, public open space areas and boat ramps, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices that do not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.
3. Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations. Vegetation shall be replaced with appropriate riparian plant species to limit erosion.
4. Applicant demonstrates one or more of the following:
  - i. ~~†The area does not contain significant riparian plant species or functions; or~~
  - ii. The area is impacted by previous earth disturbing activities; ~~and/or~~
  - iii. The proposed activity (including but not limited to the trimming of vegetation, construction of access path or steps, hot springs pools) improves water quality, limits erosion, and promotes riparian or wetland restoration does not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.

#### b. Standards

1. No improvement, building, structure, excavation, grading, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within fifty thirty-five feet of the ordinary high-water mark (as defined by the US Army Corp of Engineers), measured horizontally, of any river or live perennial stream.
2. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within said ~~fifty foot~~thirty-five-foot setback area.

As shown above, staff also proposes additional minor revisions to the language previously considered by the Commission. "Boat ramps" were added to the list of public related activities commonly found in riparian areas in subsection 2. Also, subsection 4 was revised to resemble subsection 2 and to remove any unintended higher standard of review for activities proposed on private property as opposed to public. Staff also identified some activities that commonly occur in riparian zones that we do not intend to limit when there is not a negative impact to water quality, erosion, or wetland functions such as the trimming of vegetation, access steps, or hot springs pools.

### Other Considerations

While staff recommends the draft language presented above, there are certainly other options for the Commission to consider. These options include keeping the 50-foot setback from OHWM



originally proposed, further defining uses or activities that are exempt from the setback, revising the allowed disturbance area within the setback (0%, 25%, or 50%), and others. However, after thorough consideration and as explained herein, we have decided against these options.

### Draft Riparian Guide

Education related to the importance of riparian zones and best practices for activities occurring therein is necessary alongside any regulation intended for the same purpose. With that said, staff has been in the process of developing a riparian zone planting guide to provide to property owners, landscapers, etc. in the future. A copy of the draft document is attached for your review. Said document will be finalized following consideration of the text amendment so that information related thereto can be included, if applicable.

### OHWL Survey

In anticipation of the proposed setback, staff requested funding for a survey of the OHWL in the 2020 budget. If such a setback is adopted by City Council, staff would prepare a request for proposals for qualified firms to prepare said survey. Having this information will be beneficial in helping property owners and staff understand the location of the OHWL and the area subject to the proposed setback.

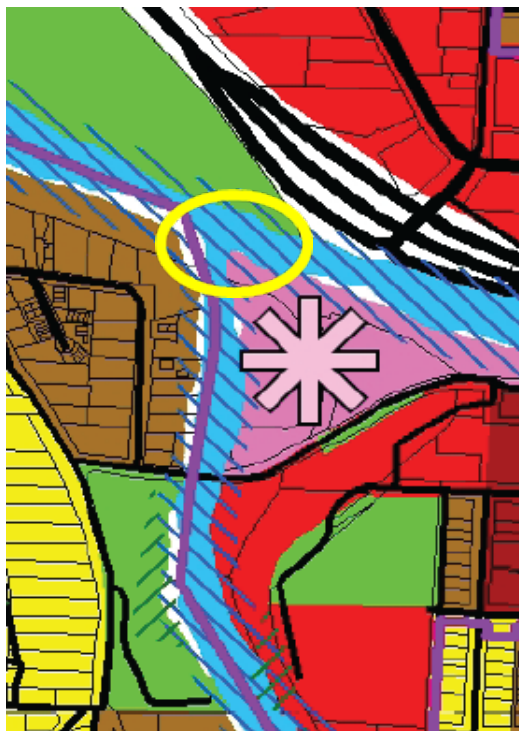
### Code Amendment Approval Criteria

Section 070.060.040(c)(3)d.3 of the Code outlines the approval criteria for revision thereto. Each of the criteria are listed in **bold** below along with comments from staff.

**i. Is consistent with the Comprehensive Plan and other City policies;**

As shown at right in blue hatching, the *Future Land Use* maps of the *Glenwood Springs Comprehensive Plan* (Comp Plan) depict the City's rivers as Riverside Protection. According to the Comp Plan, the Riverside Protection designation states: "*Land and habitat along the Colorado and Roaring Fork rivers should be protected.*" The current proposal is in compliance with the map designation and description.

"Preserve natural resources" is a community goal outlined in the Executive Summary and subsequent chapters of the Comp Plan. Specific objectives and strategies related to the goal are outlined in the table below.



| Comprehensive Plan Goal     | Objective and Strategy                                                                         |
|-----------------------------|------------------------------------------------------------------------------------------------|
| -Preserve natural resources | -Promote water conservation (Chapter 7, Page 84)<br>- Plan for the city-owned land adjacent to |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p>the river trail (Chapter 8, Page 91)</p> <ul style="list-style-type: none"> <li>-Enhance and promote world-class fishing (Chapter 8, Page 93)</li> <li>-Continue leadership in protecting the natural setting (Chapter 9, Page 98)</li> <li>-Preserve and enhance the river corridor environment (Chapter 9, Page 100)</li> <li>- Support efforts in protect the Roaring Fork River and Colorado River systems (Chapter 9, Page 100)</li> <li>- Minimize human/wildlife conflicts (Chapter 9, Page 102)</li> </ul> |
| <p><b>Staff Comment:</b> The proposed text amendment directly addresses each of the objective and strategies outlined above. Maintaining riparian zones allows for better storage of water in lands adjacent to the rivers supporting efforts outlined in City’s Water Conservation Master Plan. The proposal preserves and protects the potential future use of City owned riverfront property for public access, wildlife/fishery habitat, bank health, and/or the health of the river as outlined in the Comp Plan. The proposal helps to maintain the health of our world class fisheries and the water we rely on for other recreational activities which drive our regional economy. An update of the regulation is necessary to continue our leadership in protecting and supporting our natural settings by preserving our attractive, and healthy Colorado River and Roaring Fork River ecosystems.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

**ii. Does not conflict with other provisions of this Code or other provisions in the Glenwood Springs Municipal Code;**

It does not appear the proposal conflicts with other provisions of the Code. Instead, the proposed amendment replaces and clarifies an existing riparian setback regulation making it easier for property owners and staff to understand and apply. The OHWM is easier to define without detailed, costly engineered hydrologic and hydraulic analysis required to determine the flow rate associated with high water mark. Potential issues related to existing legal nonconforming structures are addressed above.

**iii. Is necessary to address a demonstrated community need;**

The City lags behind neighboring communities in the protection of our water resources. Protection of riparian areas is essential to improved water quality as it limits the amount of nutrients and chemicals entering our rivers and streams via stormwater runoff. Eliminating the application of fertilizers and other chemical in the riparian zone is necessary to protect human drinking water, for which the City’s has an intake on the Roaring Fork River. Additionally, the proposal is needed to achieve and support the numerous Comp Plan goals, strategies and objectives outlined above.

**iv. Is necessary to respond to substantial changes in conditions and/or policy; and**

Adoption of the proposed standards is headway in the City’s future compliance with EPA Municipal Separate Storm Sewer System (MS4) permit requirements anticipated when our population exceeds 10,000 persons with the forthcoming 2020 census. While the intent of the existing regulation is the same, an amendment is necessary to acknowledge the benefits riparian

plants species provide to water quality and ensuring the protection of human drinking water. Additionally, the proposal is needed to achieve and support the numerous Comp Plan goals, strategies and objectives, outlined above, and adopted since the establishment of the existing regulation.

**v. Is consistent with the general purpose and intent of this Code.**

The proposal appears to be consistent with the general purpose and intent of the Code as an existing similar standard is located therein. More specifically, the proposed amendment supports “integrated development”, “regulating the development of land upon impacts”, and “guarding against natural hazards”.

**Reviewing Agency Comments**

No comments related to the proposed amendment were received from City or local referral agencies.

**Adjacent Property Owner Comments**

As of the date of this staff report, no additional comments from applicable property owners have been received. That being said, previously received comments are attached.

**Other Comments**

Staff has received comments from various groups and organizations related to the proposal as outlined below. Said comments are attached for your review.

Comments in support of the proposed code amendment were received from the following:

1. Andrea Holland - Hydrologist and former River Commissioner;
2. American Rivers;
3. Trout Unlimited - Ferdinand Hayden Chapter;
4. Roaring Fork Conservancy; and
5. Roaring Fork Fishing Guide Alliance

Comments in opposition to proposed code amendment were received from the following:

1. Balcomb and Green on behalf of the Glenwood Hot Springs Lodge & Pool, Inc.
2. Garfield and Hecht on behalf of Friends of the Roaring Fork

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**ACTION ALTERNATIVES AND STAFF RECOMMENDATION:**

Section 070.060.040(c)(3)d.1 of the Code explains, “*The Planning Commission shall review the Code amendment application and recommend approval, approval with conditions, or denial of the amendment in accordance with 070.060.030(g) and the approval criteria in paragraph 3 below [addressed by staff above].* The Planning Commission may also continue the hearing.

**Action 1 – Code Amendment** – to revise the riparian setback standards of Section 070.040.020(d)(24) of the *Glenwood Springs Municipal Code*.

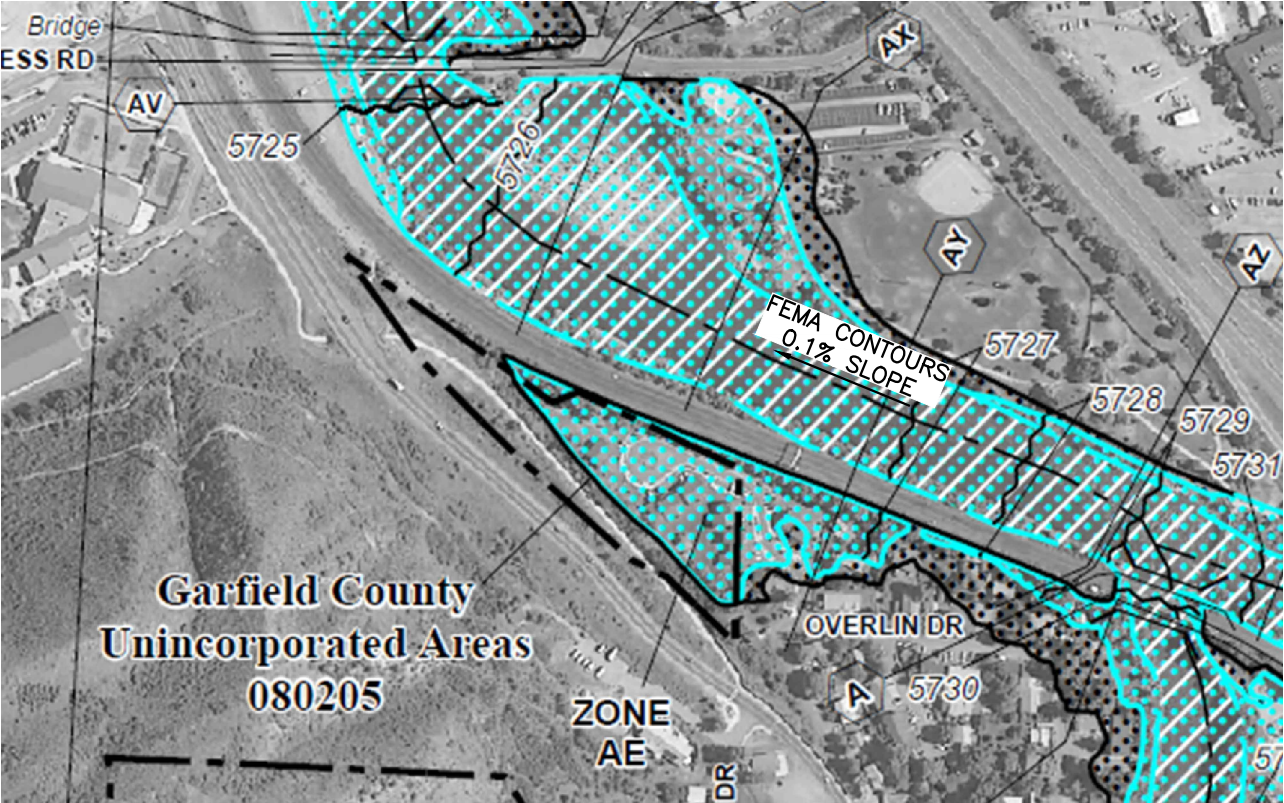
**Staff recommendation:** Staff recommends **approval** of the Code Amendment with the **findings** below:



**Recommended Findings:**

1. The proposed amendment is consistent with the Comprehensive Plan and other City policies as outlined on pages 7-8 of the staff report;
2. The proposed amendment does not conflict with other provisions of this Code or other provisions in the Glenwood Springs Municipal Code as outlined on page 8 of the staff report;
3. The proposed amendment is necessary to address a demonstrated community need as outlined on page 8 of the staff report;
4. The proposed amendment is necessary to respond to substantial changes in conditions and/or policy as outlined on pages 8-9 of the staff report; and
5. The proposed amendment is consistent with the general purpose and intent of this Code as outlined on page 9 of the staff report.





| FLOODING SOURCE                      |                       | FLOODWAY     |                            |                                 | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION |                              |                           |                 |
|--------------------------------------|-----------------------|--------------|----------------------------|---------------------------------|-------------------------------------------------------|------------------------------|---------------------------|-----------------|
| CROSS SECTION                        | DISTANCE <sup>1</sup> | WIDTH (FEET) | SECTION AREA (SQUARE FEET) | MEAN VELOCITY (FEET PER SECOND) | REGULATORY (FEET NAVD)                                | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| COLORADO RIVER (AT GLENWOOD SPRINGS) |                       |              |                            |                                 |                                                       |                              |                           |                 |
| AJ                                   | 14,102                | 302          | 3,889                      | 10.3                            | 5,699.5                                               | 5,699.5                      | 5,699.5                   | 0.0             |
| AK                                   | 15,093                | 150          | 2,574                      | 15.5                            | 5,700.5                                               | 5,700.5                      | 5,701.2                   | 0.7             |
| AL                                   | 16,085                | 262          | 4,704                      | 8.5                             | 5,704.7                                               | 5,704.7                      | 5,705.7                   | 1.0             |
| AM                                   | 16,825                | 177          | 2,977                      | 13.4                            | 5,704.9                                               | 5,704.9                      | 5,705.9                   | 1.0             |
| AN                                   | 17,827                | 178          | 3,176                      | 12.6                            | 5,707.3                                               | 5,707.3                      | 5,708.1                   | 0.8             |
| AO                                   | 18,589                | 306          | 4,863                      | 8.2                             | 5,710.6                                               | 5,710.6                      | 5,711.5                   | 0.9             |
| AP                                   | 19,617                | 230          | 2,975                      | 13.4                            | 5,711.8                                               | 5,711.8                      | 5,712.5                   | 0.7             |
| AQ                                   | 20,654                | 198          | 2,914                      | 13.7                            | 5,715.1                                               | 5,715.1                      | 5,715.8                   | 0.7             |
| AR                                   | 21,842                | 326          | 4,594                      | 8.7                             | 5,719.5                                               | 5,719.5                      | 5,720.3                   | 0.8             |
| AS                                   | 23,027                | 354          | 2,743                      | 14.6                            | 5,721.1                                               | 5,721.1                      | 5,721.6                   | 0.5             |
| AT                                   | 23,077                | 187          | 2,520                      | 15.9                            | 5,721.1                                               | 5,721.1                      | 5,721.6                   | 0.5             |
| AU                                   | 23,166                | 187          | 2,682                      | 14.9                            | 5,722.1                                               | 5,722.1                      | 5,722.5                   | 0.4             |
| AV                                   | 23,155                | 274          | 4,150                      | 9.6                             | 5,724.7                                               | 5,724.7                      | 5,724.9                   | 0.2             |
| AW                                   | 23,620                | 517          | 7,214                      | 5.5                             | 5,726.4                                               | 5,726.4                      | 5,726.5                   | 0.1             |
| AX                                   | 24,037                | 247          | 3,751                      | 10.7                            | 5,726.5                                               | 5,726.5                      | 5,726.5                   | 0.0             |
| AY                                   | 24,369                | 248          | 3,178                      | 12.6                            | 5,726.7                                               | 5,726.7                      | 5,727.1                   | 0.4             |
| AZ                                   | 24,910                | 206          | 2,875                      | 13.9                            | 5,728.9                                               | 5,728.9                      | 5,729.1                   | 0.2             |
| BA                                   | 25,283                | 161          | 2,651                      | 12.3                            | 5,731.3                                               | 5,731.3                      | 5,731.6                   | 0.3             |

|         |                                            |  |                |  |
|---------|--------------------------------------------|--|----------------|--|
| TABLE 6 | FEDERAL EMERGENCY MANAGEMENT AGENCY        |  | FLOODWAY DATA  |  |
|         | GARFIELD COUNTY, CO AND INCORPORATED AREAS |  |                |  |
|         |                                            |  | COLORADO RIVER |  |

NOTES:

1. ORIGINAL CODE HIGH WATER MARK WAS DETERMINED UTILIZING DATA FROM SECTION AY OF THE FEMA FLOODWAY DATA FOR THE COLORADO RIVER. HCE INTERPOLATED THE HIGH WATER MARK UP AND DOWNSTREAM OF SECTION AY BASED ON THE CHANGE IN ELEVATION BETWEEN THE NEAREST FEMA 100-YR FLOOD PLAIN ELEVATIONS. AS THE ORIGINAL CODE HIGH WATER MARK EXTENDS DOWNSTREAM, THE CHANGE IN ELEVATION WAS INTERPOLATED USING THE APPROXIMATE SLOPE (0.1%) BETWEEN THE FEMA 100-YR FLOODPLAIN CONTOUR ELEVATIONS AND DECREASED APPROXIMATELY 0.3 FEET ALONG THE HIGH WATER MARK BASED ON FLOWRATE (20,500 CFS).

2. THE ORDINARY HIGH WATER MARK (OHWM) USED FOR EVALUATION WAS FROM THE TWO RIVERS PARK PLAN SET BY SGM, INC.

THE CITY OF GLENWOOD SPRINGS  
GLENWOOD SPRINGS, COLORADO

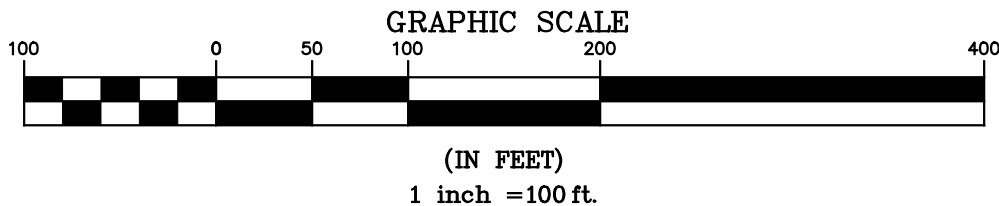
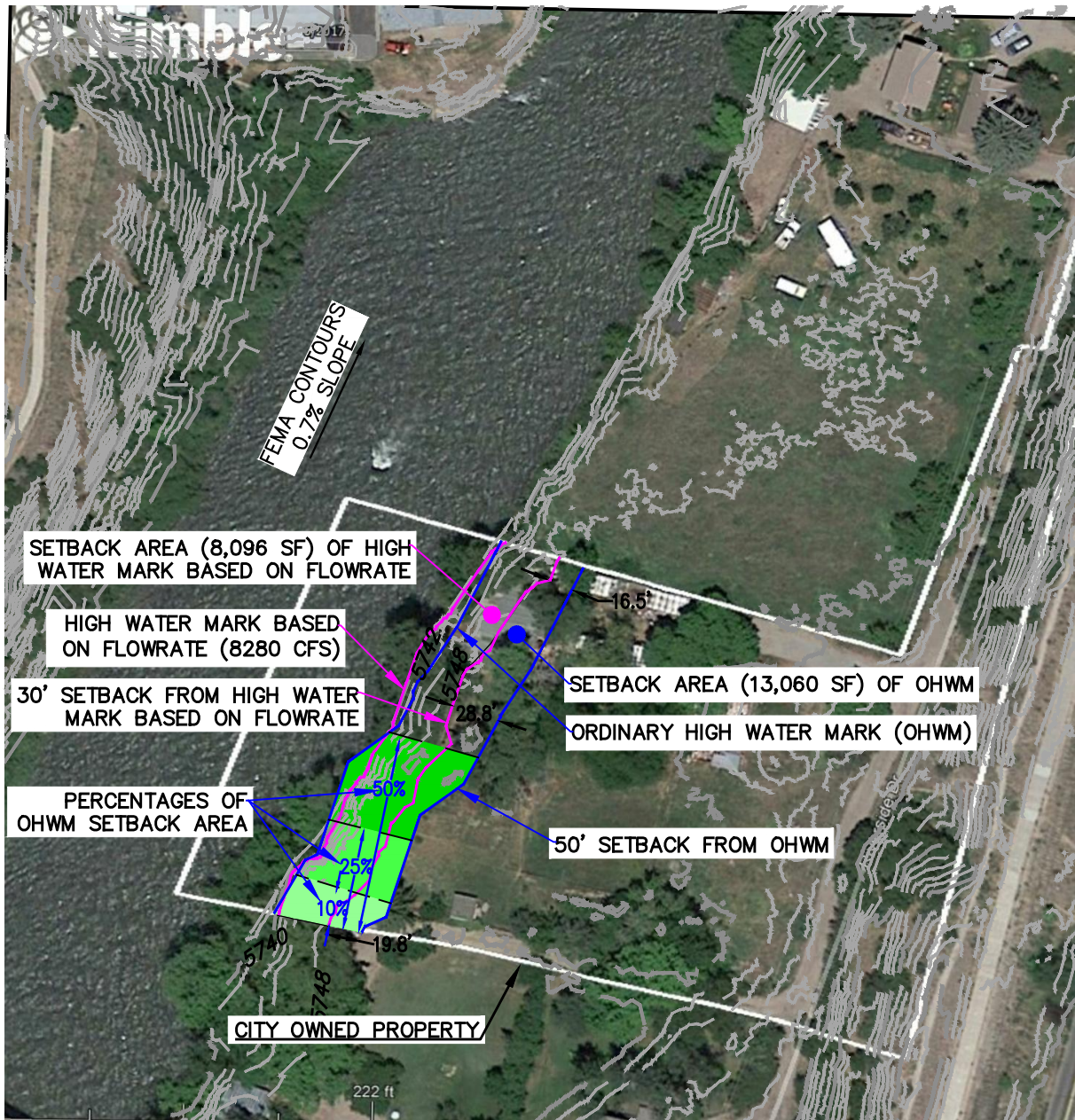
HIGH COUNTRY ENGINEERING, INC.

1517 BLAKE AVENUE, STE 101,  
GLENWOOD SPRINGS, CO 81601  
PHONE (970) 945-8676 • FAX (970) 945-2555  
WWW.HCENG.COM

PROJECT NO.  
2191038.00

1 OF 3





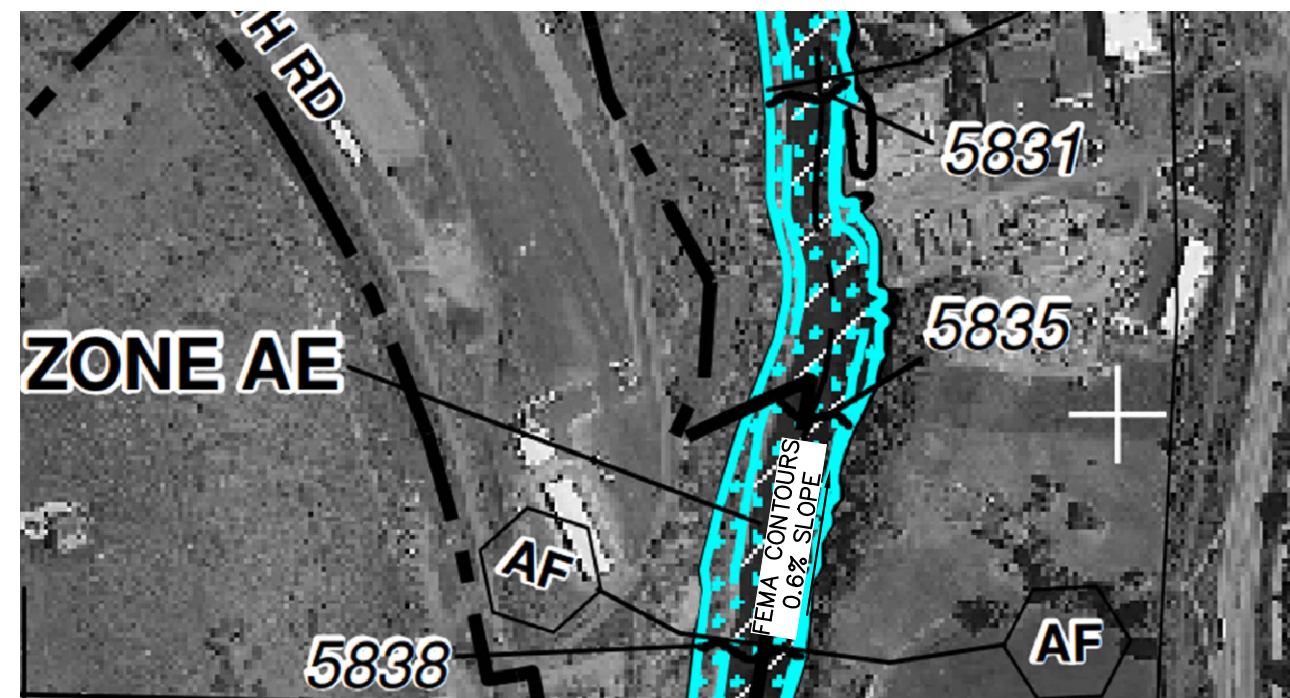
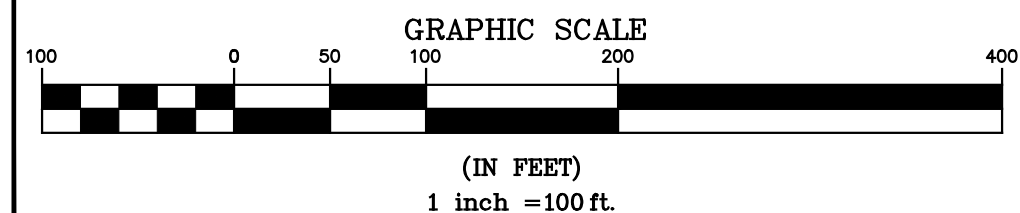
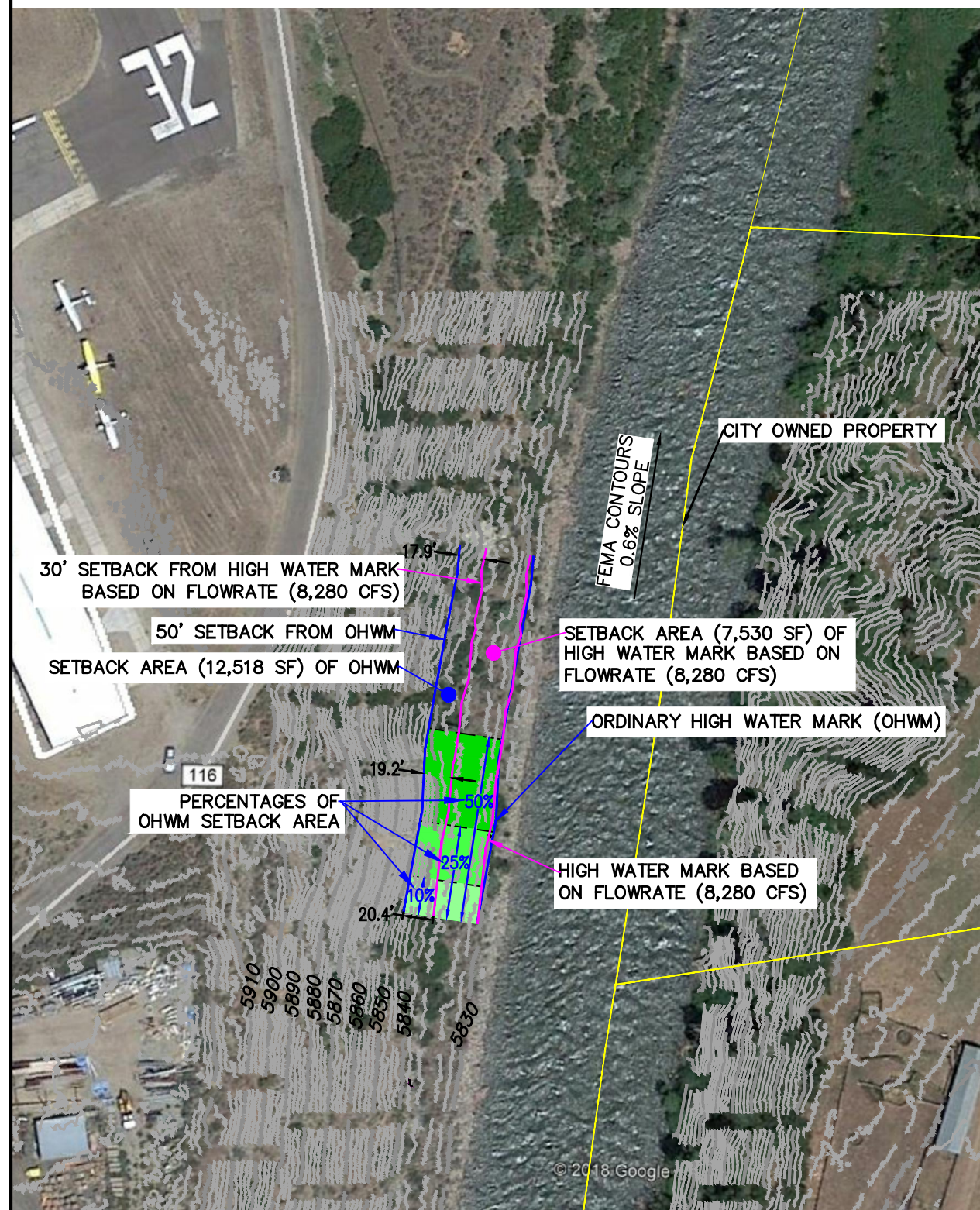
| FLOODING SOURCE    |                       | FLOODWAY         |                            |                                 | 1-PERCENT-ANNUAL-CHANCE FLOOD WATER SURFACE ELEVATION |                              |                           |                 |
|--------------------|-----------------------|------------------|----------------------------|---------------------------------|-------------------------------------------------------|------------------------------|---------------------------|-----------------|
| CROSS SECTION      | DISTANCE <sup>1</sup> | WIDTH (FEET)     | SECTION AREA (SQUARE FEET) | MEAN VELOCITY (FEET PER SECOND) | REGULATORY (FEET NAVD)                                | WITHOUT FLOODWAY (FEET NAVD) | WITH FLOODWAY (FEET NAVD) | INCREASE (FEET) |
| ROARING FORK RIVER |                       |                  |                            |                                 |                                                       |                              |                           |                 |
| A                  | 145                   | 218 <sup>2</sup> | 2,700                      | 7.9                             | 5,729.7                                               | 5,729.7                      | 5,730.7                   | 1.0             |
| B                  | 210                   | 175              | 2,745                      | 7.7                             | 5,730.0                                               | 5,730.0                      | 5,731.0                   | 1.0             |
| C                  | 720                   | 184              | 2,280                      | 9.3                             | 5,730.8                                               | 5,730.8                      | 5,731.8                   | 0.8             |
| D                  | 1,020                 | 120              | 1,357                      | 15.6                            | 5,730.9                                               | 5,730.9                      | 5,731.9                   | 1.0             |
| E                  | 1,130                 | 120              | 1,521                      | 13.9                            | 5,733.3                                               | 5,733.3                      | 5,734.2                   | 0.9             |
| F                  | 2,030                 | 221              | 2,689                      | 7.9                             | 5,738.6                                               | 5,738.6                      | 5,739.5                   | 0.9             |
| G                  | 2,830                 | 266              | 2,403                      | 8.8                             | 5,740.7                                               | 5,740.7                      | 5,741.7                   | 1.0             |
| H                  | 3,870                 | 207              | 1,987                      | 10.7                            | 5,744.7                                               | 5,744.7                      | 5,745.8                   | 0.9             |
| I                  | 4,830                 | 168              | 1,801                      | 11.8                            | 5,750.2                                               | 5,750.2                      | 5,750.5                   | 0.3             |
| J                  | 5,940                 | 148              | 1,744                      | 12.2                            | 5,755.8                                               | 5,755.8                      | 5,756.8                   | 0.8             |
| K                  | 6,880                 | 175              | 2,238                      | 9.5                             | 5,760.3                                               | 5,760.3                      | 5,761.0                   | 0.7             |
| L                  | 7,830                 | 177              | 2,032                      | 10.4                            | 5,763.4                                               | 5,763.4                      | 5,763.9                   | 0.5             |
| M                  | 8,730                 | 185              | 1,812                      | 11.7                            | 5,768.0                                               | 5,768.0                      | 5,768.4                   | 0.4             |
| N                  | 9,620                 | 147              | 1,691                      | 12.5                            | 5,773.2                                               | 5,773.2                      | 5,773.6                   | 0.4             |
| O                  | 9,820                 | 135              | 1,627                      | 13.0                            | 5,774.2                                               | 5,774.2                      | 5,774.7                   | 0.5             |
| P                  | 9,910                 | 172              | 3,166                      | 6.7                             | 5,781.1                                               | 5,781.1                      | 5,781.8                   | 0.7             |
| Q                  | 10,870                | 210              | 3,069                      | 6.9                             | 5,782.2                                               | 5,782.2                      | 5,782.8                   | 0.6             |
| R                  | 11,610                | 190              | 2,549                      | 8.3                             | 5,783.2                                               | 5,783.2                      | 5,783.8                   | 0.6             |
| S                  | 12,450                | 160              | 1,919                      | 11.0                            | 5,785.3                                               | 5,785.3                      | 5,785.9                   | 0.6             |
| T                  | 13,208                | 192              | 2,071                      | 9.9                             | 5,791.3                                               | 5,791.3                      | 5,791.3                   | 0.0             |
| U                  | 13,273                | 183              | 2,212                      | 9.3                             | 5,791.4                                               | 5,791.4                      | 5,791.4                   | 0.0             |
| V                  | 14,038                | 173              | 1,845                      | 11.1                            | 5,793.0                                               | 5,793.0                      | 5,793.1                   | 0.1             |

NOTES:

1. ORIGINAL CODE HIGH WATER MARK WAS DETERMINED UTILIZING DATA FROM SECTION H OF THE FEMA FLOODWAY DATA FOR THE ROARING FORK RIVER. HCE INTERPOLATED THE HIGH WATER MARK UPSTREAM OF SECTION H BASED ON THE CHANGE IN ELEVATION BETWEEN THE NEAREST FEMA 100-YR FLOOD ELEVATIONS. AS THE ORIGINAL CODE HIGH WATER MARK EXTENDS UPSTREAM, THE CHANGE IN ELEVATION WAS INTERPOLATED USING THE APPROXIMATE SLOPE (0.7%) BETWEEN THE FEMA 100-YR FLOODPLAIN CONTOUR ELEVATIONS AND INCREASED APPROXIMATELY 1.8 FEET ALONG THE PROPERTY FROM SECTION H.

2. THE ORDINARY HIGH WATER MARK (OHWM) WAS SURVEYED ON NOVEMBER 8, 2019 BY HIGH COUNTRY ENGINEERING, INC.





| FLOODING SOURCE                |           | FLOODWAY        |                                     |                                          | 1-PERCENT-ANNUAL-CHANCE FLOOD<br>WATER SURFACE ELEVATION |                                    |                                 |                    |
|--------------------------------|-----------|-----------------|-------------------------------------|------------------------------------------|----------------------------------------------------------|------------------------------------|---------------------------------|--------------------|
| CROSS SECTION                  | DISTANCE¹ | WIDTH<br>(FEET) | SECTION<br>AREA<br>(SQUARE<br>FEET) | MEAN<br>VELOCITY<br>(FEET PER<br>SECOND) | REGULATORY<br>(FEET NAVD)                                | WITHOUT<br>FLOODWAY<br>(FEET NAVD) | WITH<br>FLOODWAY<br>(FEET NAVD) | INCREASE<br>(FEET) |
| ROARING FORK<br>RIVER (cont'd) |           |                 |                                     |                                          |                                                          |                                    |                                 |                    |
| W                              | 14,878    | 225             | 2,062                               | 9.8                                      | 5,795.8                                                  | 5,795.8                            | 5,796.2                         | 0.4                |
| X                              | 15,258    | 222             | 1,919                               | 10.6                                     | 5,797.0                                                  | 5,797.0                            | 5,797.4                         | 0.4                |
| Y                              | 16,048    | 151             | 1,378                               | 14.7                                     | 5,806.0                                                  | 5,806.0                            | 5,806.0                         | 0.0                |
| Z                              | 16,663    | 156             | 1,533                               | 13.2                                     | 5,810.6                                                  | 5,810.6                            | 5,810.6                         | 0.0                |
| AA                             | 17,403    | 103             | 1,144                               | 17.7                                     | 5,814.5                                                  | 5,814.5                            | 5,814.6                         | 0.1                |
| AB                             | 18,343    | 127             | 1,598                               | 12.7                                     | 5,821.4                                                  | 5,821.4                            | 5,822.3                         | 0.9                |
| AC                             | 18,803    | 141             | 1,568                               | 12.9                                     | 5,823.1                                                  | 5,823.1                            | 5,823.7                         | 0.6                |
| AD                             | 19,698    | 122             | 1,478                               | 13.7                                     | 5,828.0                                                  | 5,828.0                            | 5,828.4                         | 0.4                |
| AE                             | 20,568    | 136             | 1,339                               | 15.1                                     | 5,830.6                                                  | 5,830.6                            | 5,830.6                         | 0.0                |
| AF                             | 21,823    | 170             | 2,003                               | 10.1                                     | 5,837.7                                                  | 5,837.7                            | 5,837.7                         | 0.0                |
| AG                             | 23,263    | 133             | 1,481                               | 13.6                                     | 5,841.9                                                  | 5,841.9                            | 5,841.9                         | 0.0                |
| AH                             | 23,663    | 222             | 2,743                               | 7.3                                      | 5,845.4                                                  | 5,845.4                            | 5,846.0                         | 0.6                |
| AI                             | 24,803    | 119             | 1,142                               | 17.6                                     | 5,847.7                                                  | 5,847.7                            | 5,847.9                         | 0.2                |
| AJ                             | 25,923    | 255             | 2,544                               | 7.9                                      | 5,856.2                                                  | 5,856.2                            | 5,857.0                         | 0.8                |
| AK                             | 26,603    | 373             | 3,309                               | 6.1                                      | 5,858.4                                                  | 5,858.4                            | 5,859.3                         | 0.9                |
| AL                             | 27,813    | 216             | 1,421                               | 13.7                                     | 5,864.8                                                  | 5,864.8                            | 5,864.9                         | 0.1                |
| AM                             | 28,798    | 199             | 1,878                               | 10.3                                     | 5,871.9                                                  | 5,871.9                            | 5,872.8                         | 0.9                |
| AN                             | 31,573    | 133             | 1,193                               | 16.3                                     | 5,887.6                                                  | 5,887.6                            | 5,887.7                         | 0.1                |
| AO                             | 32,433    | 159             | 1,707                               | 11.4                                     | 5,893.5                                                  | 5,893.5                            | 5,894.5                         | 1.0                |
| AP                             | 34,173    | 97              | 1,092                               | 17.8                                     | 5,900.8                                                  | 5,900.8                            | 5,901.0                         | 0.2                |
| AQ                             | 34,333    | 225             | 2,522                               | 7.7                                      | 5,907.4                                                  | 5,907.4                            | 5,907.5                         | 0.1                |
| AR                             | 36,093    | 317             | 1,840                               | 10.5                                     | 5,910.5                                                  | 5,910.5                            | 5,910.5                         | 0.0                |

|         |                                               |                    |
|---------|-----------------------------------------------|--------------------|
| TABLE 6 | FEDERAL EMERGENCY MANAGEMENT AGENCY           | FLOODWAY DATA      |
|         | GARFIELD COUNTY, CO<br>AND INCORPORATED AREAS | ROARING FORK RIVER |

NOTES:

1. ORIGINAL CODE HIGH WATER MARK WAS DETERMINED UTILIZING DATA FROM SECTION AF OF THE FEMA FLOODWAY DATA FOR THE ROARING FORK RIVER. HCE INTERPOLATED THE HIGH WATER MARK DOWNSTREAM OF SECTION AF BASED ON THE CHANGE IN ELEVATION BETWEEN THE NEAREST FEMA 100-YR FLOOD ELEVATIONS. AS THE ORIGINAL CODE HIGH WATER MARK EXTENDS DOWNSTREAM, THE CHANGE IN ELEVATION WAS INTERPOLATED USING THE APPROXIMATE SLOPE (0.6%) BETWEEN THE FEMA 100-YR FLOODPLAIN CONTOUR ELEVATIONS AND DECREASED APPROXIMATELY 1.4 FEET ALONG THE PROPERTY FROM SECTION AF.

2. THE ORDINARY HIGH WATER MARK (OHWM) WAS SURVEYED ON NOVEMBER 8, 2019 BY HIGH COUNTRY ENGINEERING, INC.













## PUBLIC NOTICE

Please take notice that the Glenwood Springs Planning and Zoning Commission (Commission) will continue discussion regarding an amendment to Section 070.040.020(d)24 *Development in Waterways and Areas of Special Flood Hazard* of the *Glenwood Springs Municipal Code* related to riparian setbacks in all zone districts of the City on **February 25, 2020 at 6:00PM** in the Council Chambers, Glenwood Springs City Hall, 101 W. 8th Street, Glenwood Springs, Colorado. The proposed regulation would apply to development and earth disturbing activities in areas adjacent to rivers/live perennial streams. The Commission previously conducted a public hearing on the matter and may or may not decide to take additional comment. Additional information related to the proposal is available for review in the Community Development Department at City Hall, 101 W. 8th Street, Glenwood Springs, Colorado 81601, or by calling (970) 384-6427.



Below is the proposed draft language subject to review and consideration by the Planning and Zoning Commission (Commission). Said language has been revised from that which was originally proposed in order to address comments received by the Commission, public, and various property owners. Additions are underlined and deletions are ~~struck through~~.

#### **070.040.020(d) Development in Waterways and Areas of Special Flood Hazard**

##### **(24) Conservation of Waterways**

It is the purpose of this Subsection 070.040.020(d)(24) to conserve and promote the health of the City's riparian ecosystems, ~~and~~ water quality, and protect human drinking water by maintaining a functional natural buffer adjacent to waterways.

##### **a. Applicability**

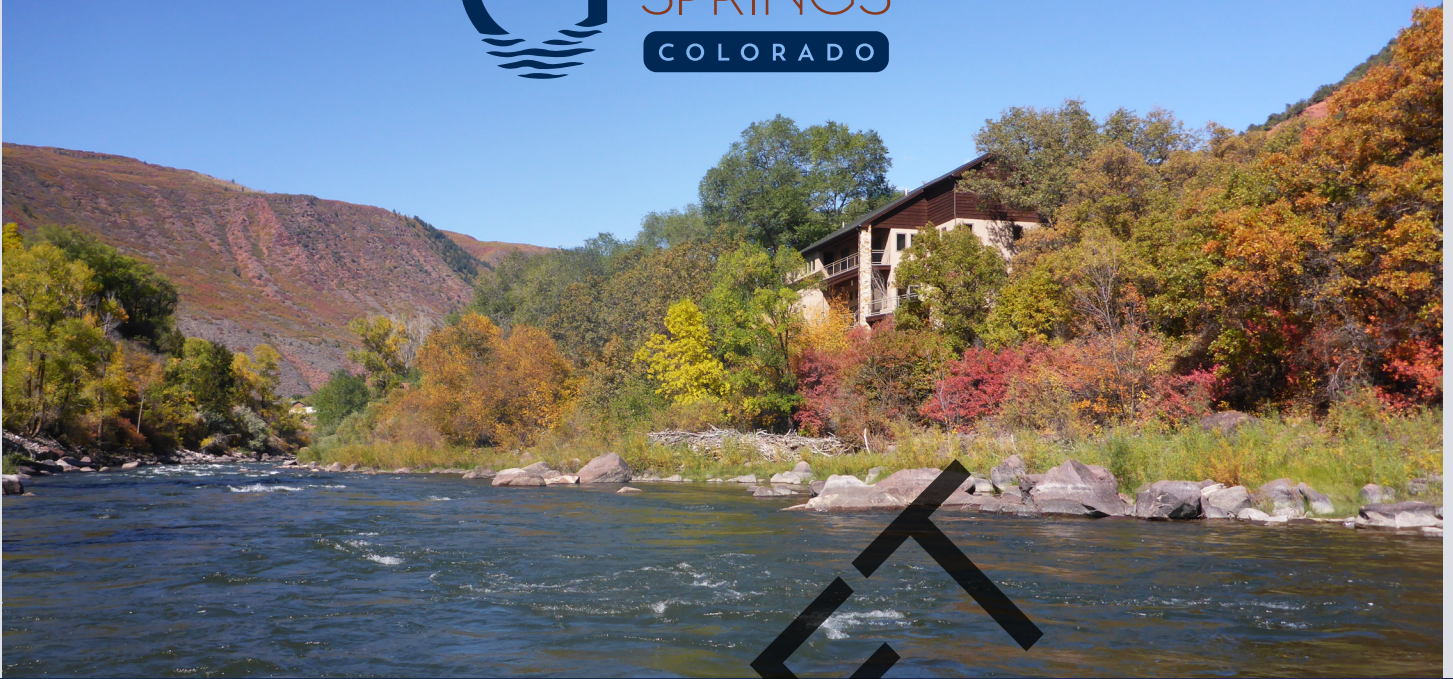
All new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfill shall be subject to the requirements of 070.040.020(d)(24)b *Standards* unless the applicant demonstrates to the City Engineer and the Director by clear and convincing evidence that one or more of the following conditions is met:

1. The removal of native vegetation, not to exceed 10 percent of the setback area defined below, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within said area.
2. The construction of bridges, public utilities, public paths for non-motorized use, public open space areas and boat ramps, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices that do not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.
3. Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations. Vegetation shall be replaced with appropriate riparian plant species to limit erosion.
4. Applicant demonstrates one or more of the following:
  - i. ~~The area~~ does not contain significant riparian plant species or functions; ~~or~~
  - ii. The area is impacted by previous earth disturbing activities; ~~and/or~~
  - iii. The proposed activity (including but not limited to the trimming of vegetation, construction of access path or steps, hot springs pools) improves water quality, limits erosion, and promotes riparian or wetland restoration does not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.

##### **b. Standards**

1. No improvement, building, structure, excavation, grading, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within ~~fifty~~ thirty-five feet of the ordinary high-water mark (as defined by the US Army Corp of Engineers), measured horizontally, of any river or live perennial stream.
2. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within said ~~fifty foot~~ thirty-five-foot setback area.





# RIVERFRONT PROPERTIES

## RIPARIAN ZONE PLANTING GUIDE

How to plan and landscape to prevent runoff, erosion, and pollution; and preserve the ecology and natural beauty on the banks of our rivers.





# LEAVE IT A LITTLE WILD

You can help preserve the streams, creeks and rivers around Glenwood Springs. **Here's how.**



Bringing native vegetation into your landscaping is a great way to beautify Glenwood Springs and to make homes and businesses more appealing and valuable. The Roaring Fork and Colorado Rivers—the main waterways through town—are suffering the impact of fertilizers, pesticides, and landscaping techniques that destroy native vegetation. Your landscaping choices can help alleviate this impact.

As rain or melting snow flows across our yards, rooftops, and paved areas, it picks up pollutants including sediment, organic matter, pesticides, and fertilizers. Polluted water then flows off these properties to roadways, ditches or through storm drains to our streams, creeks, and rivers, harming important aquatic insects, increasing algae blooms, and adding sediment. All of these things impact the food chain for our prized trout fishery. The cumulative impacts of urbanization can have a significant impact on the health of our watershed, including the insects, fish, birds and vegetation that depend on clean water.

The good news is you can help by adopting a few simple practices that can dramatically improve the health of our streams and creeks:

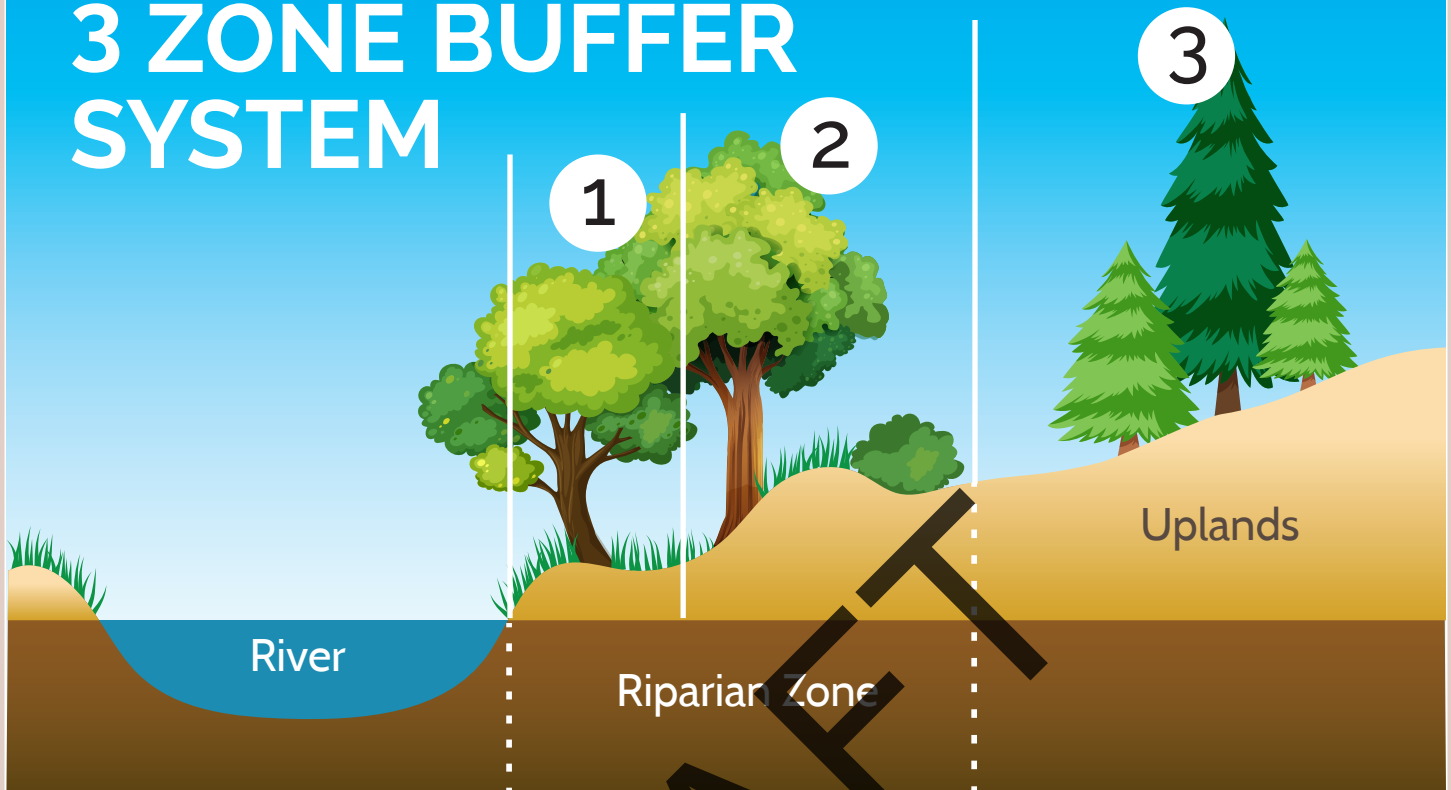
- ◆ Add native trees and shrubs to your landscaping to capture, hold, and filter rainwater.
- ◆ Use up to three inches of mulch (like leaves, aged wood chips, compost or grass clippings), primarily in spring and fall. Mulch stabilizes soil temperature, prevents weeds, feeds the soil for healthier plants and helps to conserve water.
- ◆ Incorporate swales and berms into landscapes to contain runoff and prevent it from leaving your yard.
- ◆ Consider installing a rain garden and directing roof drains to it.
- ◆ Consider using porous pavements such as pavers, flagstone, and gravel instead of impervious surfaces such as asphalt for pathways, patios, and driveways.
- ◆ Observe city ordinances regarding riparian buffers and setbacks.
- ◆ Use the Three-Zone Buffer System (next page) for guidance on building and landscaping activities within 100 feet of any stream.
- ◆ Minimize the use of turf, which will in turn reduce fertilizer, pesticide, and water requirements.
- ◆ Plant a diverse landscape, which will naturally minimize pest problems.

Thank you for playing a critical role in preserving a special part of the Glenwood Springs community.  
Learn more at [ci.glenwood-springs.co.us](https://ci.glenwood-springs.co.us)





# 3 ZONE BUFFER SYSTEM



*Riparian zone: the area of land near rivers and other water bodies*

## 1 < 25 FEET OVERBANK ZONE

This area is important for bank stability, preventing erosion, filtering and absorbing pollutants, and providing habitat for terrestrial and aquatic wildlife. Contains wetland plants and mature riparian forest.

- ◆ Leave native vegetation undisturbed.
- ◆ Reintroduce native shrubs, grasses and forbs as a substitute for turf and other manmade improvements.
- ◆ Limit the use of pesticides to what is absolutely needed to control invasive weed species.

## 2 25 - 75 FEET TRANSITIONAL ZONE

This area lies between upland development and the overbank zone, and is important in filtering stormwater runoff and absorbing pollutants. Contains mature native forest and vegetation.

- ◆ Design low-impact landscaping, which reduces maintenance requirements and less need for pesticide and fertilizer.
- ◆ Reduce the use of turf and impervious surfaces such as concrete and asphalt paving.
- ◆ Create vegetative buffers to filter runoff from roofs, drives and roadways.

## 3 75 - 100 FEET UPLAND ZONE

This is an area for actively managed landscapes or natural conditions, which allows water to slowly filter into the ground.

- ◆ Lawn, garden, and compost wastes can be stored here, and stormwater BMPs may be installed, but this zone should be left as undisturbed as possible in order to optimize the value of the riparian buffer.
- ◆ Minimize turf areas to what is truly needed. If possible, avoid placing any impervious surfaces in this zone.

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# WHAT TO PLANT

The Rocky Mountains are home to numerous native plant species. These plants are adapted to the highly variable climate and micro-climates found in mountain habitats. This list offers recommendations for areas along our streams creeks and rivers, as well as upland and transitional zones away from the water's edge. These plants can

be used in ornamental landscape plantings as buffers between landscaped and native areas or in native habitat restorations. Planting a variety of species provides biodiversity, which protects against pest outbreaks and provides important habitat for native fauna—all key components in improving water quality in Glenwood Springs.



Native Chokecherry



Freemont Cottonwood



Golden Currant



Harebells



Rocky Mountain Beeplant



Wild Strawberry

| COMMON NAME | SCIENTIFIC NAME | HEIGHT | SPREAD |
|-------------|-----------------|--------|--------|
|-------------|-----------------|--------|--------|

## OVERBANK: TREES/SHRUBS

|                      |                                      |        |        |
|----------------------|--------------------------------------|--------|--------|
| Thin-leaved Alder    | <i>Alnus incana</i>                  | 15-30' | 15-20' |
| Western River Birch  | <i>Betula occidentalis</i>           | 3-6'   | 3-8'   |
| Threeleaf Sumac      | <i>Rhus trilobata</i>                | 6-8'   | 8-12'  |
| Freemont Cottonwood  | <i>Populus fremontii</i>             | 30-50' | 20-30' |
| Colorado Blue Spruce | <i>Picea pungens</i>                 | 40-60' | 30-40' |
| Native Chokecherry   | <i>Prunus virginiana melanocarpa</i> | 8-20'  | 8-12'  |
| Golden Currant       | <i>Ribes cereum</i>                  | 2-4'   | 2-4'   |
| Woods Rose           | <i>Rosa woodsii</i>                  | 3-6'   | 3-6'   |

| COMMON NAME | SCIENTIFIC NAME |
|-------------|-----------------|
|-------------|-----------------|

## OVERBANK: FORBS

|                           |                               |
|---------------------------|-------------------------------|
| Netleaf Giant Hyssop      | <i>Agastache urticifolia</i>  |
| Colorado Blue Columbine   | <i>Aquilegia coerulea</i>     |
| Harebells                 | <i>Campanula rotundifolia</i> |
| Rocky Mountain Beeplant   | <i>Cleome serrulata</i>       |
| Englemann's Fleabane      | <i>Erigeron engelmannii</i>   |
| Sulfur-Flowered Buckwheat | <i>Erigonum umbellatum</i>    |
| Wild Strawberry           | <i>Frageria virginiana</i>    |
| Blanket Flower            | <i>Gallardia aristata</i>     |
| Sticky Geranium           | <i>Geranium viscosissimum</i> |
| Largeleaf Avens           | <i>Geum macrophyllum</i>      |
| Showy Goldeneye           | <i>Heliomeris multiflora</i>  |
| Orange Sneezeweed         | <i>Hymenoxys hoopesii</i>     |
| Wild Bergamot             | <i>Monarda fistulosa</i>      |
| Small-Flowered Penstemon  | <i>Penstemon procerus</i>     |
| Rocky Mountain Penstemon  | <i>Penstemon strictus</i>     |
| Waving-Wand Penstemon     | <i>Penstemon virgatus</i>     |
| Canada Goldenrod          | <i>Solidago canadensis</i>    |
| Goldenbanner              | <i>Thermopsis montana</i>     |

Thank you for playing a critical role in preserving a special part of the Glenwood Springs community.  
Learn more at [ci.glenwood-springs.co.us](http://ci.glenwood-springs.co.us)



# WHAT TO PLANT



Nebraska  
Sedge



Creeping  
Spikerush



Arrowgrass

| COMMON NAME                    | SCIENTIFIC NAME             |
|--------------------------------|-----------------------------|
| <b>OVERBANK: WETLAND PLUGS</b> |                             |
| Nebraska Sedge                 | <i>Carex nebrascensis</i>   |
| Wooly Sedge                    | <i>Carex pellita</i>        |
| Creeping Spikerush             | <i>Eleocharis palustris</i> |
| Three-Stamen Rush              | <i>Juncus ensifolius</i>    |
| Torrey Rush                    | <i>Juncus torreyi</i>       |
| Panicled Bulrush               | <i>Scirpus microcarpus</i>  |
| Arrowgrass                     | <i>Triglochin maritima</i>  |



Tufted  
Hairgrass



Streambank  
Wheatgrass



Mountain  
Rush

| COMMON NAME                      | SCIENTIFIC NAME                        | DISTRIBUTION |
|----------------------------------|----------------------------------------|--------------|
| <b>OVERBANK: NATIVE SEED MIX</b> |                                        |              |
| Tufted Hairgrass                 | <i>Deschampsia caespitosa</i>          | 15%          |
| Streambank Wheatgrass            | <i>Elymus lanceolatus</i>              | 20%          |
| Bluejoint Reedgrass              | <i>Calamagrostis canadensis</i>        | 10%          |
| Fowl Mannagrass                  | <i>Glyceria striata</i>                | 10%          |
| Green Needlegrass                | <i>Nassella viridula</i>               | 10%          |
| Fowl Bluegrass                   | <i>Poa palustris</i>                   | 20%          |
| Mountain Rush                    | <i>Juncus arcticus ssp. littoralis</i> | 5%           |
| Threestem Rush                   | <i>Juncus ensifolius</i>               | 5%           |
| Torrey Rush                      | <i>Juncus torreyi</i>                  | 5%           |



Rocky Mountain  
Maple

| COMMON NAME                           | SCIENTIFIC NAME     | HEIGHT | SPREAD |
|---------------------------------------|---------------------|--------|--------|
| <b>UPLAND: DECIDUOUS TREES/SHRUBS</b> |                     |        |        |
| Rocky Mountain Maple                  | <i>Acer glabrum</i> | 20-30' | 10-20' |

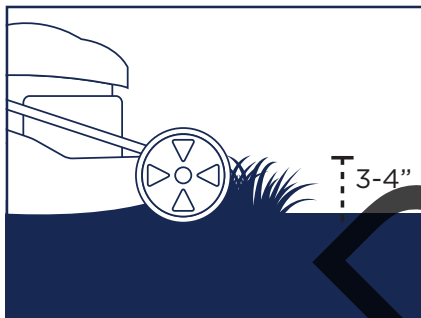
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# LAWN CARE & MAINTENANCE

As rain or melting snow flows across our yards, rooftops, and paved areas, it picks up pollutants including sediment, organic matter, pesticides and fertilizers. Polluted water then flows off these properties to roadways, ditches or through storm drains to our streams creeks and ultimately the Roaring Fork and Colorado Rivers, harming important aquatic insects, increasing algae blooms and adding sediment all of which impact the food chain for our prized trout fishery. The cumulative impacts of urbanization in the Roaring Fork Valley can have a significant impact on the health of our watershed, including the insects, fish, birds and vegetation that depend on clean water.

The good news is you can help. In fact, your daily work activities could be the key to restoring the health of our streams and creeks. Here are a few simple tips to keep in mind.



## LAWNMOWING

- ◆ Maintain lawns at 3-4 inches, which will maximize the grass's capacity to filter and absorb excess runoff and nutrients.
- ◆ Leave grass clippings on the lawn or compost them, as they can carry fertilizer and pesticide residue into the creek.
- ◆ Sweep clippings off of paved walks and roadways and back onto the lawn to prevent them from entering drainage ways. Compost yard waste or have your waste hauler remove it.



## PESTICIDE USE

- ◆ Utilize Integrated Pest Management (IPM) techniques before deciding to use pesticides. IPM endorses multiple methods for managing pests including mechanical, cultural, biological and chemical means.
- ◆ ALWAYS read the product label before use. The label describes allowed uses, environmental hazards (including impacts to aquatic environments), and application rates. Using a pesticide outside the label is illegal. Remember: THE LABEL IS THE LAW.
- ◆ Spot-spray weeds rather than spraying an entire property.
- ◆ In early spring, wait to apply lawn-care chemicals until snow has melted.
- ◆ Avoid pyrethroid insecticides near streams and waterways. These products, which include bifenthrin, cypermethrin and permethrin, are among the most toxic to aquatic invertebrates.
- ◆ Be cautious and judicious with the use of "weed and feed" lawn care products. Many contain the herbicide 2,4-D as a weed killer, which is listed as toxic to aquatic invertebrates.
- ◆ Add a natural buffer around turf areas, which will help filter fertilizers and pesticides before they can enter drainage ways.
- ◆ Dispose of garden chemicals correctly. Never sweep, hose off or pour leftover chemicals into drains or gutters. Dispose of unused products at your local household hazardous waste site, such as the South Canyon landfill.

Thank you for playing a critical role in preserving a special part of the Glenwood Springs community.  
Learn more at [ci.glenwood-springs.co.us](http://ci.glenwood-springs.co.us)

# LAWN CARE & MAINTENANCE

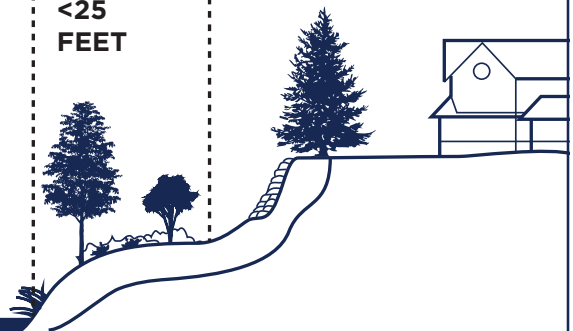
## FERTILIZER

- ◆ Fertilizer application differs with turf species, varying from 2 to 4 pounds of actual nitrogen/year per 1,000 square feet and usually divided into 3 to 4 applications per year; generally, no more than 1 pound of actual nitrogen per 1,000 square feet should be applied at one time.
- ◆ Fertilize only when necessary or not at all.
- ◆ Apply fertilizer in the fall for best results, or use a lesser amount in the spring to give lawns an extra burst of green.
- ◆ Deeply water lawns the day before you apply fertilizer.
- ◆ When purchasing fertilizer, look for a product that contains “natural organic” or “slow-release” ingredients, which feed plants slowly and evenly.
- ◆ Read labels carefully for application rates and recommendations.
- ◆ If fertilizing is appropriate, check the weather before applications; avoid the use of fertilizer if the forecast calls for rain in the next two days.
- ◆ Apply fertilizer when wind speed is between 3 and 10 mph.
- ◆ For ground boom applications, apply using a nozzle height of no more than 2 feet above the ground or crop canopy, unless a greater height is required for efficacy or safety. Use a low- pressure, large droplet sprayer, and spray close to the crop canopy or the ground.



Avoid mowing and fertilizer application within 25 feet of Streams, creeks and rivers. Use Integrated Pest Management techniques for weed and pest control. Use pesticides as a last resort, and only according to their label. Allowing native species to thrive here is crucial to the creek's recovery.

  
**<25  
FEET**



Thank you for playing a critical role in preserving a special part of the Glenwood Springs community.  
Learn more at [ci.glenwood-springs.co.us](https://ci.glenwood-springs.co.us)





# ACKNOWLEDGEMENTS



- ◆ Funding for the creation of this manual/document was provided by the Public Education, Participation and Outreach fund, monies from the Colorado Basin Roundtable ([www.coloradobasinroundtable.org](http://www.coloradobasinroundtable.org)) and Colorado Water Conservation Board ([cwc.state.co.us](http://cwc.state.co.us)).
- ◆ Design of this document was inspired by the Love Vail Gore Creek campaign ([lovevail.org](http://lovevail.org)). The City is grateful for Town of Vail's permission to use various design templates for our riparian restoration efforts.

DRAFT

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Thank you for playing a critical role in preserving a special part of the Glenwood Springs community.  
Learn more at [ci.glenwood-springs.co.us](http://ci.glenwood-springs.co.us)

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February 7, 2020

City of Glenwood Springs  
101 W 8th Street  
Glenwood Springs, CO 81601

Dear Planning and Zoning Commission and City Council;

American Rivers is a national river conservation organization with offices across the country, including Glenwood Springs, Colorado. Our mission is to promote and work for a nation of clean, healthy rivers that sustain and connect us. American Rivers protects wild rivers, restores damaged rivers, and conserves clean water for people and nature.

We ask that you support the proposed revisions to the City Development Code, **070.040.020(d)(24) Conservation of Waterways**, with one exception. We would prefer a 50' setback, rather than the proposed 35' setback. These revisions will greatly expand needed protections for the riparian zone along the Roaring Fork River and other streams in Glenwood Springs. These riparian areas are not just a strip of vegetation along the river bank, they are an integral part of the larger river ecosystem itself. Riparian areas and the vegetation they contain are absolutely critical to the overall health of ecosystem. They provide the organic food foundation for insects, which in turn support the world class fishery that draws both residents and tourists to Glenwood Springs. These same aquatic insects are also the major food source for many of the migratory and permanent bird species that we enjoy.

This code revision just makes good sense and is long overdue. Landowners adjacent to the river also need to learn more about the vital role of the riparian vegetation on their property for the health of the river that they enjoy.

Please do not hesitate to contact me if I can answer any questions or concerns you may have.

Thank you!

Ken Neubecker,  
Colorado Projects Director  
24 S Meadow View Ct.  
Glenwood Springs, CO 81601  
(970) 230-9300  
Kneubecker@americanrivers.org



February 10, 2020

City of Glenwood Springs  
101 W 8<sup>th</sup> Street  
Glenwood Springs, CO 81601

Dear Planning and Zoning Commission and City Council Members,

**RE: Development Code Revisions to 070.040.020(d)(24) Conservation of Waterways.**

The Ferdinand Hayden Chapter of Trout Unlimited is the local TU Chapter representing members from Aspen to Rifle. FHTU is one of the oldest TU Chapters, being the 8<sup>th</sup> chapter created nationwide in the 1960's.

We are writing to strongly support the proposed revisions to the City Code regarding stream setbacks and protection of the adjacent riparian areas. The riparian zone adjacent to any stream or river is an integral and vitally important part of the larger stream ecosystem. Ninety percent of the base food material for all of the aquatic life comes from the vegetation growing in the riparian zone. The existing riparian area along the Roaring Fork from Carbondale to Glenwood Springs is in sorry shape, due largely to overzealous development and removal of vegetation by landowners. The one change we would recommend from the proposed revisions would be to make the setback 50' rather than 35'. A 50' setback is more protective and conforms better with the science and structure of riparian areas.

Both Glenwood Springs and the larger Roaring Fork Valley depend a great deal on the value and economic benefits that a healthy river ecosystem provide. This is a world class fishery, consistently named by magazines such as Outside and Sunset as one of the best places to be if you like to fish.

We think that this Code revision is a prudent and responsible step for the City to take in order to insure the continued health and vigor of the Roaring Fork River ecosystem through town. We strongly urge you to support and approve this code revision as well.

Sincerely,

*Matt Kelsic*

President  
Ferdinand Hayden Chapter (008) of Trout Unlimited

February 15, 2020

City of Glenwood Springs  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
Attn: Trent Hyatt, Senior Planner/River Commission Staff Liaison

RE: Recommended city code revision for riparian setbacks

Honorable Mayor, City Council, and Planning and Zoning Commission

I urge you to adopt the originally proposed 50-foot setback in the City's riparian code revision. The modified setback of 35-feet is insufficient to maintain and protect our valued riparian system through the City of Glenwood Springs.

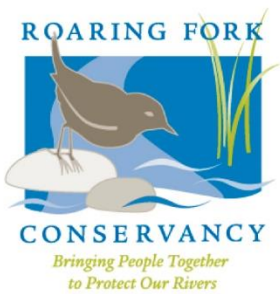
Research has shown that 50-feet is the minimum buffer for a viable riparian area and that 100-feet is preferable. Thus, a 50-foot setback to protect the riparian zone through the City is a compromise between the desires of development along our river ways and the basic needs for riparian protection.

Wildlife depends on the continuity, shade and protection of riparian vegetation. Stable stream banks and water quality also depend on this system, a safeguard from the adverse impacts of erosion.

Conserving this critical resource will help maintain the integrity of the rivers that flow through the City of Glenwood Springs and show our visitors that we take pride in caring for our riverine systems. Other communities such as Aspen and Basalt as well as Pitkin and Eagle Counties have recognized the importance of riparian areas by establishing setbacks of 75-feet or more. Let's join them and strive to maintain the ecosystems of our river ways.

Regards,  
/s/Andrea Holland  
Hydrologist and former member of GWS River Commission





February 13, 2020

City of Glenwood Springs  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
Attn: Trent Hyatt, Senior Planner/River Commission Staff Liaison

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Larry Gruel  
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RE: Recommended City riparian setback amendment

Honorable Mayor, City Council, and Planning and Zoning Commission,

Roaring Fork Conservancy (RFC) wishes to express continued support for the proposed City of Glenwood Springs riparian setback amendment. RFC applauds Glenwood Springs' investment in the protection of its water resources and strongly supports the implementation of regulations to preserve this invaluable natural and community asset.

The collaborative effort between City staff, Glenwood Springs River Commission, and RFC has resulted in a well vetted code proposal which will conserve and promote the health of the City's riparian ecosystems and water quality into the future.

RFC worked diligently as a technical advisor to help develop the proposed setback amendment, applying the best available science to the specific attributes of local waterways and community character. For additional information regarding the science of setback regulations, please see RFC's comment letter dated July 19, 2019 or contact RFC staff directly. Based on these careful considerations, RFC continues to recommend adoption of a 50ft riparian setback, to ensure conservation of valuable waterways and irreplaceable wildlife for the present and future benefit of the City, its residents, and visitors. Similarly, in 2013, RFC served as a technical advisor to the Garfield County Board of County Commissioners and recommended adoption of 50ft riparian setback protections county-wide.

As a 501(c)(3) not-for-profit organization, RFC emphasizes the use of sound, defensible science to guide decisions regarding the health of local streams and rivers. Current research indicates that healthy wetlands and riparian areas are essential to healthy rivers, and vital to the character, economy and way of life in Glenwood Springs.

Thank you for your time and consideration.

Sincerely

Rick Lofaro  
Executive Director

Chad Rudow  
Water Quality Coordinator



February 13, 2020

City of Glenwood Springs  
101 W 8<sup>th</sup> Street  
Glenwood Springs, CO 81601

**RE: Development Code Revisions to 070.040.020(d)(24) Conservation of Waterways.**

Dear Planning and Zoning Commission and City Council,

The Roaring Fork Fishing Guide Alliance (RFFGA) strongly encourages the City of Glenwood Springs to support and approve the proposed revisions to the City Development Code, **070.040.020(d)(24) Conservation of Waterways**. These revisions and adoption of a setback will greatly expand needed protections for the riparian zone along the Roaring Fork River and other tributary streams in Glenwood Springs. RFFGA regularly attended River Commission and City Planning and Zoning meetings to register support of the development of setbacks appropriate for the City. Based on careful consideration, RFFGA recommends adoption of a 50 foot riparian setback to ensure conservation of valuable waterways and irreplaceable wildlife for the present and future benefit of the City.

Riparian areas are more than simply a strip of vegetation along the river bank, they are an integral part of the larger river ecosystem itself. Riparian areas and the vegetation they contain are absolutely critical to the overall health of ecosystem. They provide the organic food foundation for insects, which in turn support the world class fishery that draws both residents and tourists to Glenwood Springs.

On behalf of the board of directors of RFFGA, we strongly urge your support and approval this code.

Sincerely,

*Kyle Holt*

Kyle Holt  
President  
Roaring Fork Fishing Guide Alliance



Scott Grosscup  
Direct Dial (970) 928-3468  
Receptionist (970) 945-6546  
sgrosscup@balcombgreen.com

November 14, 2019

Via Electronic Mail

Mr. Trent Hyatt  
Senior Planner  
City of Glenwood Springs  
Community Development Department

Re: #20-19 Riparian Setback Code Amendment

Dear Trent:

Thank you for taking the time to discuss the proposed Riparian Setback Code amendment a few weeks ago. You indicated that City staff is considering changes to the proposed ordinance and we would like to add some items for you to consider on behalf of the Glenwood Hot Springs Lodge & Pool, Inc.

The primary concern is that the term "ordinary high-water mark" is undefined. The course of the Colorado River as it flows through Glenwood Springs has been modified. Construction of I-70 moved the bank and in certain concentrated the channel. The proposed code amendment does not say if the ordinary high-water mark is based on existing conditions or on some previous condition.

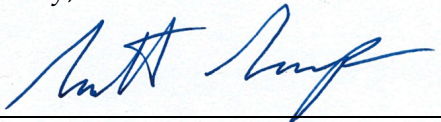
The current standard of high water mark is a known commodity. It is also tied to flood plain mapping that limits where property owners can erect improvements on their property. Having two different standards and dealing with two separate entities (City of Glenwood Springs and Federal Emergency Management Agency) creates confusion for property owners and additional headache. What if construction would be ok under one standard but not the other?

Without a definition for determining the ordinary high-water mark, city staff is given great discretion to determine where that line exists, especially where flows vary significantly from year to year. As written, it appears that staff is allowed to determine that mark based on an inspection of the area. If the landowner disagrees, then it is up to the landowner to produce evidence, presumably through hiring of an engineer to rebut staff's visual interpretation. This could increase the costs and add delay to obtain any necessary permit.

Finally, we believe that there needs to be additional protection for those structures that may lie within the ordinary high-water mark. These structures should be allowed to be renovated or even expanded. Otherwise, these structures may fall into disrepair and become a nuisance or hazard.

Thank you for considering these thoughts. Please provide us with a draft of the revised ordinance when you are able.

Sincerely,

By:   
Scott Grosscup

cc: Karl Hanlon, Esq.  
Kjell Mitchell



**Aspen Office**  
625 E. Hyman Avenue, Suite 201  
Aspen, Colorado 81611  
Telephone (970) 925-1936  
Facsimile (970) 925-3008

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**Christopher D. Bryan**  
[cbryan@garfieldhecht.com](mailto:cbryan@garfieldhecht.com)

February 19, 2020

Trent Hyatt, Senior Planner  
City of Glenwood Springs  
101 West 8<sup>th</sup> Street  
Glenwood Springs, Colorado 81601  
E-mail: [trent.hyatt@cogs.us](mailto:trent.hyatt@cogs.us)

Re: Proposed Riparian Setback Code Amendment

Mr. Hyatt:

Our law firm represents a group of Glenwood Springs residents known as the Friends of the Roaring Fork (“Friends”). Friends has engaged us to review and analyze the changes being proposed to Section 070.040.020(d)(24) of the Glenwood Springs Municipal Code (“Code”) set forth in Exhibit A (hereinafter, the “Amendment”). A continued public hearing before the City’s Planning and Zoning Commission (“Commission”) regarding the Amendment is scheduled for February 25, 2020. As explained below, Friends believes that the Amendment unnecessarily restricts the use of private and public property, will reduce property values, and, most important, does not satisfy the Code amendment approval criteria set forth in the Code. Friends therefore asks that the Amendment be reworked with stakeholder input, tabled indefinitely, or denied.

As noted in your July 23, 2019, staff report (the “Staff Report”) regarding the Amendment,<sup>1</sup> a Code amendment may only be approved if it satisfies the criteria identified in Section 070.060.040(c)(3)(d)(3) of the Code. Those criteria include (i) consistency with the City’s Comprehensive Plan and other City policies; (ii) no conflict with other provisions of the Code; (iii) necessity to address a demonstrated community need; (iv) necessity to respond to substantial changes in conditions and/or policy; and (v) consistency with the general purpose and intent of the Code. The Amendment, at a minimum, does not satisfy the second, third, or fourth approval criteria, meaning there is no legal basis for the Amendment.

First, the Amendment conflicts with other provisions of the Code. Specifically, even though maintenance and repair of nonconformities is generally allowed, Section 070.010.070(b)(3)(b) of the Code states that all such repairs and maintenance “shall comply with Subsection 070.040.020(d).” That reference to Subsection 070.040.020(d) (which includes its

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<sup>1</sup> The text of the proposed Amendment has been revised since the Staff Report was issued. However, a new staff report addressing the current language of the Amendment has not been provided as of the date of this letter. Friends may supplement this letter to respond to new information presented in the forthcoming staff report that is anticipated for the February 25<sup>th</sup> Commission meeting.

subparts) means that property owners with improvements within the new 35-foot setback could not maintain or repair the existing improvements if doing so involved excavation, grading, dumping, clearing of native vegetation, or backfill. It also limits an owner's ability to continue to maintain areas around existing paths and landscaping in excess of the 10% of the setback area if doing so requires "clearing of native vegetation" or any of the other proscribed activities.

As the foregoing makes clear, the Amendment would create a conflict within the Code regarding what work is allowed in the setback area, which is contrary to criterion (ii) for approving a Code amendment. It also exemplifies need for more robust grandfathering provisions in the Amendment to protect current owners' investment-backed expectations and to provide clarity for landowners and City staff about how the Amendment will be administered if passed. Indeed, among the purposes of the Code is shielding citizens (and the City for that matter) from the arbitrary decisions that may result when the government is given unbridled discretion over matters affecting citizens and their property. Suggested grandfathering language was provided to the City staff and the Commission prior to the Commission's September 24, 2019, meeting. The Commission also requested further clarification of the grandfathering issue at that meeting. Such language has yet to be included in the Amendment.

Second, there is no demonstrated community need for the Amendment. The Staff Report cites other jurisdictions' riparian setback requirements to show that there is a need in Glenwood Springs for a larger and more restrictive setback. But what is happening in other communities cannot be the basis for finding that there is a need in *this* community for the Amendment. And even if it could, none of the municipalities in closest proximity to Glenwood Springs with development along waterways—namely, the Town of Carbondale, the Town of Gypsum, and the Town of New Castle—impose any specific riparian setback at all. With that in mind, the existing riparian setback currently imposed by the Code puts the City well ahead of its neighbors when it comes to riparian protections. To claim that other communities' water resource protections demonstrate a community need for the Amendment is overreaching and inaccurate.

The fact that there has been no evidence or information presented to date to indicate that the existing 30-foot setback is insufficient further supports the lack of community need for the Amendment. While the Roaring Fork Conservancy ("RFC") states in its written materials that a more aggressive setback is desirable, nowhere does the RFC claim that the existing setback has caused degradation to or impairment of the City's waterways. Indeed, the former chairman of the Glenwood Springs River Commission stated at public meeting on September 19, 2019, that "the Roaring Fork is actually in pretty good shape." That comports with the informal, qualitative Glenwood Springs Riparian Assessment<sup>2</sup> that was included with the Staff Report. Note too that the Assessment identifies public education and implementation of best practices as ways to improve riparian health, not increasing the size of and restrictions within the riparian setback. Finally, the City's existing riparian setback is within the riparian buffer widths recommended for erosion control, water quality, and aquatic habitat protection in the 2005 Haws and Smith study that was submitted with the Staff Report.

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<sup>2</sup> Note, too, that this Assessment only evaluated the Roaring Fork and Colorado Rivers. But the proposed Amendment, as written, would apply to properties along other waterways in the City such as Three Mile Creek, Oasis Creek, and Mitchell Creek. No information has been provided regarding the state of those waterways.



Third, the Amendment is not necessary to respond to substantial changes in conditions and/or policy. Again, the justification cited in the Staff Report for compliance with this criterion is misguided. The Staff Report states (with little explanation) that the Amendment would “help in the City’s future compliance with EPA Municipal Separate Storm Sewer System (“MS4”) permit requirements if/when the City’s population exceeds 10,000.” Seeing as the census has not yet been conducted and the City has not yet changed—and, indeed, may not change—its policies or practices as a result of any new MS4 requirements, there is no change to which the Amendment provides a necessary response.

Moreover, it is unclear how changes in setbacks would affect the City’s MS4 policies or future compliance because the MS4 program deals with point source discharges—i.e., the culverts and pipes that release untreated storm water runoff directly into waterways—not disbursed, non-point source runoff. The amount of storm water runoff that enters the City’s waterways through riparian habitat is a small fraction of the storm water collected and discharged by the City through its storm water collection system. Even assuming an increased riparian setback would improve the quality of that comparatively minimal, non-point source runoff, it would have no impact on the quality of the water discharged from the City’s storm drains, which is the focus of the MS4 program. The Amendment therefore has no rational relation to and is not justified by the City’s non-existent and uncertain storm water mitigation policies and practices. To argue otherwise is disingenuous and completely without merit.

Aside from the fact that the Amendment does not meet the Code amendment approval criteria, Friends is concerned about the substance of the Amendment. Most notably, Friends believes that the Amendment will negatively impact the use and enjoyment of river-front properties in the City, including the ability to repair, maintain, and rebuild existing improvements and to make new use of areas that would be within the 35-foot setback proposed in the Amendment. It should come as no surprise that many riverfront property owners bought their lots so that they could enjoy the river and its amenities. But to do so, owners must be able to access and make use of their river frontage.

While the existing Code places some limits on the extent to which owners may utilize the setback area, they are not as restrictive as those proposed in the Amendment. For one, the existing language of Section 070.040.020(d)(24) does not prohibit vegetation removal or place any limits on the creation of private pathways for river access. In contrast, the Amendment only allows an owner to remove vegetation from up to 10% of the setback area for the purpose of private access to and enjoyment of the waterway. The 10% figure is completely arbitrary and capricious and not based on any science or theory. It is also insufficient to allow owners of many overgrown, waterfront properties to gain access to or use and enjoy the adjacent river or stream.

Additionally, if an owner wants to utilize more than 10% of the setback area, build stairs within a pathway area to ensure safe access, or simply trim vegetation, he or she will be required to show that the proposed activity “does not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.” To make such a showing, the owner would likely need to hire an engineer, adding to the cost and burden

of the regulations. This is a completely unrealistic burden to place on landowners who are doing no harm to the river or riparian habitat.

The restrictions in the Amendment effectively sterilize at least 90% of the 35-foot setback area of each parcel adjacent to a waterway. That area is naturally the area owners would seek to use to realize the benefits of living near the water. If they or subsequent owners are unable to do so because of the Amendment, property values are sure to go down. Current owners did not sign up for the heightened restrictions proposed in the Amendment when they purchased their properties. What's worse, those restrictions may reduce the pool of future buyers for their properties.

Finally, the Amendment will render public and private properties nonconforming under the Code. Numerous citizens spoke to this issue at prior public hearings regarding the Amendment, but, to date, it does not appear that City staff has analyzed the number and extent of the nonconformities that would arise if the Amendment were passed. That fact alone indicates that the Amendment is, at a minimum, premature, especially because Chapter 070.010.070—the Code's "Nonconformities" chapter—does not ease the burden the Amendment would place on existing site conditions as explained above.

General and conclusory statements aside, the City has failed to quantify what benefits, if any, will be realized if the Amendment is passed. In contrast, this letter clearly identifies the harms that will ensue. While the Amendment may be well-intentioned, those intentions are not a substitute for need or legal justification. They are also overshadowed by the negative impacts the Amendment will have on numerous landowners even though those owners are not harming the river or the riparian environment to any meaningful, measurable degree. Friends does not dispute the need for all riparian landowners—including the City—to be good stewards of the City's waterways; they simply contend that the existing Code provides sufficient safeguards and that the prohibitions proposed in the Amendment are unnecessary and unjustified.

Ordinances enacted by municipalities such as the City must not be unreasonable, arbitrary, or capricious. Approving the Amendment, which does not satisfy even the City's own criteria for approving such amendments, renders it a textbook example of an arbitrary and capricious legislative act. The unreasonableness of the Amendment is exacerbated by the fact that it restricts the existing and future use of private and public property unnecessarily, to the detriment of current and future owners, and with little public benefit, if any, beyond what is already provided by the existing Code. Indeed, seeing as the public would receive the purported benefit from the Amendment while private landowners are forced to bear the cost in the form of reduced property values and unusable property, the City will be exposed to takings claims if the Amendment passes. Simply put, the Amendment goes too far and does so without justification.

It is clear from the content of the Amendment that it was drafted without broad stakeholder input. That may not have been the case had the Amendment had a more collaborative beginning similar to that of the City's vacation rental ordinance. Nonetheless, Friends remains ready and willing to work with City staff to develop a more balanced approach to the setback issue that takes all stakeholders' input into account. To that end, continuing consideration of the



Amendment to a later Commission meeting to allow stakeholders to workshop the text of the Amendment would be beneficial. But if the Amendment in its current form is presented, Friends will bring the full force of its opposition to bear. Please let us know if you would like to schedule a meeting to discuss changes to the Amendment. Thank you.

Very truly yours,

A handwritten signature in black ink, appearing to read "Christopher D. Bryan". The signature is fluid and cursive, with the first name "Christopher" written in a larger, more prominent script than the last name "Bryan".

Christopher D. Bryan

cc: City Attorney ([kjh@mountainlawfirm.com](mailto:kjh@mountainlawfirm.com))

**EXHIBIT A**

Proposed amendment to Code Section 070.040.020(d)(24)

***070.040.020(d) Development in Waterways and Areas of Special Flood Hazard***

***(24) Conservation of Waterways***

*It is the purpose of this Subsection 070.040.020(d)(24) to conserve and promote the health of the City's riparian ecosystems, water quality, and protect human drinking water by maintaining a functional natural buffer adjacent to waterways.*

***a. Applicability***

*All new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfill shall be subject to the requirements of 070.040.020(d)(24)b Standards unless the applicant demonstrates to the City Engineer and the Director by clear and convincing evidence that one or more of the following conditions is met:*

*1. The removal of native vegetation, not to exceed 10 percent of the setback area defined below, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within said area.*

*2. The construction of bridges, public utilities, public paths for non-motorized use, public open space areas and boat ramps, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices that do not result in water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.*

*3. Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations. Vegetation shall be replaced with appropriate riparian plant species to limit erosion.*

*4. Applicant demonstrates one or more of the following:*

- i. The area does not contain significant riparian plant species or functions;*
- ii. The area is impacted by previous earth disturbing activities; or*
- iii. The proposed activity (including, but not limited to the trimming of vegetation, construction of access path or steps, hot springs pools) does not result in increased water quality degradation, stream bank erosion, or a reduction in the function of and quality of a riparian area or wetland.*

***b. Standards***

*1. No improvement, building, structure, excavation, grading, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within thirty-five feet of the*



*ordinary high-water mark (as defined by the US Army Corp of Engineers), measured horizontally, of any river or live perennial stream.*

*2. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted with said thirty-five-foot setback area.*

## 070.040.020(d) Development in Waterways and Areas of Special Flood Hazard

### (24) Conservation of Waterways

It is the purpose of this Subsection 070.040.020(d)(24) to conserve and promote the health of the ~~City's~~ riparian ecosystems within the City ~~water quality~~ and to protect water quality and human drinking water by maintaining a functional natural buffer adjacent to waterways, while ensuring that private landowners and members of the public are able to access, use, and enjoy the waterways within the City in a manner that limits impacts to the natural environment.

#### a. Applicability

The placement, construction, building, undertaking, or approval of ~~All~~ new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfilling shall be subject to the requirements of 070.040.020(d)(24)~~b~~c ~~Standards, except as provided in Subsection b.~~

#### b. Exceptions

~~Unless the applicant demonstrates to the City Engineer and the Director by clear and convincing evidence that one or more of the following conditions is met: The following are not subject to the requirements of 070.040.020(d)(24)c:~~

- ~~1.~~ The removal clearing of native vegetation, not to exceed ~~40-50%~~ percent of the setback area defined in Section 070.040.020(d)(24)c~~below~~, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within said area other than stairs and related improvements such as hand rails to provide safe access to the waterway.
- ~~1-2.~~ The trimming of native vegetation for view, fire mitigation, maintenance or repair activities described in Section 070.040.020(d)(24)b.4, below, or other life/safety purposes so long as the vegetation is not removed in its entirety from the ground and that the health and integrity of the vegetation is not negatively impacted as a result of the trimming.
- ~~3.~~ The construction and installation of bridges, public utilities, public paths for non-motorized use, public open space areas and boat ramps, irrigation structures, or flood control and erosion protection devices or the performance of wildfire mitigation activities requiring the clearing of native vegetation, irrigation structures, flood control and erosion protection devices provided that the same ~~that~~ do not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.
- ~~2-4.~~ The (i) maintenance, repair, or replacement of existing improvements, buildings, additions, structures, landscaping, and cleared areas as provided in 070.010.070 Nonconformities, or (ii) construction of new structures, buildings, or improvements outside the setback area defined in 070.040.020(d)(24)c.1, to the extent (i) or (ii) requires new excavation, grading, backfill, or clearing of native vegetation within the setback area. In that event, the owner shall make commercially reasonable efforts to replace any cleared vegetation with vegetation of similar type and function.
- ~~3-5.~~ Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations. ~~Vegetation shall be replaced with appropriate riparian plant species to limit erosion.~~
- ~~4-6.~~ Any other activity proposed by an owner or a ~~Applicant~~ that would otherwise be



prohibited by Section 070.040.020(d)(24)c, provided that the owner or applicant demonstrates through objectively reasonable evidence one or more of the following:

- i. The affected area does not contain significant riparian plant species or functions;
- ii. The affected area is impacted by previous earth disturbing or vegetation clearing activities; or
- iii. The proposed activity ~~(including but not limited to the trimming of vegetation, construction of access path or steps, hot springs pools)~~ does not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.

c. **Standards**

1. No improvement, building, structure, excavation, grading, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within thirty-five feet of the ordinary high-water mark (as defined by the US Army Corp of Engineers), measured horizontally, of any river or live perennial stream.
2. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within said thirty-five-foot setback area.

## 070.040.020(d) Development in Waterways and Areas of Special Flood Hazard

### (24) Conservation of Waterways

It is the purpose of this Subsection 070.040.020(d)(24) to conserve and promote the health of the City's riparian ecosystems and water quality and protect human drinking water by maintaining a functional natural buffer adjacent to waterways, while ensuring that private landowners and members of the public are able to access, use, and enjoy the City's waterways in a manner that limits impacts to the natural environment.

#### a. **Applicability**

The placement, construction, building, undertaking, or approval of ~~A~~all new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfilling shall be subject to the requirements of 070.040.020(d)(24)~~b~~c Standards, except as provided in Subsection b.

#### b. **Exceptions**

Unless the applicant demonstrates to the City Engineer and the Director by clear and convincing evidence that one or more of the following conditions is met: The following are not subject to the requirements of 070.040.020(d)(24)c:

1. The ~~removal~~ clearing of native vegetation, not to exceed ~~10~~ 40% percent of the setback area defined in Section 070.040.020(d)(24)c~~below~~, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within said area other than stairs and related improvements such as hand rails to provide safe access to the waterway.
- 1-2. The trimming of native vegetation for view, fire mitigation, maintenance or repair activities described in Section 070.040.020(d)(24)b.4, below, or other life/safety purposes so long as the vegetation is not removed in its entirety from the ground and that the health and integrity of the vegetation is not negatively impacted as a result of the trimming.
3. The construction and installation of bridges, public utilities, public paths for non-motorized use, public open space areas and boat ramps, irrigation structures, or flood control and erosion protection devices or the performance of wildfire mitigation activities requiring the clearing of native vegetation, irrigation structures, flood control and erosion protection devices provided that the same that do not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.
- 2-4. The (i) maintenance, repair, or replacement of existing improvements, buildings, additions, structures, landscaping, and cleared areas as provided in 070.010.070 Nonconformities, or (ii) construction of new structures, buildings, or improvements outside the setback area defined in 070.040.020(d)(24)c.1, to the extent (i) or (ii) requires new excavation, grading, backfill, or clearing of native vegetation within the setback area. In that event, the owner shall make commercially reasonable efforts to replace any cleared vegetation with vegetation of similar type and function.
- 3-5. Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations. ~~Vegetation shall be replaced with appropriate riparian plant species to limit erosion.~~
- 4-6. Any other activity proposed by an owner or ~~a~~Applicant that would otherwise be prohibited by Section 070.040.020(d)(24)c, provided that the owner or applicant



demonstrates through objectively reasonable evidence one or more of the following:

- i. The affected area does not contain significant riparian plant species or functions;
- ii. The affected area is impacted by previous earth disturbing or vegetation clearing activities; or
- iii. The proposed activity (~~including but not limited to the trimming of vegetation, construction of access path or steps, hot springs pools~~) does not result in increased water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.

c. **Standards**

1. No improvement, building, structure, excavation, grading, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within thirty-five feet of the ordinary high-water mark (as defined by the US Army Corp of Engineers), measured horizontally, of any river or live perennial stream.
2. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within said thirty-five-foot setback area.

**Agenda Item:** 20-19 - Consideration of a Code Amendment to Section 070.040.020(d)(24) of the Glenwood Springs Municipal Code regarding riparian setbacks

**Action Requested:**

|                  |                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>REQUEST</b>   | Consideration of a Code Amendment to Section 070.040.020(d)(24) of the <i>Glenwood Springs Municipal Code</i> regarding riparian setbacks |
| <b>APPLICANT</b> | City of Glenwood Springs                                                                                                                  |
| <b>OWNER</b>     | Multiple public and private properties                                                                                                    |
| <b>LOCATION</b>  | Applies to areas within 50 feet of the ordinary high-water mark of perineal water courses within the City                                 |
| <b>ZONE</b>      | All zone districts City wide, where applicable                                                                                            |

**Department:** Planning Department

**Presented By:** Trent Hyatt, Senior Planner

**Background Info:**

**Issues:** **Action 1 - Code Amendment** – to revise the riparian setback standards of Section 070.040.020(d)(24) of the Glenwood Springs Municipal Code.

**Staff Recommendation:** The Planning and Zoning Commission (Commission) first considered the proposed text amendment at the July 23, 2019 regular meeting. The staff report and related items from said meeting are attached for your review. Consideration of the proposal was continued to the August regular meeting and then again to the September regular meeting.

Staff has received various comments regarding the proposal since the first meeting which are attached. Comments from Gary Vick provide detailed recommendations and background information for potential alternate language while other comments object to the proposal. While a public hearing was held at the July 23 meeting, staff has received requests from numerous individuals requesting the ability to provide additional comments to the Commission.





## Planning and Zoning Commission Report

Date: July 23, 2019  
To: Planning and Zoning Commission  
From: Trent L. Hyatt, Senior Planner  
Subject: #20-19 – Riparian Setback Code Amendment

|                  |                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>REQUEST</b>   | Consideration of a Code Amendment to Section 070.040.020(d)(24) of the <i>Glenwood Springs Municipal Code</i> regarding riparian setbacks |
| <b>APPLICANT</b> | City of Glenwood Springs                                                                                                                  |
| <b>OWNER</b>     | Multiple public and private properties                                                                                                    |
| <b>LOCATION</b>  | Applies to areas within 50 feet of the ordinary high-water mark of perineal water courses within the City                                 |
| <b>ZONE</b>      | All zone districts City wide, where applicable                                                                                            |

### ACTION ITEM:

The Planning and Zoning Commission (Commission) is the recommending body to City Council on any and all revisions to the *Glenwood Springs Municipal Code* (Code).

**Action 1 - Code Amendment** – to revise the riparian setback standards of Section 070.040.020(d)(24) of the *Glenwood Springs Municipal Code*.

**Staff recommendation:** Staff recommends **approval** of the Code Amendment with the findings on page 8.

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## BACKGROUND/ANALYSIS

### History/Proposal

On October 4, 2018, City Council held a work session with the River Commission (RC) and Planning and Zoning Commission (Commission) to facilitate a discussion regarding riparian setbacks. The work session followed a previous City Council discussion regarding the matter on April 26, 2018 that occurred in conjunction with a progress update on the development code re-draft which was ongoing at the time. Prior to the development code re-draft discussion in April 2018, City Council received a recommendation from the RC (following a unanimous vote on February 7, 2018) for the inclusion of a 50-foot riparian setback in the re-drafting of the development code. Details and background information from the River Commission are outlined in an attached letter.

To date, no action has been taken on the riparian setback recommended by the RC. As requested by City Council, Community Development is now processing a Code Amendment to allow for review and consideration of the associated revision by the Commission and City Council. Draft standards as well as options to incentivize stewardship in riparian zones are addressed below.

### **Current Riparian Standard**

Per Section 070.040.020(d)(24) of the Code, Development in Waterways and Areas of Special Flood Hazard, the City requires a 30-foot riparian setback as follows:

*“No improvement, building, structure, excavation, dumping or backfill shall be placed, built, undertaken or approved within a 30-foot setback area horizontally from the high-water mark of any river or live stream, except for bridges, paths for non-motorized use, irrigation structures or flood control and erosion protection devices.”*

Formerly, Section 070.010.010 of the Code stated, "high water mark means for the Roaring Fork River, the level of the 1973 peak flow measured at eight thousand two hundred eighty (8,280) cubic feet per second. For the Colorado River, the level of the 1973 peak flow measured at twenty thousand five hundred (20,500) cubic feet per second. For any other river or stream, its highest peak flow between October 1, 1956, and September 30, 1976." However, "high water mark" is no longer provided for in the definitions section. This appears to be an error in the adoption of the revised development code in August 2018.

### **River Commission Recommended Standard**

Below is the language recommended by the River Commission in February 2018.

#### **a. Purpose**

The purpose of this Subsection 070.040.020(d)(24) is to conserve and promote the health of the City's riparian ecosystems and water quality by maintaining a functional natural buffer adjacent to waterways.

- i. No improvement, building, structure, excavation, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within a fifty-foot setback area horizontally from the ordinary high-water mark of any river or live perennial stream.
- ii. Within the fifty-foot setback, no live vegetation may be removed except for species listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm when replaced with appropriate plant species. The Director has discretion to permit the removal of native vegetation, not to exceed 10 percent of the area of the setback, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within the setback area. The Director may also reduce the setback for bridges, public paths for non-motorized use, public open space areas, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices, or upon demonstration by the applicant that such reduction shall not result in water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.
- iii. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within the fifty-foot setback area except for the removal of above listed noxious weeds in compliance with applicable regulations.

### **Discussion**

The area of the proposed 50-foot setback as outlined by the RC above begins at "ordinary high water mark" (OHWH) as opposed to the current "high water mark" which is generally lower in elevation along the bank of any given water course. A simple definition of the OHWM is the *mark typically reached on an annual basis within a channel*. The term as defined by the Army Corp of Engineers is *“that line on the shore established by the fluctuations of water and indicated by*

*physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.”*

As a comparison, the highest mean daily discharge rate for the Roaring Fork River based on USGS data is 7,120 cubic feet per second (cfs) which is significantly higher than the average ordinary high-water discharge between 3,000-4,000 cfs since 1971. Generally, the OHWM is the lowland area of any stream or river that is regulated by the US Army Corp of Engineers, in addition to wetland areas. The diagrams at right and below provides a visual representation of the OHWM. Differing definitions of the OHWM exist based on ecological zone, stream type, flow rates/intervals, etc.



Photo credit: Water Environment Federation

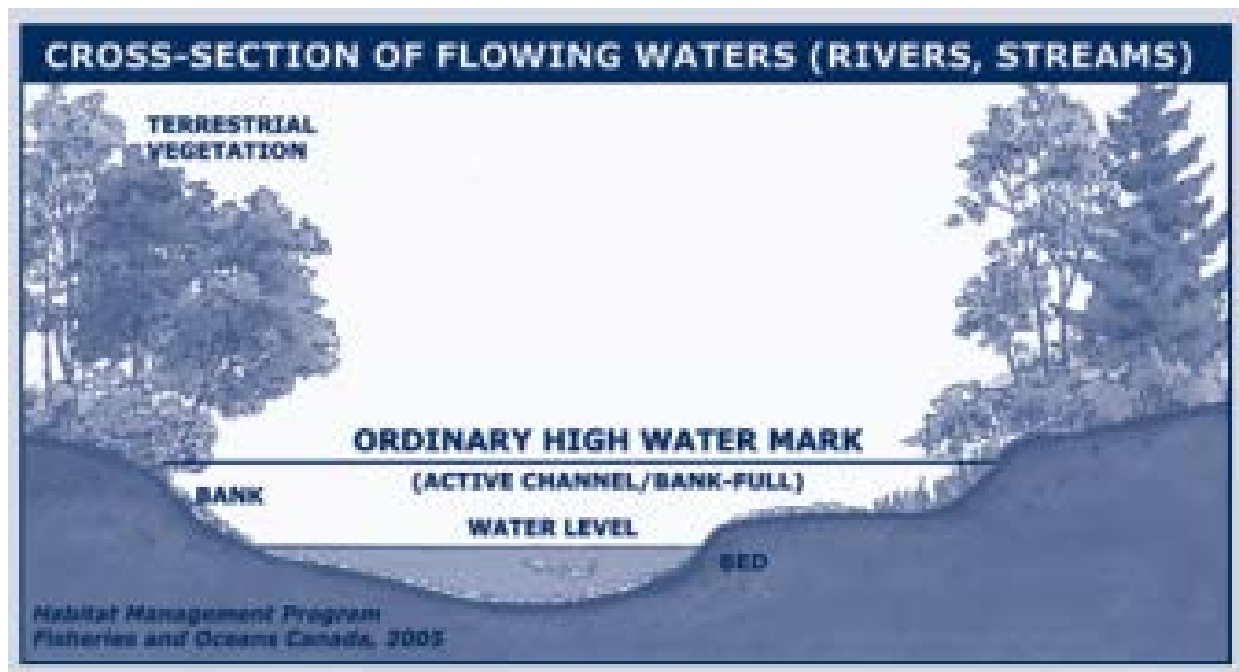


Photo credit: Habitat Management Program

A formal ecological survey can determine the exact location of the OHWM in the riverine areas of the City. A similar survey was recently conducted by the City of Aspen at a cost of approximately \$50,000. Drone technology is sometimes used to help determine the boundary. A simple means of determining the OHWM could be a site visit by staff when if there is a question as to whether a development proposal is impacting the riparian zone.



### Staff Riparian Setback Standard

Staff provides the language in *italics* below for consideration to replace the current standard in Section 070.040.020(d)(24) of the Code:

#### **070.040.020(d) Development in Waterways and Areas of Special Flood Hazard**

##### **(24) Conservation of Waterways**

*It is the purpose of this Subsection 070.040.020(d)(24) to conserve and promote the health of the City's riparian ecosystems and water quality by maintaining a functional natural buffer adjacent to waterways.*

##### **a. Applicability**

*All new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfill shall be subject to the requirements of 070.040.020(d)(24)b Standards unless the applicant demonstrates to the City Engineer and the Director by clear and convincing evidence that one or more of the following conditions is met:*

- 1. The removal of native vegetation, not to exceed 10 percent of the setback area defined below, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within said area.*
- 2. The construction of bridges, public utilities, public paths for non-motorized use, public open space areas, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices that do not result in water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.*
- 3. Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations. Vegetation shall be replaced with appropriate riparian plant species to limit erosion.*
- 4. Applicant demonstrates the area does not contain significant riparian plant species or functions or is impacted by previous earth disturbing activities and proposed activity improves water quality, limits erosion, and promotes riparian or wetland restoration.*

##### **b. Standards**

- 1. No improvement, building, structure, excavation, grading, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within fifty feet of the ordinary high-water mark, measured horizontally, of any river or live perennial stream.*
- 2. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted with said fifty-foot setback area.*

Differences in the standards recommended by the RC and staff are mostly related to formatting. However, staff does propose additional exception language, as outlined subsections 2 and 4 above, related to public utilities and areas previously disturbed.

## Considerations

A major change in the proposed language from that which is codified today is that it limits the activities permitted in the setback area such as the clearing/removal of native vegetation (excluding invasive species) and the use of chemical treatments such as fertilizers. This may be the most difficult aspect of the regulation for in terms of enforcement by the City and would require some public outreach and education to implement. The letter and supporting information from the RC's February 2018 letter outlines the environmental and economic benefits of increase riparian protections. It also includes support for the proposal from the Roaring Fork Conservancy, the Ferdinand Hayden Chapter of Trout Unlimited, and American Rivers. The information provided by the River Commission also points out that the City is falling behind neighboring communities in terms of riparian protections as outlined in the table below.

| REGION             | SETBACK                   | DETAILS                                                                                                                                                                                                                                           |
|--------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| City of Aspen      | 100ft/100 year floodplain | Development is "subject to heightened review." (Ord. 26.435.040)                                                                                                                                                                                  |
| Town of Basalt     | 50ft                      | Prohibits development and cutting of riparian and wetland vegetation. (Ord. 16-464a)                                                                                                                                                              |
| Town of Carbondale | Unspecific                | If new development is proposed adjacent to any river, all practical means should be used to preserve natural grade, drainage patterns, soil and vegetation. (Ord. 4-2007)                                                                         |
| Eagle County       | 75ft/100 year floodplain  | No development within 75ft of high water mark or 100 year floodplain (whichever is greater).                                                                                                                                                      |
| Garfield County    | 35ft                      | Prohibits removal of any existing native vegetation or conducting any activity which will cause any loss of riparian area unless it involves the approved removal of noxious weeds, nonnative species, or dead or diseased trees.                 |
| Pitkin County      | 100ft/100 year floodplain | 100 foot buffer for all activity and development. Setback may be reduced to a minimum of 50 feet if reduction does not result in water quality degradation, stream bank erosion and/or a reduction in the quality of riparian or wetland habitat. |

During the April 2018 and October 2018 work sessions, there was a general concern expressed that such a riparian setback could impact development on both residential and commercial vacant lots or land where additional development might occur. Other Council and work session attendee considerations/concerns are outlined below.

- Interested in the proposal but unsure the appropriate setback distance.
- May need to raft/float the rivers to better understand the concepts.
- Need to recognize existing encroachments and use of riparian areas.
- Need to evaluate the impact to each lot.
- Avoid eliminating the ability to develop riverfront properties.
- Consider urban nature of the city and potential impacts to property values.
- Other current applicable regulatory standards yard setback, fire clearances, hillside protection, geologic hazards and floodplain regulations.
- Future redevelopment of properties may be difficult.
- Should guarantee amount of development on each property.
- Standards exist in all surrounding communities that exceed the City's.

- Explanation of the importance of riparian ecosystems was provided.
- Outlined the value of healthy rivers to our local economy.

The impact of the proposed regulation on the development and/or redevelopment of City owned properties such as the Confluence Area, the former Raymond Property, or Two Rivers Park is another consideration. Staff has created a few maps (attached), which depict the approximate limits of a 50-foot riparian setback on various properties within the City. The maps are simply an estimate of the area subject to the proposed setback and are not survey accurate.

### Other Options

The Commission and City Council can also consider options in lieu of a specific regulation and/or to implement alongside a regulation to encourage/incentivize the conservation of existing riparian areas and/or the restoration of already disturbed riparian zones. A list of potential options is outlined below. Additionally, examples of incentive programs are attached.

- Grant program/annual funding for property owners to offset the purchase cost and/or installation of appropriate riparian plant species and other restoration projects.
- Education courses for homeowners and/or professional landscaping companies regarding the importance of healthy riparian ecosystems.
- Increased development thresholds/density bonuses for projects which conserve/do not disturb riparian areas.
- Example projects on City owned land similar to Veltus Park and former Raymond property.
- Sponsored riparian educational lunch series.

### **Code Amendment Approval Criteria**

Section 070.060.040(c)(3)d.3 of the Code outlines the approval criteria for revision thereto. Each of the criteria are listed in **bold** below along with comments from staff.

#### **i. Is consistent with the Comprehensive Plan and other City policies;**

As shown at right in blue hatching, the *Future Land Use* maps of the *Glenwood Springs Comprehensive Plan* (Comp Plan) depict the City's rivers as Riverside Protection. According to the Comp Plan, the Riverside Protection designation states: "*Land and habitat along the Colorado and Roaring Fork rivers should be protected.*" The current proposal is in compliance with the map designation and description.

"Preserve natural resources" is a community goal outlined in the Executive Summary and subsequent chapters of the Comp Plan. Specific objectives and strategies related to the goal are outlined in the table below.





| Comprehensive Plan Goal            | Objective and Strategy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>-Preserve natural resources</p> | <p>-Promote water conservation (Chapter 7, Page 84)<br/>         - Plan for the city-owned land adjacent to the river trail (Chapter 8, Page 91)<br/>         -Enhance and promote world-class fishing (Chapter 8, Page 91)<br/>         -Continue leadership in protecting the natural setting (Chapter 9, Page 98)<br/>         -Preserve and enhance the river corridor environment (Chapter 9, Page 100)<br/>         - Support efforts in protect the Roaring Fork River and Colorado River systems (Chapter 9, Page 100)<br/>         - Minimize human/wildlife conflicts (Chapter 9, Page 102)</p> |

**ii. Does not conflict with other provisions of this Code or other provisions in the Glenwood Springs Municipal Code;**

It does not appear the proposal conflicts with other provisions of the Code.

**iii. Is necessary to address a demonstrated community need;**

As outlined above, the City lags behind neighboring communities in the protection of water resources. Protection of riparian areas is essential to improved water quality as it limits the amount of nutrients and chemicals entering our rivers and streams via stormwater runoff.

**iv. Is necessary to respond to substantial changes in conditions and/or policy; and**

Adoption of the proposed standards would help in the City's future compliance with EPA Municipal Separate Storm Sewer System (MS4) permit requirements anticipated if/when our population exceeding 10,000 with the forthcoming 2020 census.

Some form of amendment to the Code regarding riparian standards is necessary to ensure protection thereof, whether a revision or re-adoption of the former "high water mark" definition.

**v. Is consistent with the general purpose and intent of this Code.**

The proposal appears to be consistent with the general purpose and intent of the Code. More specifically, integrated development, regulating the development of land upon impacts, and guarding against natural hazards are supported aspects.

**Reviewing Agency Comments**

No comments related to the proposed were received.

### Adjacent Property Owner Comments

No comments from adjacent property owners have been received to date.

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### ACTION ALTERNATIVES AND STAFF RECOMMENDATION:

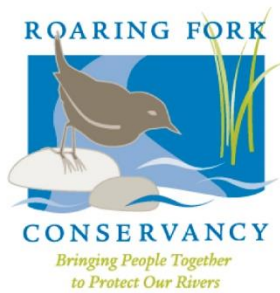
Section 070.060.040(c)(3)d.1 of the Code explains, “*The Planning Commission shall review the Code amendment application and recommend approval, approval with conditions, or denial of the amendment in accordance with 070.060.030(g) and the approval criteria in paragraph 3 below* [addressed by staff above]. The Planning Commission may also continue the hearing.

**Action 1 – Code Amendment** – to revise the riparian setback standards of Section 070.040.020(d)(24) of the *Glenwood Springs Municipal Code*.

**Staff recommendation:** Staff recommends **approval** of the Code Amendment with the **findings** below:

#### **Recommended Findings:**

1. The proposed amendment is consistent with the Comprehensive Plan and other City policies;
2. The proposed amendment does not conflict with other provisions of this Code or other provisions in the Glenwood Springs Municipal Code;
3. The proposed amendment is necessary to address a demonstrated community need;
4. The proposed amendment is necessary to respond to substantial changes in conditions and/or policy; and
5. The proposed amendment is consistent with the general purpose and intent of this Code.



July 19, 2019

City of Glenwood Springs  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
Attn: Trent Hyatt, Senior Planner/River Commission Staff Liaison

BOARD OF DIRECTORS

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Chad Rudow  
*Water Quality Program  
Manager*  
Sheryl Sabandal  
*Development Manager*  
Elliott Audette  
*Business Manager*

RE: Recommended city code revision for riparian setbacks

Honorable Mayor, City Council, and Planning and Zoning Commission,

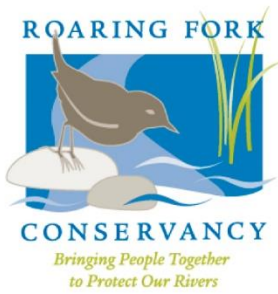
Roaring Fork Conservancy (RFC) wishes to express support for the proposed City of Glenwood Springs riparian setback code revisions. RFC appreciates Glenwood Springs' investment in the continued protection of its water resources and strongly supports the implementation of regulations to preserve this invaluable natural and community asset.

RFC staff currently serves as a technical advisor for the Glenwood Springs River Commission, providing input, resources, and guidance on this and other projects. The collaborative effort between City staff, River Commission, and RFC has resulted in a well vetted code proposal which will conserve and promote the health of the City's riparian ecosystems and water quality into the future.

As a 501(c)(3) not-for-profit organization, RFC emphasizes the use of sound, defensible science to guide decisions regarding the health of local streams and rivers. Current research indicates that healthy wetlands and riparian areas are essential to healthy rivers. The natural functions of healthy riparian areas include:

- Dissipation of stream energy, which mitigates flooding, and reduces erosion and therefore mitigates property damage;
- Water storage during high flows, which return to the stream during late season low flows;
- Multi-storied habitat for wildlife and aquatic life;
- Integral wildlife migration routes;
- Rich and diverse food sources for wildlife and aquatic life;
- Increased shading which serves to lower river temperatures and slow evaporation;
- Buffer zones between the river and uplands, which mitigate sedimentation and erosion; and
- Natural bio-filters, which protect water quality by filtering pollutants.





Riparian buffers provide essential wildlife habitat protection. The Colorado Department of Parks and Wildlife recommends a 300ft setback from rivers and waterways.<sup>1</sup> Additionally, studies show that as riparian buffer size increases, protections from potential physical and chemical damages including sedimentation, erosion, and runoff contaminants increase as well. “It appears that a 100ft buffer is sufficiently wide to trap sediments under most circumstances... An absolute minimum width would be 30ft. To reduce nitrate concentrations, buffers of 50ft are usually sufficient.”<sup>2</sup> Importantly, when considering code changes such as the ones proposed here, water resource protection is far more cost effective and efficient than subsequent restoration often required when unanticipated events strike areas left vulnerable.

RFC worked diligently with the River Commission and City Staff to develop setbacks appropriate for the City, applying the best available science to the specific attributes of local waterways and unique community character. Based on these careful considerations, RFC recommends adoption of a 50ft riparian setback, as supported by the River Commission to ensure conservation of valuable waterways and irreplaceable wildlife for the present and future benefit of the City, its residents, and visitors. Similarly, in 2013, RFC served as a technical advisor to the Garfield County Board of County Commissioners and recommended adoption of 50ft riparian setback protections county-wide.

For your reference, Table 1 contains riparian protections retained in other Roaring Fork Watershed city and county land use codes. These adaptations are not intended to dictate the policy of the City, however awareness and consistency of policies adapted by others with similar resources could prove useful in the decision making process. Please note that all the setbacks in the table below include protections for riparian vegetation and the ability to make allowances for unique circumstances.

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<sup>1</sup> Colorado Division of Wildlife, 2010. Actions to Minimize Adverse Impacts to Wildlife Resources, p.3

<sup>2</sup> Wegner, S., 1999. A review of the scientific literature of riparian buffer width, extent and vegetation, <http://researchweb8.wpengine.com/rivercenter/wp-content/uploads/sites/17/2015/03/A-Review-of-the-Literature-on-Riparian-Buffer-Width-Extent-and-Vegetation.pdf>

**Table 1**

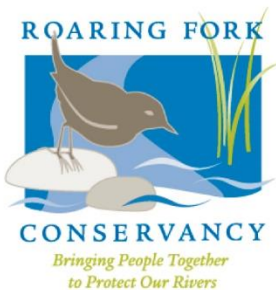
| REGION             | SETBACK                   | DETAILS                                                                                                                                                                                                                                           |
|--------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| City of Aspen      | 100ft/100 year floodplain | Development is "subject to heightened review." (Ord. 26.435.040)                                                                                                                                                                                  |
| Town of Basalt     | 50ft                      | Prohibits development and cutting of riparian and wetland vegetation. (Ord. 16-464a)                                                                                                                                                              |
| Town of Carbondale | Unspecific                | If new development is proposed adjacent to any river, all practical means should be used to preserve natural grade, drainage patterns, soil and vegetation. (Ord. 4-2007)                                                                         |
| Eagle County       | 75ft/100 year floodplain  | No development within 75ft of high water mark or 100 year floodplain (whichever is greater). <sup>1</sup>                                                                                                                                         |
| Garfield County    | 35ft                      | Prohibits removal of any existing native vegetation or conducting any activity which will cause any loss of riparian area unless it involves the approved removal of noxious weeds, nonnative species, or dead or diseased trees.                 |
| Pitkin County      | 100ft/100 year floodplain | 100 foot buffer for all activity and development. Setback may be reduced to a minimum of 50 feet if reduction does not result in water quality degradation, stream bank erosion and/or a reduction in the quality of riparian or wetland habitat. |

Implementation of riparian protections also hold significant economic value. Healthy riparian areas:

- Reduce the cost of drinking water treatment by filtering sediment and other pollutants. The City of Glenwood Springs currently has a secondary drinking water intake on the Roaring Fork River near Veltus Park.
- Prevent property damage by protecting against erosion and flooding. Erosive effects are nearly 5 times more likely on non-vegetated stream banks, and up to 30 times more likely on non-vegetated stream bends.<sup>3</sup>
- Increase property values by improving aesthetics. "Several studies have shown that people will pay a premium to live or work near greenways or other protected areas, and this allows the developer to recoup at least some of the costs of not developing up to the stream bank."<sup>4</sup>
- Support the local fishing economy by maintaining high water quality for the Roaring Fork River's Gold Medal fishery.
- Support local river recreation (i.e. rafting, kayaking, stand-up paddle boarding) economy by providing scenic areas and wildlife viewing opportunities along rivers.

<sup>3</sup> Chagrin Watershed Partners, Inc. 2006, Riparian Setbacks: Technical Information for Decision Makers. [www.crwp.org/files/riparian\\_setback\\_paper\\_jan\\_2006.pdf](http://www.crwp.org/files/riparian_setback_paper_jan_2006.pdf)

<sup>4</sup> Chagrin Watershed Partners, Inc. 2006, Riparian Setbacks: Technical Information for Decision Makers. [www.crwp.org/files/riparian\\_setback\\_paper\\_jan\\_2006.pdf](http://www.crwp.org/files/riparian_setback_paper_jan_2006.pdf)



- Enhance aesthetics in a tourist economy that is defined by its relationship to water. The Glenwood Springs Chamber of Commerce currently markets Glenwood Springs as “The Land of Water,” a tourist destination based primarily on its water resources.

The adoption of the proposed code will help ensure the prosperity of human and natural communities in Glenwood Springs. Current research indicates “that the influence of riparian corridors on water quality is proportionately much greater than the relatively small area in the landscape they occupy.”<sup>5</sup> Roaring Fork Conservancy strongly urges the Glenwood Springs Planning and Zoning Commission and City Council adopt the proposed riparian setback code revisions.

Thank you for your time and consideration.

Sincerely

Rick Lofaro  
Executive Director

Chad Rudow  
Water Quality Coordinator

*Roaring Fork Conservancy has inspired people to explore, value, and protect the Roaring Fork Watershed since 1996. We bring people together to protect our rivers and work to keep water in the streams, monitor water quality, and preserve riparian habitat. As one of the largest watershed organizations in Colorado, Roaring Fork Conservancy serves residents and visitors throughout the Roaring Fork Valley through school and community-based Watershed Education programs and Watershed Action projects, including regional watershed planning, water resource*

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<sup>5</sup> Chagrin Watershed Partners, Inc. 2006, Riparian Setbacks: Technical Information for Decision Makers. [www.crwp.org/files/riparian\\_setback\\_paper\\_jan\\_2006.pdf](http://www.crwp.org/files/riparian_setback_paper_jan_2006.pdf)





**City Council**  
**STAFF REPORT**  
**City of Glenwood Springs**  
**October 4, 2018**  
(date)

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Agenda Item:</b>      | Work Session with the River Commission and Planning and Zoning Commission Regarding Riparian Setbacks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Action Requested:</b> | No action is being requested at this time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Presented By:</b>     | Trent L. Hyatt, Senior Planner/River Commission Staff Liaison, Community Development Department                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Background Info:</b>  | <p>On February 7<sup>th</sup>, 2018, the River Commission voted unanimously to recommend to City Council (as outlined in the attached letter) the adoption of a 50-foot riparian setback alongside the re-drafting of the land development code which was ongoing at that time. During a City Council work session regarding progress on the re-draft with the Planning and Zoning Commission on April 26, many in attendance expressed concerns that an increased riparian setback may potentially negatively impact development and/or the redevelopment of various properties. City Council ultimately decided to not include the recommended 50-foot riparian setback in the code re-draft and to instead discuss the matter further in conjunction with the River Commission. A date for the work session was set for October. Concerns raised by those in attendance on April 26 are addressed below.</p> <p>Per Section 070.040.020(d)(24) of the Municipal Code (Code), Development in Waterways and Areas of Special Flood Hazard, the City requires a 30-foot riparian setback:</p> <p>“No improvement, building, structure, excavation, dumping or backfill shall be placed, built, undertaken or approved within a 30-foot setback area horizontally from the high water mark of any river or live stream, except for bridges, paths for non-motorized use, irrigation structures or flood control and erosion protection devices.”</p> <p>The River Commission is requesting to replace the current riparian setback standard with the language (outlined below), which increases the setback by 20 feet for a total of 50 feet.</p> <p>Conservation of Waterways<br/>a. Purpose</p> |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>The purpose of this Subsection 070.040.020(d)(24) is to conserve and promote the health of the City's riparian ecosystems and water quality by maintaining a functional natural buffer adjacent to waterways.</p> <ul style="list-style-type: none"> <li>i. No improvement, building, structure, excavation, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within a fifty foot setback area horizontally from the ordinary high water mark of any river or live perennial stream.</li> <li>ii. Within the fifty foot setback, no live vegetation may be removed except for species listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm when replaced with appropriate plant species. The Director has discretion to permit the removal of native vegetation, not to exceed 10 percent of the area of the setback, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within the setback area. The Director may also reduce the setback for bridges, public paths for non-motorized use, public open space areas, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices, or upon demonstration by the applicant that such reduction shall not result in water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.</li> <li>iii. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within the fifty foot setback area except for the removal of above listed noxious weeds in compliance with applicable regulations.</li> </ul> <p>The proposed language explains the intent of the regulation which also limits the activities permitted in the setback such as the clearing/removal of native vegetation (excluding invasive species) and the use of chemical treatments such as fertilizers. This may be the most difficult aspect of the regulation for in terms of enforcement by the City and would require some public outreach and education to implement.</p> <p>The letter and supporting information from the River Commission's February 2018 letter outlines the environmental and economic benefits of increase riparian protections. It also includes support for the proposal from the Roaring Fork Conservancy, the Ferdinand Hayden Chapter of Trout Unlimited, and American Rivers. The information provided by the River Commission also points out that the City is falling behind neighboring communities in terms of riparian protections as outlined in the table below.</p> <p>During the discussion in April, there was a general concern expressed that such a riparian setback could impact development on both residential and commercial vacant land or land where additional development might occur.</p> <p>For example, one question/concern raised at the work session was whether or not the improvements at Iron Mountain Hot Springs completed in 2015 would have been possible under such a regulation as proposed. Related to this, the City has received a request for an encroachment into the existing 30-foot riparian setback for the addition of new soaking pools and as other shoreline</p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

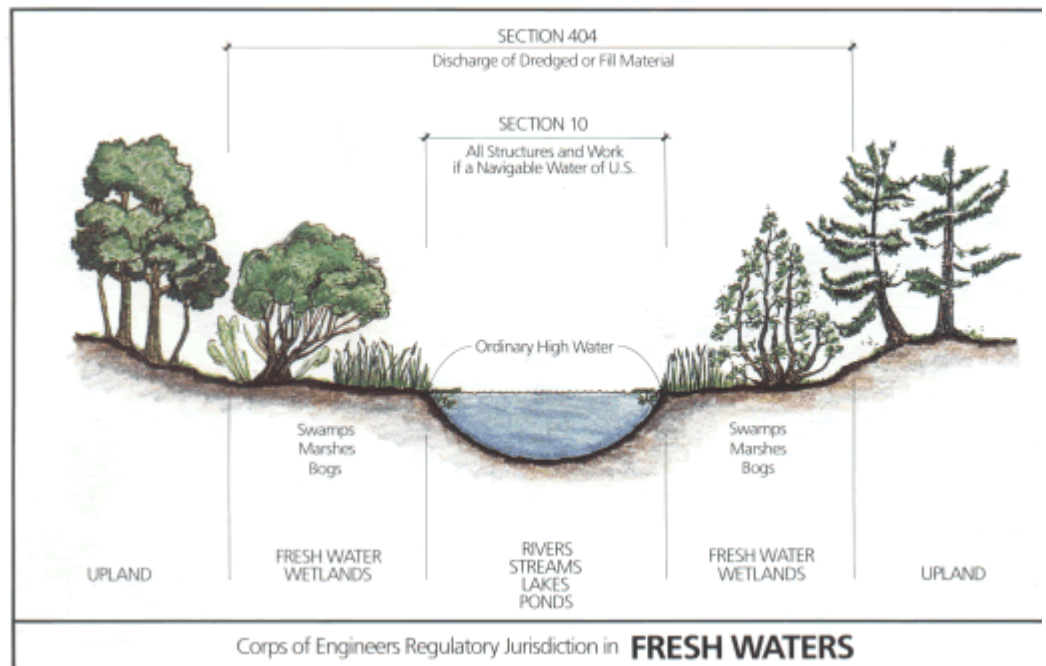
improvements more recently proposed by the property owner. This is for informational purposes only and should not be discussed in detail at the work session since it is an active planning application.

Another area of concern that was brought up during the discussion was related to river frontage lots along Midland Avenue, which is classified as an arterial roadway. Under the new development code, a 30-foot front yard setback is required for the majority of lots between 13th Street and the 27<sup>th</sup> Street bridge. This, combined with the required 30-foot riparian setback as well as other development constraints such as hillside/steep slope, geologic hazards and floodplain regulations may impact the development or redevelopment of roughly 26 riverfront properties. A significant investment was made by the owners in the purchase of these properties with likely intentions of building close to and enjoying the river.

The impact of the proposed regulation on the development and/or redevelopment of City owned properties such as the Confluence Area, the former Raymond Property, or Two Rivers Park is another consideration. Staff has created a few maps (attached), which depict the approximate limits of a 50-foot riparian setback on various properties within the City. The maps are simply an estimate of the area subject to the proposed setback and are not survey accurate.

Another important aspect of the proposed regulation is the feature by which to measure the setback, the “ordinary high water mark” (OHWM) as opposed to the “high water mark” as outlined in the current Code. A simple definition of the OHWM is the mark typically reached on an annual basis with a channel. As an a comparison, the highest mean daily discharge rate for the Roaring Fork River since 1906 is 19,800 cubic feet per second (cfs) which is significantly higher than the average ordinary high water discharge of 4,100 cfs per USGS since 1971. How exactly would the City define the OHWM? Generally, the OHWM is the lowland area of any stream or river that is regulated by the US Army Corp of Engineers, in addition to wetland areas. The diagram below provides a visual representation of the OHWM. Many differing definitions of the OHWM exist based on ecological zone, stream type, flow rates/intervals, etc.





Additionally, the City would need to address how the setback impacts smaller stream segments in the City such as Three Mile Creek or Mitchell Creek. Most of these tributaries are already developed and perhaps a reduced setback should be considered for these streams.

In an effort to allow for the enjoyment of a riverfront property by its owners, an exception for the disturbance of up to 10 percent of the setback area is identified. Additionally, bridges, public paths for non-motorized use, public open space areas, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices are necessary and/or required to occur within riparian areas and are identified as exceptions.

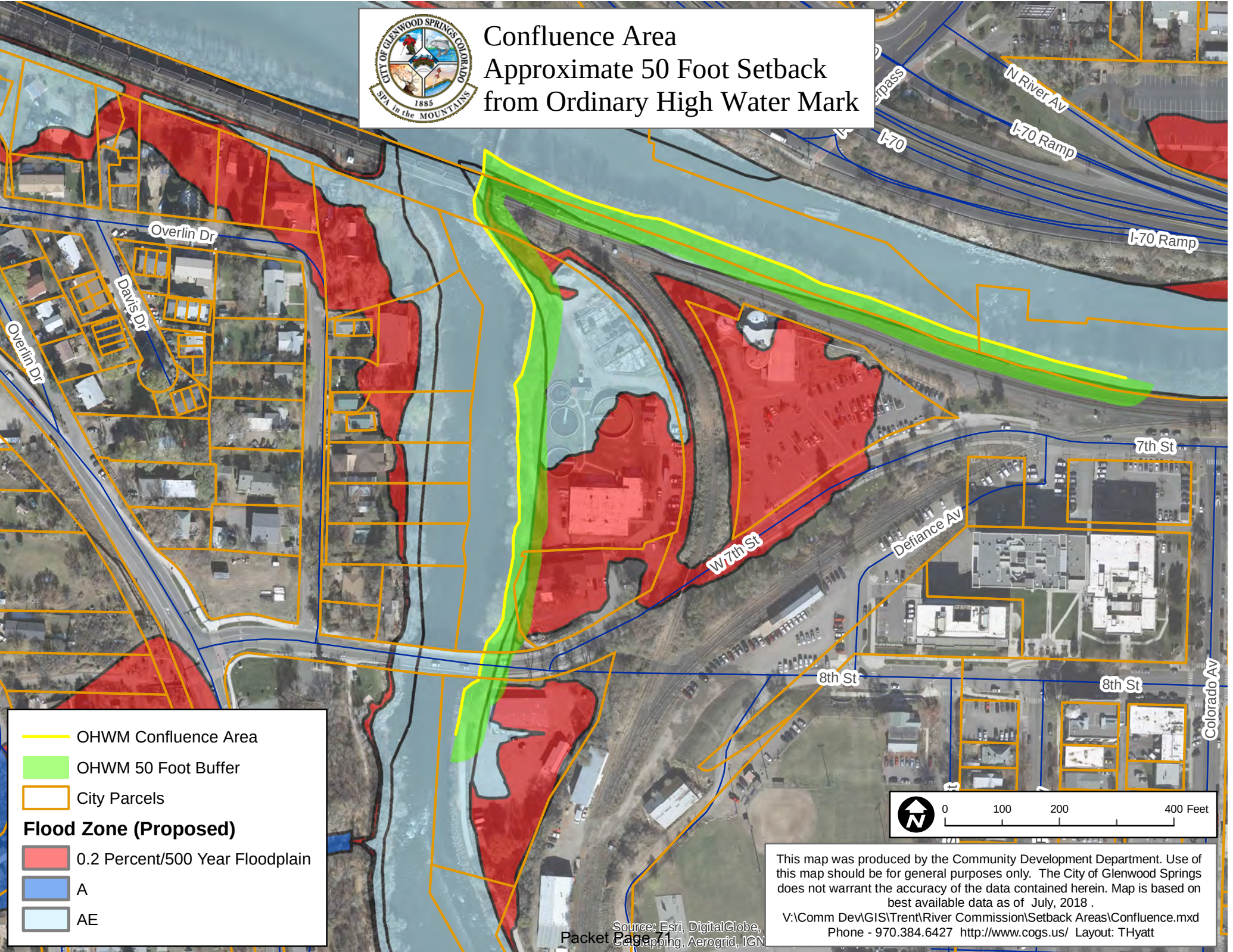
The letter and supporting information from the River Commission's February 2018 letter outlines the environmental and economic benefits of increase riparian protections. It also includes support for the proposal from the Roaring Fork Conservancy, the Ferdinand Hayden Chapter of Trout Unlimited, and American Rivers. The information provided by the River Commission also stresses that the City is falling behind neighboring communities in terms of riparian protections as outlined in the table below.

|                              | REGION   SETBACK   DETAILS                                                                                                                          |                           |                                                                                                                                                                                                                                                   |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | City of Aspen                                                                                                                                       | 100ft/100 year floodplain | Development is "subject to heightened review." (Ord. 26,435,040)                                                                                                                                                                                  |
|                              | Town of Basalt                                                                                                                                      | 50ft                      | Prohibits development and cutting of riparian and wetland vegetation. (Ord. 16-464a)                                                                                                                                                              |
|                              | Town of Carbondale                                                                                                                                  | Unspecific                | If new development is proposed adjacent to any river, all practical means should be used to preserve natural grade, drainage patterns, soil and vegetation. (Ord. 4-2007)                                                                         |
|                              | Eagle County                                                                                                                                        | 75ft/100 year floodplain  | No development within 75ft of high water mark or 100 year floodplain (whichever is greater).                                                                                                                                                      |
|                              | Garfield County                                                                                                                                     | 35ft                      | Prohibits removal of any existing native vegetation or conducting any activity which will cause any loss of riparian area unless it involves the approved removal of noxious weeds, nonnative species, or dead or diseased trees.                 |
|                              | Pitkin County                                                                                                                                       | 100ft/100 year floodplain | 100 foot buffer for all activity and development. Setback may be reduced to a minimum of 50 feet if reduction does not result in water quality degradation, stream bank erosion and/or a reduction in the quality of riparian or wetland habitat. |
| <b>Action Alternatives:</b>  | No action being requested at this time. City Council can provide direction to or request additional information from staff if determined necessary. |                           |                                                                                                                                                                                                                                                   |
| <b>Staff Recommendation:</b> | No recommendation from staff is necessary at this time.                                                                                             |                           |                                                                                                                                                                                                                                                   |





# Confluence Area Approximate 50 Foot Setback from Ordinary High Water Mark



OHWM Confluence Area

OHWM 50 Foot Buffer

City Parcels

## Flood Zone (Proposed)

0.2 Percent/500 Year Floodplain

A

AE

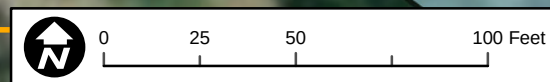
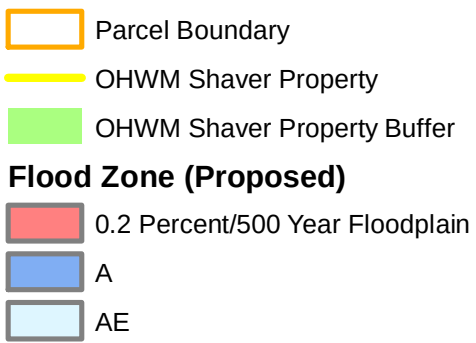


0 100 200 400 Feet

This map was produced by the Community Development Department. Use of this map should be for general purposes only. The City of Glenwood Springs does not warrant the accuracy of the data contained herein. Map is based on best available data as of July, 2018.

V:\Comm Dev\GIS\Trent\River Commission\Setback Areas\Confluence.mxd  
Phone - 970.384.6427 <http://www.cogs.us/> Layout: THyatt



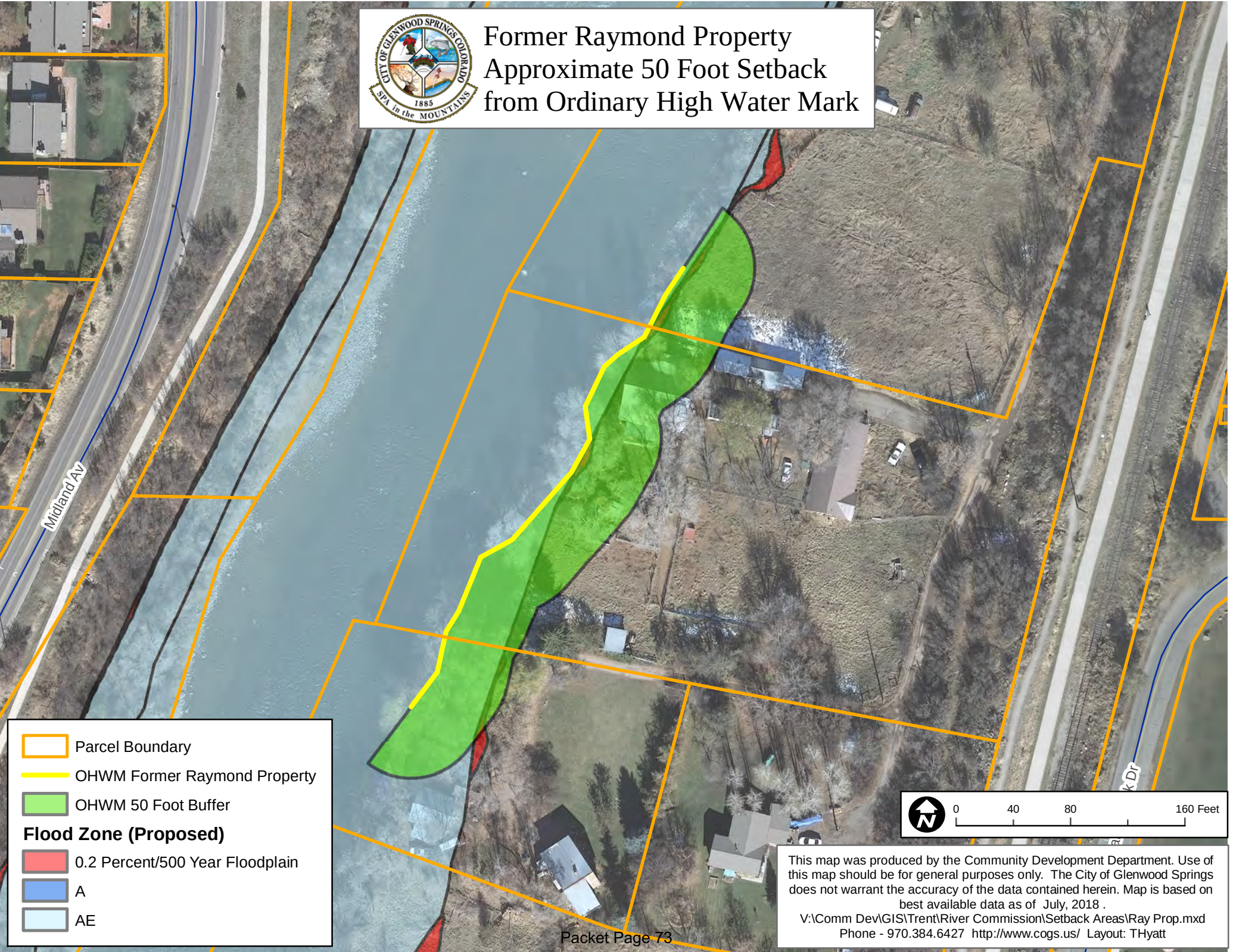


This map was produced by the Community Development Department. Use of this map should be for general purposes only. The City of Glenwood Springs does not warrant the accuracy of the data contained herein. Map is based on best available data as of September, 2018 .  
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Phone - 970.384.6427 <http://www.cogs.us/> Layout: THyatt

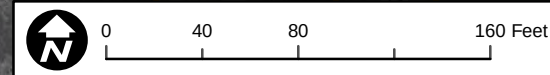




# Former Raymond Property Approximate 50 Foot Setback from Ordinary High Water Mark



- Parcel Boundary
  - OHWM Former Raymond Property
  - OHWM 50 Foot Buffer
- Flood Zone (Proposed)**
- 0.2 Percent/500 Year Floodplain
  - A
  - AE

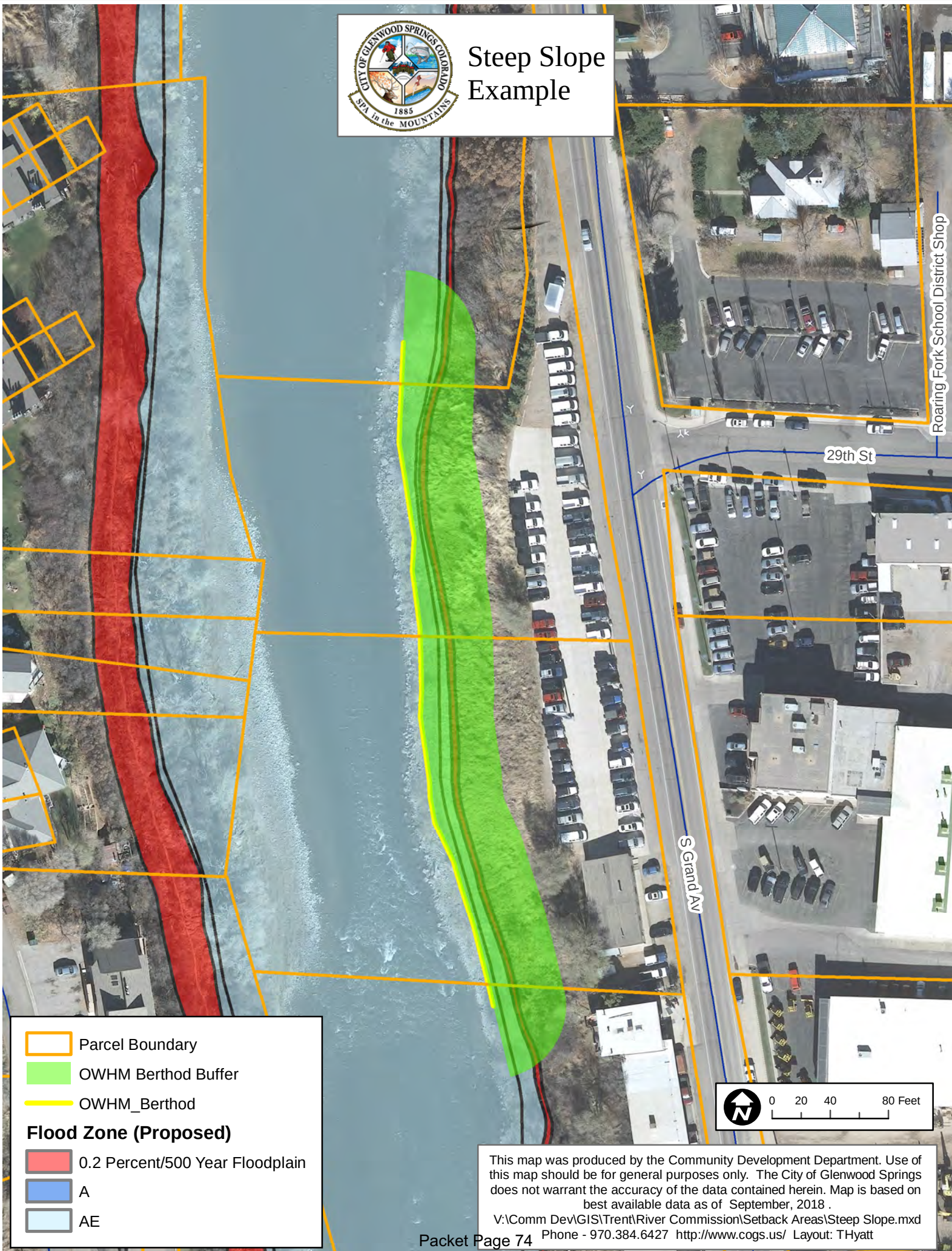


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Phone - 970.384.6427 <http://www.cogs.us/> Layout: THyatt





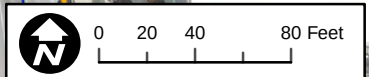
## Steep Slope Example



- Parcel Boundary
- OWHM Berthod Buffer
- OWHM\_Berthod

### Flood Zone (Proposed)

- 0.2 Percent/500 Year Floodplain
- A
- AE



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V:\Comm Dev\GIS\Trent\River Commission\Setback Areas\Steep Slope.mxd



February 28, 2018

Mayor Gamba and City Council  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
Attn: Trent L. Hyatt, Senior Planner/River Commission Staff Liaison



RE: Recommended city code revision for riparian setbacks

Honorable Mayor and City Council,

At our February 7<sup>th</sup>, 2018 meeting, the River Commission **voted unanimously** to recommend City Council adopt a 50 foot riparian setback for incorporation into the re-draft of the land development code. The recommended language is attached for your review.

As you know, the streams that flow through our beautiful City significantly benefit our regional economy by supporting countless jobs and these areas provide immeasurable positive social impacts for our citizens and visitors alike. Each year, the River Commission, Roaring Fork Conservancy, and rafting/fishing guides have observed new and continuous disturbances within the riparian zones adjacent to both the Roaring Fork and Colorado Rivers within the City (pictures attached). While the City has a 30 foot setback from ordinary high water mark requirement for structures and fill, this regulation does not limit the removal of riparian plant species which are vital to the ecosystem.

The River Commission has been discussing this topic for a couple years now and provide this recommendation after thorough review of industry best practices as well as regulations from numerous other neighboring municipalities and counties. We feel the recommended setback strikes a balance between the space/ area required for riparian zones to function efficiently while still providing private owners a means to enjoy their investment in riverfront property.

We respectfully request that you incorporate the new setback into the re-draft of the development code currently under consideration. Also, attached is a letter in support of the setback from Roaring Fork Conservancy. Please let us know if you would like additional information or a work session to discuss the matter further.

Regards,

Brendon Langenhuizen, Chairman  
Glenwood Springs River Commission



**February 7, 2018**

**River Commission**

**Recommendation for Adoption by City Council**

070.040.020(d)(25) Conservation of Waterways

a. Purpose

The purpose of this Subsection 070.040.020(d)(25) is to conserve and promote the health of the City's riparian ecosystems and water quality by maintaining a functional natural buffer adjacent to waterways.

i. No improvement, building, structure, excavation, dumping, clearing of native vegetation, or backfill shall be placed, built, undertaken or approved within a fifty foot setback area horizontally from the ordinary high water mark of any river or live perennial stream.

ii. Within the fifty foot setback, no live vegetation may be removed except for species listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm when replaced with appropriate plant species. The Director has discretion to permit the removal of native vegetation, not to exceed 10 percent of the area of the setback, to allow a property owner private access to and personal enjoyment of the waterway. This shall not be interpreted to allow for permanent structures of any kind within the setback area. The Director may also reduce the setback for bridges, public paths for non-motorized use, public open space areas, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices, or upon demonstration by the applicant that such reduction shall not result in water quality degradation, stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.

iii. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within the fifty foot setback area except for the removal of above listed noxious weeds in compliance with applicable regulations.



**February 7, 2018**

**River Commission**

**Recommendation for Adoption by City Council**

070.040.020(d)(25) Conservation of Waterways

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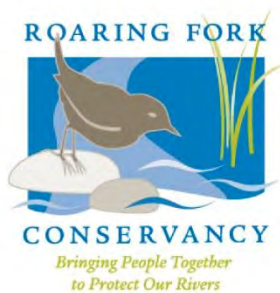


### **Existing Regulation for Reference**

070.030.030 - Suitability of Land for Development.

Land subject to natural hazards such as flooding, falling rock, landslides, mud flows or snowslides shall not be developed or approved for development until plans are submitted to the Director and approved by the City Engineer and the Planning Commission in order to prevent such conditions from endangering life, health or other property.

- (1) Development in waterways and areas of special flood hazard.
  - a. No improvement, building, structure, excavation, dumping or backfill shall be placed, built, undertaken or approved within a thirty-foot setback area horizontally from the high water mark of any river or live stream except for bridges, paths for non-motorized use, irrigation structures or flood control and erosion protection devices.



February 26, 2018

Glenwood Springs City Council  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
Attn: Trent Hyatt, Senior Planner/River Commission Staff Liaison

BOARD OF DIRECTORS

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RE: Recommended city code revision for riparian setbacks

Honorable Mayor and City Council,

Roaring Fork Conservancy (RFC) wishes to express support for the City of Glenwood Springs riparian setback code revisions proposed by the Glenwood Springs River Commission. RFC appreciates Glenwood Springs' investment in the continued protection of its water resources and strongly supports the implementation of regulations to preserve this invaluable natural and community asset.

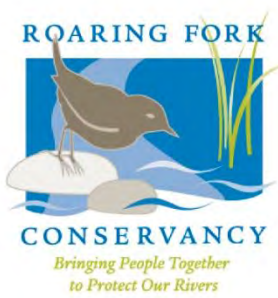
RFC staff currently serves as a technical advisor for the River Commission, providing input, resources, and guidance on this and other projects. The collaborative effort between City staff, River Commission, and RFC has resulted in a well vetted code proposal which will conserve and promote the health of the City's riparian ecosystems and water quality into the future.

PROGRAM STAFF

Rick Lofaro  
*Executive Director*  
Heather Lewin  
*Watershed Action Director*  
Christina Medved  
*Watershed Education Director*  
Liza Mitchell  
*Education & Outreach Coordinator*  
Kristen Doyle  
*Watershed Educator & Office Coordinator*  
Chad Rudow  
*Water Quality Coordinator*  
Sheryl Sabandal  
*Development Manager*  
Johnny Cronin  
*Director of Donor Relations*

As a 501(c)(3) not-for-profit organization, RFC emphasizes the use of sound, defensible science to guide decisions regarding the health of local streams and rivers. Current research indicates that healthy wetlands and riparian areas are essential to healthy rivers. The natural functions of healthy riparian areas include:

- Dissipation of stream energy, which mitigates flooding, and reduces erosion and therefore mitigates property damage;
- Water storage during high flows, which return to the stream during late season low flows;
- Multi-storied habitat for wildlife and aquatic life;
- Integral wildlife migration routes;
- Rich and diverse food sources for wildlife and aquatic life;
- Increased shading which serves to lower river temperatures and slow evaporation;
- Buffer zones between the river and uplands, which mitigate sedimentation and erosion; and
- Natural bio-filters, which protect water quality by filtering pollutants.



Riparian buffers provide essential wildlife habitat protection. The Colorado Department of Parks and Wildlife recommends a 300ft setback from rivers and waterways.<sup>1</sup> Additionally, studies show that as riparian buffer size increases, protections from potential physical and chemical damages including sedimentation, erosion, and runoff contaminants increase as well. “It appears that a 100ft buffer is sufficiently wide to trap sediments under most circumstances... An absolute minimum width would be 30ft. To reduce nitrate concentrations, buffers of 50ft are usually sufficient.”<sup>2</sup> Importantly, when considering code changes such as the ones proposed here, water resource protection is far more cost effective and efficient than subsequent restoration often required when unanticipated events strike areas left vulnerable.

RFC worked diligently with the River Commission to develop setbacks appropriate for the City, applying the best available science to the specific attributes of local waterways and unique community character. Based on these careful considerations, RFC recommends adoption of a 50ft riparian setback, as supported by the River Commission to ensure conservation of valuable waterways and irreplaceable wildlife for the present and future benefit of the City, its residents, and visitors. Similarly, in 2013, RFC served as a technical advisor to the Garfield County Board of County Commissioners and recommended adoption of 50ft riparian setback protections county-wide.

For your reference, Table 1 contains riparian protections retained in other Roaring Fork Watershed city and county land use codes. These adaptations are not intended to dictate the policy of the City, however awareness and consistency of policies adapted by others with similar resources could prove useful in the decision making process. Please note that all the setbacks in the table below include protections for riparian vegetation and the ability to make allowances for unique circumstances.

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<sup>1</sup> Colorado Division of Wildlife, 2010. Actions to Minimize Adverse Impacts to Wildlife Resources, p.3

<sup>2</sup> Wegner, S., 1999. A review of the scientific literature of riparian buffer width, extent and vegetation, <http://researchweb8.wpengine.com/rivercenter/wp-content/uploads/sites/17/2015/03/A-Review-of-the-Literature-on-Riparian-Buffer-Width-Extent-and-Vegetation.pdf>



**Table 1**

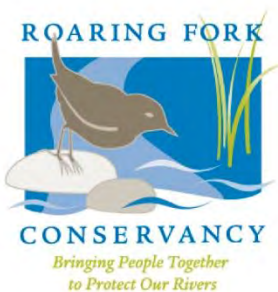
| REGION                    | SETBACK                   | DETAILS                                                                                                                                                                                                                                           |
|---------------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>City of Aspen</b>      | 100ft/100 year floodplain | Development is "subject to heightened review." (Ord. 26.435.040)                                                                                                                                                                                  |
| <b>Town of Basalt</b>     | 50ft                      | Prohibits development and cutting of riparian and wetland vegetation. (Ord. 16-464a)                                                                                                                                                              |
| <b>Town of Carbondale</b> | Unspecific                | If new development is proposed adjacent to any river, all practical means should be used to preserve natural grade, drainage patterns, soil and vegetation. (Ord. 4-2007)                                                                         |
| <b>Eagle County</b>       | 75ft/100 year floodplain  | No development within 75ft of high water mark or 100 year floodplain (whichever is greater). <sup>1</sup>                                                                                                                                         |
| <b>Garfield County</b>    | 35ft                      | Prohibits removal of any existing native vegetation or conducting any activity which will cause any loss of riparian area unless it involves the approved removal of noxious weeds, nonnative species, or dead or diseased trees.                 |
| <b>Pitkin County</b>      | 100ft/100 year floodplain | 100 foot buffer for all activity and development. Setback may be reduced to a minimum of 50 feet if reduction does not result in water quality degradation, stream bank erosion and/or a reduction in the quality of riparian or wetland habitat. |

Implementation of riparian protections also hold significant economic value. Healthy riparian areas:

- Reduce the cost of drinking water treatment by filtering sediment and other pollutants. The City of Glenwood Springs currently has a secondary drinking water intake on the Roaring Fork River near Veltus Park.
- Prevent property damage by protecting against erosion and flooding. Erosive effects are nearly 5 times more likely on non-vegetated stream banks, and up to 30 times more likely on non-vegetated stream bends.<sup>3</sup>
- Increase property values by improving aesthetics. "Several studies have shown that people will pay a premium to live or work near greenways or other protected areas, and this allows the developer to recoup at least some of the costs of not developing up to the stream bank."<sup>4</sup>
- Support the local fishing economy by maintaining high water quality for the Roaring Fork River's Gold Medal fishery.
- Support local river recreation (i.e. rafting, kayaking, stand-up paddle boarding) economy by providing scenic areas and wildlife viewing opportunities along rivers.

<sup>3</sup> Chagrin Watershed Partners, Inc. 2006, Riparian Setbacks: Technical Information for Decision Makers. [www.crwp.org/files/riparian\\_setback\\_paper\\_jan\\_2006.pdf](http://www.crwp.org/files/riparian_setback_paper_jan_2006.pdf)

<sup>4</sup> Chagrin Watershed Partners, Inc. 2006, Riparian Setbacks: Technical Information for Decision Makers. [www.crwp.org/files/riparian\\_setback\\_paper\\_jan\\_2006.pdf](http://www.crwp.org/files/riparian_setback_paper_jan_2006.pdf)



- Enhance aesthetics in a tourist economy that is defined by its relationship to water. The Glenwood Springs Chamber of Commerce currently markets Glenwood Springs as “The Land of Water,” a tourist destination based primarily on its water resources.

The adoption of the proposed code will help ensure the prosperity of human and natural communities in Glenwood Springs. Current research indicates “that the influence of riparian corridors on water quality is proportionately much greater than the relatively small area in the landscape they occupy.”<sup>5</sup> Roaring Fork Conservancy strongly urges the Glenwood Springs City Council adopt the Glenwood River Commission’s proposed riparian setback code revisions.

Thank you for your time and consideration.

Sincerely

Rick Lofaro  
Executive Director

Chad Rudow  
Water Quality Coordinator

*Roaring Fork Conservancy has inspired people to explore, value, and protect the Roaring Fork Watershed since 1996. We bring people together to protect our rivers and work to keep water in the streams, monitor water quality, and preserve riparian habitat. As one of the largest watershed organizations in Colorado, Roaring Fork Conservancy serves residents and visitors throughout the Roaring Fork Valley through school and community-based Watershed Education programs and Watershed Action projects, including regional watershed planning, water resource*

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<sup>5</sup> Chagrin Watershed Partners, Inc. 2006, Riparian Setbacks: Technical Information for Decision Makers. [www.crwp.org/files/riparian\\_setback\\_paper\\_jan\\_2006.pdf](http://www.crwp.org/files/riparian_setback_paper_jan_2006.pdf)

February 27, 2018

The City of Glenwood Springs City Council  
101 W 8<sup>th</sup> Street  
Glenwood Springs, CO 81601

Dear Council Members,

**RE: Development Code Revisions to 070.040.020(d)(25) Conservation of Waterways.**

The Ferdinand Hayden Chapter of Trout Unlimited is the local TU Chapter representing members from Aspen to Rifle. FHTU is one of the oldest TU Chapters, being the 8<sup>th</sup> chapter created nationwide in the 1960's.

We are writing to strongly support the proposed revisions to the City Code regarding stream setbacks and protection of the adjacent riparian areas. The riparian zone adjacent to any stream or river is an integral and vitally important part of the larger stream ecosystem. Ninety percent of the base food material for all of the aquatic life comes from the vegetation growing in the riparian zone. The existing riparian area along the Roaring Fork from Carbondale to Glenwood Springs is in sorry shape, due largely to overzealous development and removal of vegetation by landowners.

Both Glenwood Springs and the larger Roaring Fork Valley depend a great deal on the value and economic benefits that a healthy river ecosystem provide. This is a world class fishery, consistently named by magazines such as Outside and Sunset as one of the best places to be if you like to fish.

We think that this Code revision is a prudent and responsible step for the City to take in order to insure the continued health and vigor of the Roaring Fork River ecosystem through town. We strongly urge you to support and approve this code revision as well.

Sincerely,

*Jason Groves*

Jason Groves, President  
Ferdinand Hayden Chapter (008) of Trout Unlimited





February 27, 2018

City of Glenwood Springs City Council  
101 W 8<sup>th</sup> Street  
Glenwood Springs, CO 81601

Dear Council;

American Rivers is a national river conservation organization with offices across the country, including Glenwood Springs, Colorado. Our mission is to promote and work for a nation of clean, healthy rivers that sustain and connect us. American Rivers protects wild rivers, restores damaged rivers, and conserves clean water for people and nature.

We ask that you support and approve the proposed revisions to the City Development Code, **070.040.020(d)(25) Conservation of Waterways**. These revisions will greatly expand needed protections for the riparian zone along the Roaring Fork River and other streams in Glenwood Springs. These riparian areas are not just a strip of vegetation along the river bank, they are an integral part of the larger river ecosystem itself. Riparian areas and the vegetation they contain are absolutely critical to the overall health of ecosystem. They provide the organic food foundation for insects, which in turn support the world class fishery that draws both residents and tourists to Glenwood Springs. These same aquatic insects are also the major food source for many of the migratory and permanent bird species that we enjoy.

This code revision just makes good sense and is long overdue. Landowners adjacent to the river also need to learn more about the vital role of the riparian vegetation on their property for the health of the river that they enjoy.

Please do not hesitate to contact me if I can answer any questions or concerns you may have.

Thank you!

Ken Neubecker, Director  
American Rivers Upper Colorado Basin Program within Colorado  
24 S Meadow View Ct.  
Glenwood Springs, CO 81601  
(970) 230-9300  
Kneubecker@americanrivers.org

# Glenwood Springs Riparian Assessment

Prepared by:

Chad Rudow, Roaring Fork Conservancy (biologist)

Andrea Holland, Glenwood Springs River Commission (retired hydrologist)

Submitted: 2/26/2018

## Introduction

The City of Glenwood Springs (GWS) is essentially defined by the confluence of the Roaring Fork and Colorado Rivers. These two waterways provide significant recreation, aesthetic and economic benefits to the community. In addition the lower Roaring Fork is a sourcewater area, providing a backup drinking water supply for GWS. The riparian zone along these rivers is a key component that helps sustain water quality and quantity, as well as fish and wildlife habitat. As the city grows and development continues along these rivers, the potential for increasing impacts to both river and riparian health can be expected. The primary objective of this project is to assess the current condition of the riparian zone and consider ways to maintain or improve these critical components to watershed and river health.

## Background

In 2007, the Stream Health Initiative (SHI) conducted by Emerick and Malone, surveyed the riparian and instream habitat of the lower Roaring Fork River. It noted historic impacts from agriculture and more recent residential and commercial impacts and having significantly modified riparian areas throughout the segment when compared to pre-development conditions. Such impacts include “reduced riparian zone width, vegetation quality, and ecosystem function on the majority of reaches”<sup>1</sup>. However, it also notes that “a few remnant predevelopment plant communities persist wherever human disturbances are minimized” and these communities are “characterized by a wide riparian zone, a diversity of native riparian plant species, structurally complex habitat, and a more even-age class distribution of trees and shrubs”<sup>1</sup>. More information from the SHI can be found in the State of the Roaring Fork Watershed Report 2008 found online at [www.roaringfork.org/publications](http://www.roaringfork.org/publications).

## Methods

This report documents an informal assessment, conducted October 6, 2017, of riparian conditions along the Roaring Fork and Colorado Rivers within GWS city limits. The river-view assessment relied on qualitative observations and photo-documentation of the integrity of riparian condition and function. See photo location map on page six. Tributaries in GWS such as Threemile Creek, Oasis Creek, and Mitchell Creek also contain riparian areas but were not included in this assessment.

This assessment documented the existing riparian condition including presence and density of riparian vegetation, evidence of erosion, occurrence of development or structures within

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<sup>1</sup> Emerick J.C. and Malone, D.G. 2007a. Catalog of stream and riparian habitat quality for the Roaring Fork River and tributaries, Central Colorado. Roaring Fork Stream Health Initiative.

the riparian zone, and human alteration to natural areas. Observations considered the natural functions of a healthy riparian area which provide:

- flood mitigation by dissipating stream energy and reducing erosion and property damage.
- water storage during high flow and releases during low flows.
- multi-storied habitat for wildlife and aquatic life.
- wildlife migration route between habitats.
- rich and diverse food source for wildlife and aquatic life.
- shading that lowers river temperatures and slows evaporation.
- buffers which mitigate sedimentation and prevent erosion.
- natural bio-filters which filter pollutants and protect water quality.

## Observations

### Roaring Fork River

Within city limits, the banks of the Roaring Fork River are generally high and steep. Nonetheless, areas with minimal development impact indicate the potential for narrow, healthy riparian areas. Occasional lower “benches” of level land exist along this reach, providing the primary opportunity for riparian habitat and related functions.

General observations:

- The west bank through GWS is primarily residential lots while the east bank tends to have more commercial development and mixed uses.
- Two bike paths run adjacent to the Roaring Fork River in Glenwood Spring, the Atkinson Canal Trail along the west bank in south GWS, and the Glenwood River Trail along the east bank through downtown GWS. While these paths provide an important amenity for transportation and river access, their proximity to the river and maintenance represent impacts to the respective riparian areas.
- Despite the steep terrain and density of development, numerous areas within GWS still exhibit robust riparian vegetation. The density of vegetation is typically greatest along a narrow strip next to the river while the upper gradient areas are generally more sparse. Densely vegetated riparian areas typically exhibit good multi-story habitat.
- The west bank of the Roaring Fork River between the Cardiff Bridge and 14<sup>th</sup> street pedestrian bridge exhibit the majority of recent riparian alterations by private landowners. A few alterations were also noted along the east bank in this reach.
- Riparian trees show a slightly unbalanced age class, with large numbers of tall, mature trees (particularly cottonwoods) and less young tree recruitment for recovery/maintenance of the species.
- Engineered or rip-rap banks exist at numerous locations along this reach. While this meets the initial goal of bank stabilization, it contributes to loss of vegetation, creates a challenging environment for regrowth, and increases channelization of the river and potential related impacts.
- Non-native riparian plant species were noted in riparian areas along this reach. Volunteer projects conducted jointly by City of GWS, Garfield County, Roaring Fork Outdoor Volunteers, and Roaring Fork Conservancy, have significantly reduced



Tamarisk and some Russian Olive near the Threemile Creek confluence and upstream of the municipal airport. Due to these efforts, minimal Tamarisk were noted during this assessment, however numerous Russian Olive still exist in riparian areas along this reach, particularly on private property.

Sections of concern and potential treatments:

- Stream banks at the outlet of Threemile Creek are marginally vegetated and actively eroding. Suggest bank stabilization with long term goal of revegetating slope to native density while still allowing some beach area for public access.
- Backyard development creep and riparian vegetation clearing are increasing. Numerous landowners with private access to the river have created sitting areas ranging from a few chairs tucked into the vegetation to more extensively cleared spaces with grills, tables and numerous chairs. Some have cleared and developed a wide access down the hill slope. The latter impacts may disrupt riparian function and, if copied by neighbors, could result in extensive loss of riparian habitat. Potential treatments include curtailing this kind of bank development in order to preserve riparian function while still allowing private landowner desire to enjoy riverside amenities. Public education is a key component for addressing these concerns.
- Various structures have been constructed within the riparian zone throughout this reach in GWS. They include trails and steps built to access the river, gazebos, boat ramps, and various platforms for chairs and tables. The structures vary in size and amount of disruption to riparian areas. Potential treatments are similar to those listed above regarding riparian vegetation clearing.
- Concrete slabs were deposited along parts of the river and now hinder vegetation growth. Potential treatments include removing engineered banks where feasible and replanting native riparian vegetation.
- The newly constructed 14<sup>th</sup> street pedestrian bridge resulted in widening and clearing of the river's banks at that location. Riprap was used as the primary bank stabilization feature. Treatments include replacing riprap with vegetation to restore this area to a healthy riparian habitat.
- Removal of critical riparian vegetation, especially cottonwood, along River Meadows Mobile Home Park. A few willow patches have returned but the stream bank consists primarily of open lawn. Trees line the upper terrace of the Park but little vegetation remains along the baseflow edge of the River. Treatments include education for private landowner(s) and possible joint efforts to re-establish vegetation diversity or pocket protection areas.
- Veltus Park contains riparian impacts including eroding banks and some instances of riparian vegetation clearing by city staff. GWS is currently pursuing a redevelopment and restoration plan for this area. It is recommended that this project prioritize the balance of public access to the river, erosion control, and re-establishment of healthy riparian system. Additional education of city staff regarding riparian best management practices to avoid adverse impacts to river health is also encouraged.

### Colorado River

This reach has seen over a century of impacts from the construction of the railroad, I-70, Two Rivers Park, commercial development, and most recently a whitewater park. However, there remain localized stretches along the river that contain healthy riparian conditions.

#### General observations:

- Both banks represent mixed land use with primarily railroad right-of-way and commercial development along the south bank. The north bank combines large stretches of I-70, Two Rivers Park, and some commercial use.
- The railroad and I-70 run along opposite sides the Colorado River and represent existing impacts to riparian areas through impairment of habitat, loss of vegetation and hindrance to wildlife passage. Additionally, operation, maintenance and chemical treatments of these structures represent ongoing impacts. However, these land uses also restrict human access to portions of the remaining riparian areas, thereby limiting other human impacts.
- Riparian trees show unbalanced age class, with large numbers of tall, mature trees (particularly cottonwoods) and a lack of young tree recruitment for recovery and maintenance of the species.
- Engineered or riprap banks exist at numerous locations along this reach. While this meets the initial goal of bank stabilization, it contributes to loss of vegetation creates a challenging environment for regrowth, and increases channelization of the river and potential related impacts.
- Non-native riparian plant species were noted in riparian areas along this reach. Volunteer projects conducted jointly by City of GWS, Garfield County, Roaring Fork Outdoor Volunteers and Roaring Fork Conservancy, have significantly reduced Tamarisk and some Russian Olive near Two Rivers Park and along the river in West GWS. Although these efforts have removed many invasive plants, more of both species remain throughout this reach, particularly in areas which are difficult to access.

#### Sections of concern and proposed treatments:

- Two Rivers Park represents a significantly impacted riparian area. GWS is currently pursuing a redevelopment and restoration plan for this area, which will include addressing the current conditions. This project as planned should continue to prioritize the balance of public access to the river and re-establishment of healthy riparian system.
- Sections along Devereux Road show signs of impact and may benefit from riparian rehabilitation – further study recommended.
- Riparian vegetation between the river and Iron Mountain Hot Springs is scarce and may have been removed as part of this development. Potential treatments include working with landowner to provide views of the river from the facility balanced with replanting of riparian vegetation.
- Sections along I-70 need removal of non-native vegetation followed by revegetation of native species but may need to study potential impacts of Mag-Chloride and stormwater runoff related to vegetation health before attempting revegetation efforts.

- Some of the largest, most intact riparian areas on city property exist along the south bank of the Colorado River at the west end of GWS along the former Cardinell Homestead in the area of the new wastewater treatment facility. This area has healthy, diverse vegetation, minimal human impacts, and connection to good upland wildlife habitat. It is strongly recommended that this area be kept intact and natural with minimal development or mandated riparian buffers if development is necessary.

## Summary

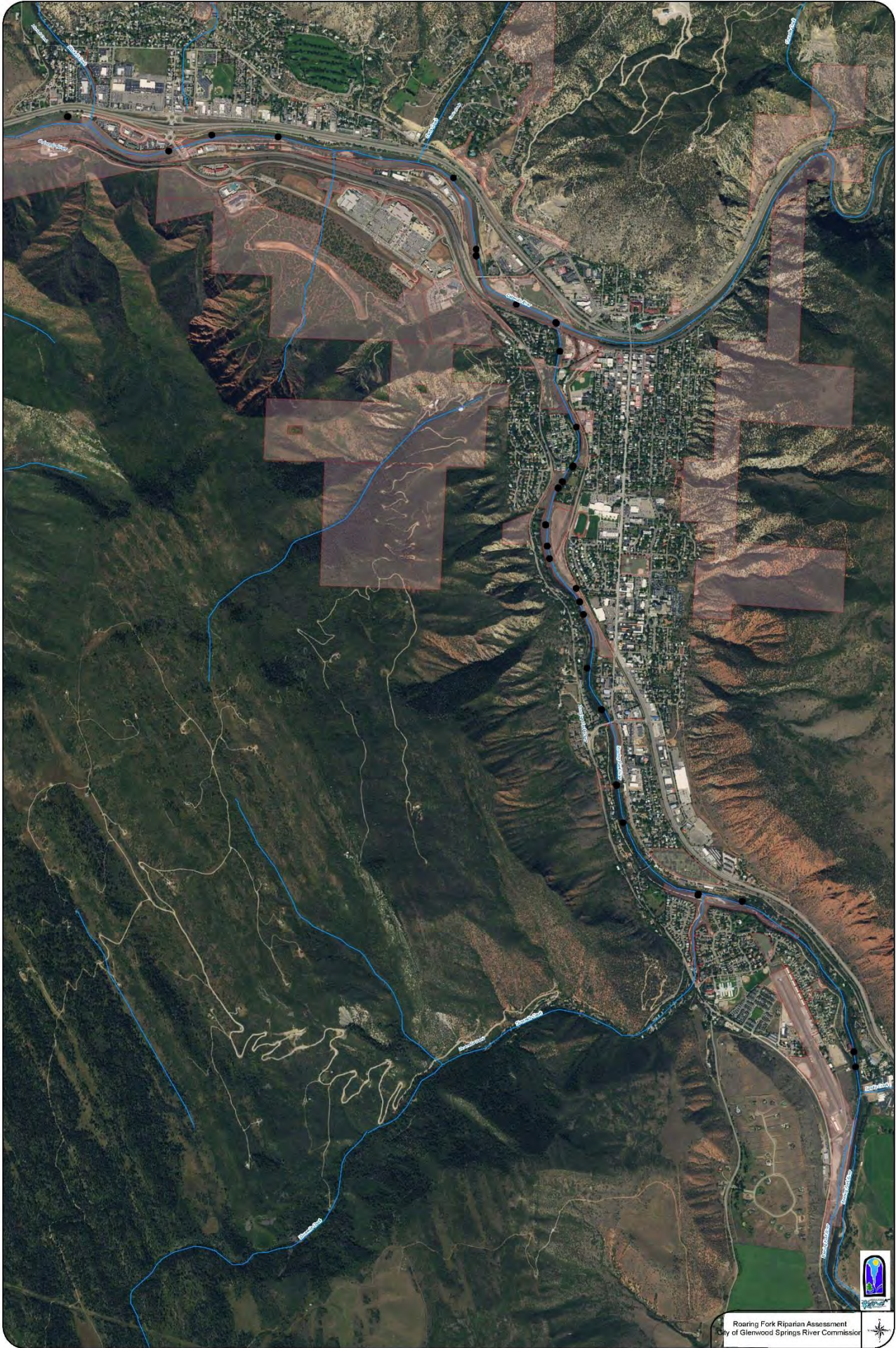
This assessment noted three general categories of riparian conditions within GWS:

- Minimally disturbed areas - exhibit fairly natural conditions and healthy riparian vegetation. These areas were noted throughout GWS although typically in localized pockets. Human impacts to these areas, particularly by private landowners, has been increasing in recent years.
- Partially disturbed areas – exhibit some human impacts and less healthy riparian vegetation. These areas, although exhibiting some disturbance, have the potential to revert to more healthy conditions given the application of best management practices or in many cases simply allowing the natural regrowth of riparian vegetation. These areas represent the largest portion of riparian land throughout GWS.
- Impacted areas – exhibit significant human impacts and alteration of riparian vegetation and conditions. These areas represent a fairly small portion of riparian land yet a fairly significant impact within that localized area. The presence of these areas emphasize the importance of maintaining riparian health in the less disturbed areas and improving riparian health in the partially disturbed areas.

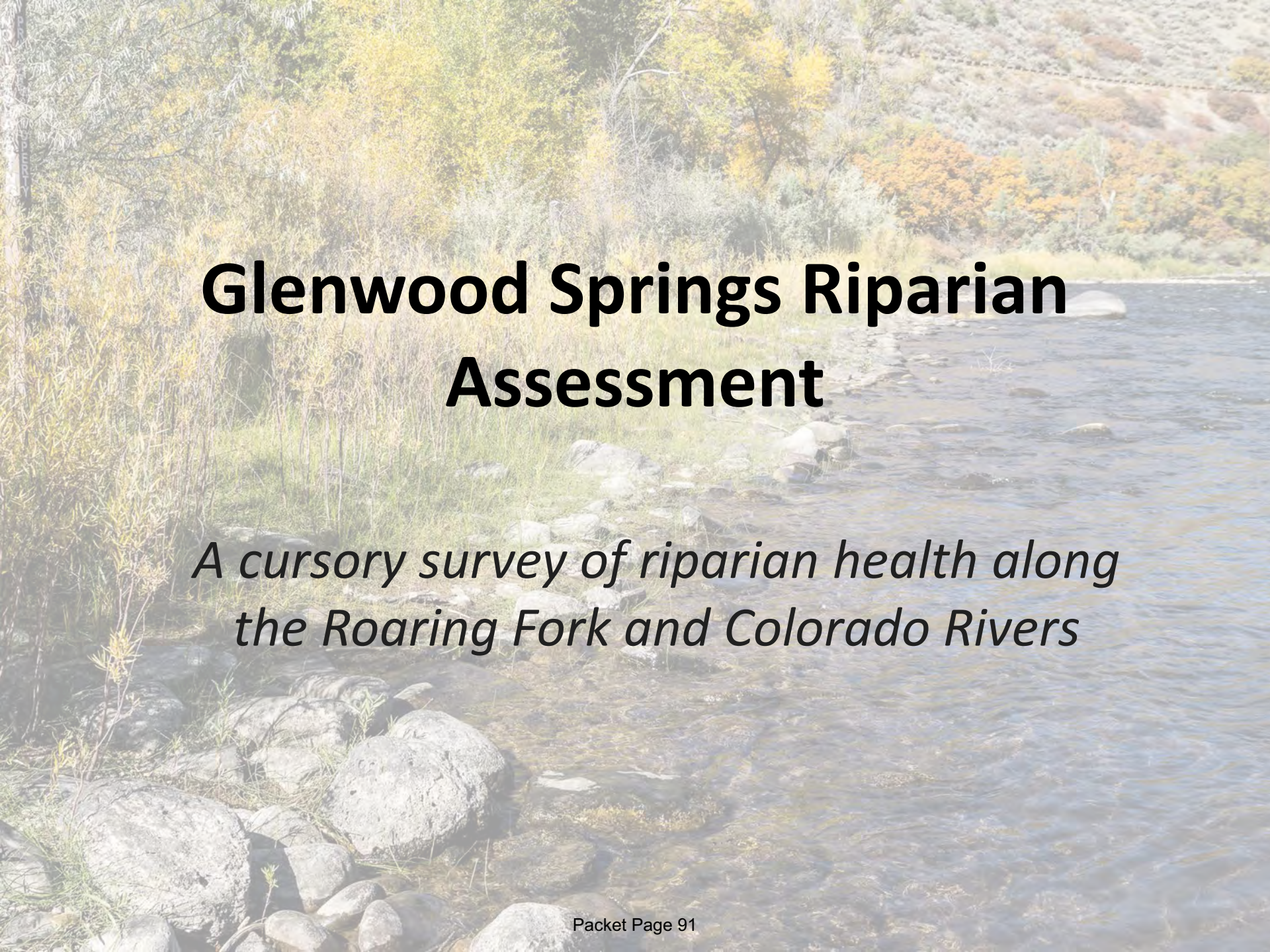
This assessment indicates opportunities within Glenwood Springs where integrity and function of riparian areas can be maintained or improved. It also provides a basis for GWS to consider policy, regulations, public education or other means that recognize the value of riparian health and its associated impacts on river health.



Riparian Assessment Photo Location Map





The background image shows a river with a rocky shoreline in the foreground. The water is dark and rippled. The shoreline is composed of large, light-colored rocks. Behind the rocks, there is a dense thicket of tall, thin, yellowish-brown reeds or grasses. In the background, there are more trees and shrubs with yellow and orange foliage, suggesting an autumn setting. The overall scene is a natural, riparian environment.

# **Glenwood Springs Riparian Assessment**

*A cursory survey of riparian health along  
the Roaring Fork and Colorado Rivers*



# Primary Objectives

- Photo document the range of riparian area conditions within GWS (healthy, marginal or poor).
- Suggest actions that can improve riparian health where needed.
- Inspire dialogue on how best to maintain or improve riparian conditions within GWS.



# Methods

- Qualitative observations and photo documentation from raft, October, 2018
- Past documentation of same area by Design Workshop\* and Roaring Fork Conservancy
- Observers have professional backgrounds in assessing the health of physical and biological functions of riparian areas

\*Riverside Stewardship Manual, prepared for the City of Glenwood Springs, March 1997.



# Key Observations Considered

- Reproduction and vigor of riparian plants
- Presence of non-native noxious plant species
- Connectivity of wildlife migration routes between habitats
- Bank stability
- Extent of active erosion



# The Good News



Despite steep slopes and areas of dense development there are river segments within GWS that exhibit robust riparian health.



These images were taken from the Roaring Fork River



# The Potential is There

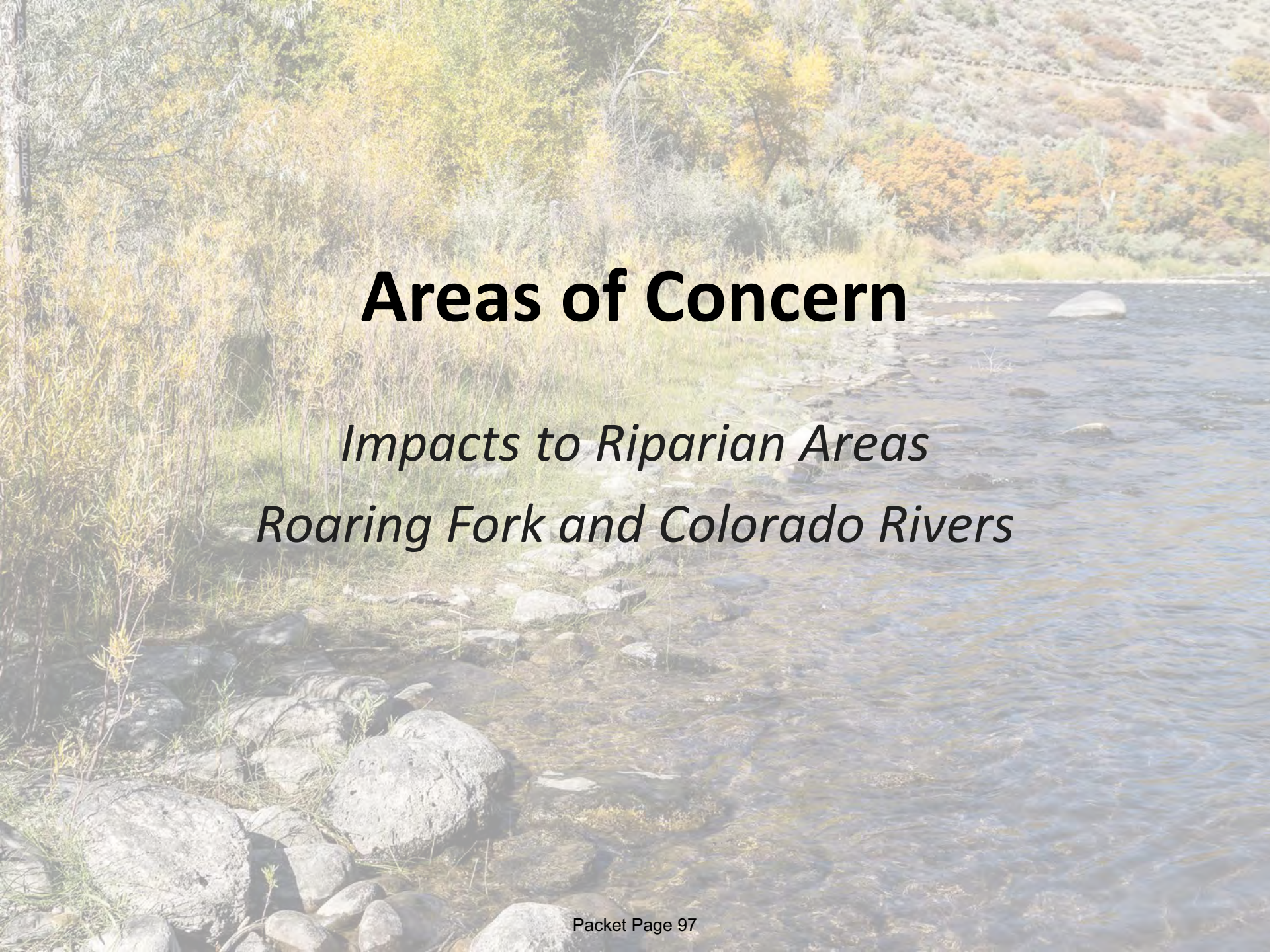


Municipal development can occur without significantly degrading riparian health.



These images were taken from the Colorado River



A scenic view of a river with a rocky shoreline and autumn foliage. The foreground shows large, light-colored rocks along the bank, with some green and yellow grasses. The river water is dark and calm, reflecting the sky. In the background, there are trees with yellow and orange leaves, suggesting an autumn setting. The overall scene is peaceful and natural.

# **Areas of Concern**

*Impacts to Riparian Areas  
Roaring Fork and Colorado Rivers*



# Slope stability



Without sufficient vegetation steep slopes are susceptible to erosion which can impact water quality and property values.



# Presence of Non-Native Plants

Minimal Tamarisk were noted likely due to active Tamarisk removal projects.

Russian Olive still occurs in dense stands both on the Roaring Fork and Colorado Rivers





# Public Access – Three Mile



Popular site for neighborhood residents, anglers and rafters leaves river banks heavily impacted.

River flow pattern was significantly modified during construction of now abandoned ditch (adding to riparian impacts).

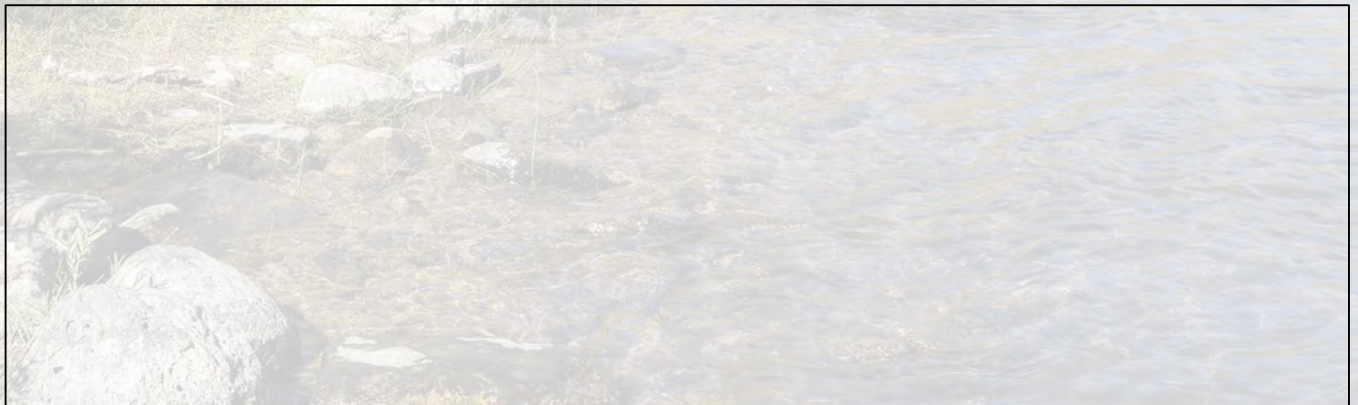




# Public Access – Two Rivers Park



Heavy foot traffic can  
exasperate riparian  
health





# Floodplain Clearing

Backyard clearing of riverside vegetation along private lots has been incrementally increasing over time. Impacts to riparian ecosystem vary in scope of removal.



Clearing can be extensive...

or minimal.



This practice appears to be growing as more homeowners seek the aesthetics of developing their riverside backyards.



# Private River Access Impacts

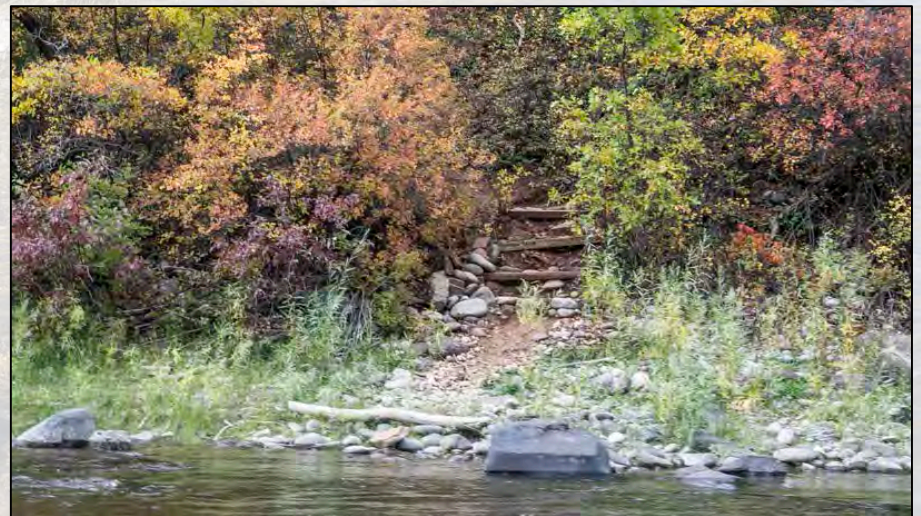


Access design should consider riparian and water quality protection

*Top Left:* Minimal impact to riparian vegetation and soil cover.

*Top Right:* Loss of riparian vegetation but decent soil cover.

*Right:* Improved design could reduce impacts of erosion into the river and protect trail's integrity.





# Vegetation Loss in Other Areas



Loss of vegetation can lead to greater bank erosion, reduce river shading and bird habitat and limit its function to filter out sediments and excess nutrients



# The Dark Side of Riprap



Riprap may effectively stabilize a river bank but it also inhibits re-establishment of riparian vegetation.





# Waste Material Side Cast



Like Riprap, asphalt and concrete tossed onto river banks inhibits vegetation re-growth, ultimately impairing riparian function. (And it's unattractive)





# We All Benefit from Healthy Riparian Areas





## **Riparian Buffer Zones: Functions and Recommended Widths**



**Prepared by**

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**For the**

**Eightmile River Wild and Scenic Study Committee**

**April 2005**



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## 1. Functions of Riparian Buffers

Riparian buffers are vital elements of watersheds, primarily due to their protection of surface and ground water quality from impacts related to human land use. These vegetated buffers are complex ecosystems that provide food and habitat for unique plant and animal species, and are essential to the mitigation and control of nonpoint source pollution. In fact, the removal of streamside vegetation, primarily for development purposes, has resulted in degraded water resources and diminished value for human consumption, recreation, and industrial use.<sup>1</sup>

In the Eightmile River watershed, maintenance of riparian buffers in their natural condition has been identified as one of the most effective means of protecting multiple outstanding resource values (ORVs), including water quality, hydrology, unique species and natural communities, and watershed ecosystem function.

Sedimentation increases turbidity and contributes to rapid siltation of waterbodies, negatively impacting water quality. Increased sediment loads also narrow channel widths and provide substrate for colonization of invasive aquatic plant species. Intact riparian buffers ameliorate these negative impacts by stabilizing streambanks. Roots of riparian vegetation deflect wave action and hold bank soil together. The buffer vegetation also decreases erosional impacts during flood events and prevents undercutting of streambanks.

Excess nitrogen and phosphorous from fertilizers and animal waste, as well as other pollutants originating from pesticides and herbicides, often bond to soil particles. The nutrient-loaded sediment contained in surface runoff then flows to the nearest waterbody and is deposited. This process is the primary cause of accelerated eutrophication of lakes and rivers<sup>2</sup>. Streamside forests function as filters, transformers, and sinks for harmful nutrients and pollutants<sup>3</sup>. Buffer plants slow sediment-laden runoff and depending upon their width and vegetational complexity, may deposit or absorb 50 to 100% of sediments as well as the nutrients and pollutants attached to them<sup>4</sup>. When surface water runoff is filtered by the riparian buffer approximately 80 to 85% of phosphorous is captured<sup>5</sup>. Nitrogen and other pollutants can be transformed by chemical and biological soil activity into less harmful substances. In addition, riparian plants act as sinks, absorbing and storing excess water, nutrients, and pollutants that would otherwise flow into the river, reducing water quality.

One of the most important functions of riparian buffers is enhanced infiltration of surface runoff<sup>6</sup>. Riparian vegetation in the buffer surrounding a waterbody increases surface roughness and slows overland flows. Water is more easily absorbed and allows for groundwater recharge. These slower flows also regulate the volume of water entering rivers and streams, thereby minimizing flood events and scouring of the streambed.

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<sup>1</sup> Welsch 1991

<sup>2</sup> Jontos 2004

<sup>3</sup> Welsch 1991

<sup>4</sup> Connecticut River Joint Commission 2005

<sup>5</sup> Connecticut River Joint Commission 2005

<sup>6</sup> Dillaha et al. 1989



Many plant and animal species depend on the distinctive habitat of riparian buffers, which include elements of both terrestrial and aquatic ecosystems. Forested buffers improve habitat quality by providing shade that cools water temperatures, thereby elevating the dissolved oxygen content that is necessary for many species of fish and aquatic insects. Woody debris from shrubs and trees within the vegetated buffer provides food and cover for a multitude of aquatic species. If large enough, buffers also provide corridors essential for terrestrial wildlife movement.

Vegetated buffers may serve as screens along waterways, protecting the privacy of riverfront landowners and blocking views of any unsightly development. Hiking and camping opportunities are also facilitated by forested buffers, which if large enough, allow outdoor enthusiasts to enjoy the proximity of the water. The diversity of plant species provides visual interest and increases aesthetic appeal.

## **2. Recommended buffer widths**

The width of a buffer depends greatly on what resource you are trying to protect. Scientific studies have shown that efficient buffer widths range from 10 feet for bank stabilization and stream shading, to over 300 feet for wildlife habitat. Furthermore, the necessary width for an individual site may be less or more than the average recommendations, depending on soil type, slope, land use and other factors. The ranges cited below come from four literature reviews by The U.S. Army Corps of Engineers New England Division, the University of Georgia's Institute of Ecology, the U.S. Army Engineer Research and Development Center, and researchers from the UK Forestry Commission.<sup>7</sup> Results from studies done in New England fall within the ranges cited below, and no evidence was found in the literature to suggest that buffers should be, on average, either wider or narrower.

### **a. Erosion control**

Erodibility of soil type is a key factor when assessing adequate buffer widths. Widths for effective sediment removal vary from only a few feet in relatively well drained flat areas to as much as several hundred feet in steeper areas with more impermeable soils. In order to prevent most erosion, vegetated buffers of 30 feet to 98 feet have been shown to be effective.

### **b. Water quality**

*Nutrients* - Nitrogen and phosphorous can be retained in buffers that range from 16 to 164 feet. The wider buffers will be able to provide longer-term storage. Nitrogen is more effectively removed than phosphorous. In 1995, a study conducted in Maine found that the effectiveness of buffers at removing phosphorous is variable but in most cases, a 49-foot natural, undisturbed buffer was effective at removing a majority of the nutrient from surface runoff. However, the U.S. Army Corps of Engineers concluded in their 1991 study that there was insufficient evidence

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<sup>7</sup> U.S. Army Corps of Engineers 1991, Wenger 1999, Fischer and Fischenich 2000, Broadmeadow and Nisbet 2004, respectively.

to determine a necessary buffer width for phosphorous retention. It is important, therefore, to combine buffer zones with strategies to reduce phosphorous at its source.

*Pesticides* – Buffer widths for pesticide removal range from 49 feet to 328 feet. Pesticides that are applied manually require less of a buffer area than aerially-sprayed pesticides.

*Biocontaminants* – Buffer widths for biocontaminants, such as fecal coliform, were not reviewed in this study. The University of Georgia found that, in general, buffers should be 30 ft. or greater. However, buffers may not be able to adequately filter biocontaminants and it is also important to reduce these pollutants at the source.

#### **c. Aquatic habitat**

*Wildlife* – The minimum width of riparian buffers to protect aquatic wildlife, including trout and invertebrates, range from 33 feet to 164 feet.

*Litter and debris input* – Recommendations for buffer widths to provide an adequate amount of debris for stream habitat range from 10 feet to 328 feet, although most fall within 50 feet to 100 feet.

*Stream temperature.* Adequate shading can be provided by a 30-foot buffer, but buffers may need to be up to 230 feet to completely control stream temperature. The amount of shade required is related to the size of the channel. The type of vegetation in the buffer regulates the amount of sunlight reaching the stream channel. Generally, a buffer that maintains 50% of direct sunlight and the rest in dapple shade is considered preferable<sup>8</sup>.

#### **d. Terrestrial habitat**

The Eightmile River watershed contains a large number of roadless, undeveloped forest blocks and is more than 80% forested in total. Furthermore, the riparian corridor within 300 ft. of the river and its tributaries has remained mostly intact, supporting a high level of biodiversity as well as protecting water quality. The Eightmile River is host to a number of important species, including native brook trout, freshwater mussels, blue back herring, bobcats, great horned owls and cerulean warblers.

The habitat requirements for birds, mammals, reptiles, amphibians and fish vary widely, and the necessary buffer width to protect each species varies widely as well. While trout and salmon can benefit greatly from the shading, habitat, food, and water quality protection that a 150-foot buffer provides, mammals such as the red fox and the bobcat require riparian corridors of approximately 330 feet. Furthermore, birds such as the cerulean warbler, which requires large areas of forest, may need a buffer that is much greater than 330 ft.<sup>9</sup> For this reason, we do not believe that it is feasible to capture all of the habitat needs of all species with a uniform buffer. More careful targeting of potential riparian habitat, work with landowners to create conservation

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<sup>8</sup> Broadmeadow and Nisbet 2004

<sup>9</sup> Chase et al. 1995



easements, as well as the creation of protected areas by the town will aid in more specific approaches to habitat preservation for these species.

For a more detailed look at the range of recommended buffer widths, see Appendix 1.

### **3. Factors influencing buffer width**

There are many factors that influence the effectiveness buffers. These include slope, rainfall, the rate at which water can be absorbed into the soil, type of vegetation in the buffer, the amount of impervious surfaces, and other characteristics specific to the site.

#### **a. Slope**

As slope increases, the speed at which water flows over and through the buffer increases. Therefore, the steeper the land within the buffer, the wider it needs to be to have time to slow the flow of water and absorb the pollutants and sediments within it. Many researchers suggest that especially steep slopes serve little value as a buffer, and recommend excluding areas of steep slope when calculating buffer width. The definition of “steep” varies from over 10% to over 40% slope<sup>10</sup>.

#### **b. Soil type**

The type of soil affects how quickly water can be absorbed. Soils that are high in clay are less permeable and may have greater runoff. On the other hand, soils that are largely made up of sand may drain water so rapidly into the groundwater that roots are not able to effectively trap pollutants. Furthermore, soils that are moister and more acidic have a better capacity to take up nitrogen from the soil and release it to the atmosphere (through denitrification).

#### **c. Vegetation mix**

Structurally diverse riparian buffers, i.e. those that contain a mix of trees, shrubs and grasses, are much more effective at capturing a wide range of pollutants than a riparian buffer that is solely trees or grass. Removal efficiencies range from 61% of the nitrate, 72% of the total phosphorous and 44% of the orthophosphates from grass buffers to 92% of the nitrate 93% of the total phosphorous and 85% of the orthophosphates from combined grass and woody buffers.<sup>11</sup>

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<sup>10</sup> Wenger 1999

<sup>11</sup> Jontos 2004

**Table 1:** Estimated reduction of nutrient loads from implementation of riparian buffers<sup>12</sup>

| Buffer Type                          | Nitrogen | Phosphorus | Sediment |
|--------------------------------------|----------|------------|----------|
| Forested                             | 48-74%   | 36-70%     | 70-90%   |
| Vegetated Filter Strips              | 4-70%    | 24-85%     | 53-97%   |
| Forested and Vegetated Filter Strips | 75-95%   | 73-79%     | 92-96%   |

Source: Delaware Department of Natural Resources and Environmental Control

Generally, the grass filter strip works best for sediment removal, while the forested buffer is better for nitrate removal from subsurface flows<sup>13</sup>. Grasses have a shallower and denser root mat that is more effective in slowing runoff and trapping sediments from the surface flow. Trees have a deeper root system that can trap and uptake nutrients from the groundwater, stabilize banks, and regulate the flow of water to the stream.

Forests provide certain functions that grasses cannot. Trees shade the river and provide an input of leaf litter and branches that are necessary for many aquatic species. In addition, a forested buffer provides important habitat for terrestrial wildlife. Native plants species are preferred to ornamentals or exotics due to the habitat advantage they provide for wildlife. Old trees are especially valuable for providing inputs of coarse woody debris.

The most effective riparian buffers should include a mix of trees, shrubs and herbaceous plants native to the region and appropriate to the environment in which they are to be planted. When planting buffers, it is best to use adjacent reference riparian buffers as the basis for selecting floral composition<sup>14</sup>.

**Table 2:** Plant type vs. removal efficiency

| Function                                                      | Grass  | Shrubs | Trees  |
|---------------------------------------------------------------|--------|--------|--------|
| Sediment trapping                                             | High   | Medium | Low    |
| Filtration of Sediment born Nutrients, Microbe and Pesticides | High   | Low    | Low    |
| Soluble forms of Nutrients and Pesticides                     | Medium | Low    | Medium |
| Flood Conveyance                                              | High   | Low    | Low    |
| Reduce Stream Bank Erosion                                    | Medium | High   | High   |

Source: Jontos 2004 (modified after Fisher and Fischenich 2000)

<sup>12</sup> (Palace, 1998; Lowrance et al., 1995; Franti, T.G., (1997); Parsons et al. (1994); Gilliam et al. (1997); Osmond et al., (2000)

<sup>13</sup> Triangle J. Council of Governments 1999

<sup>14</sup> Jontos 2004



## 4. Buffer types

### a. Variable Width

Several models have been created to consider individual site factors in determining buffer width. These range from the complex to the relatively simple. The more complex models take into account multiple factors, such as slope, erodibility and infiltration rates<sup>15</sup>. Examples of such models include:

Brown et al. (1987):

$$\text{Buffer width} = (\text{average slope/erodibility factor})^{1/2}$$

Cook College Department of Environmental Resources:

$$\text{Buffer width} = 2.5 (\text{time of travel of overland flow}) * (\text{slope})^{0.5}$$

More simple models only take into account slope. A common formula is to set a fixed buffer width and apply 2 feet per percent slope. Many of these models recommend *not* including impervious surfaces or areas of steep slope in the buffer width (**Figure 1**). Cook College recommends excluding anything greater than 15% slope, while Wenger (1999) recommends excluding all slopes over 25%.

### b. Fixed Width

A fixed buffer width is the easiest to administer. However, care must be taken to select the appropriate width for the resources you are targeting. Studies unanimously support the conclusion that buffer efficiency at filtering out pollutants increases with width. However, this does not increase infinitely, and the goal is to find the most efficient width. For example, a study in the Mid-Atlantic<sup>16</sup> found that 90% of sediments were removed by a 62 ft. riparian buffer, but only 94% were removed by more than doubling the buffer width to 164 ft.

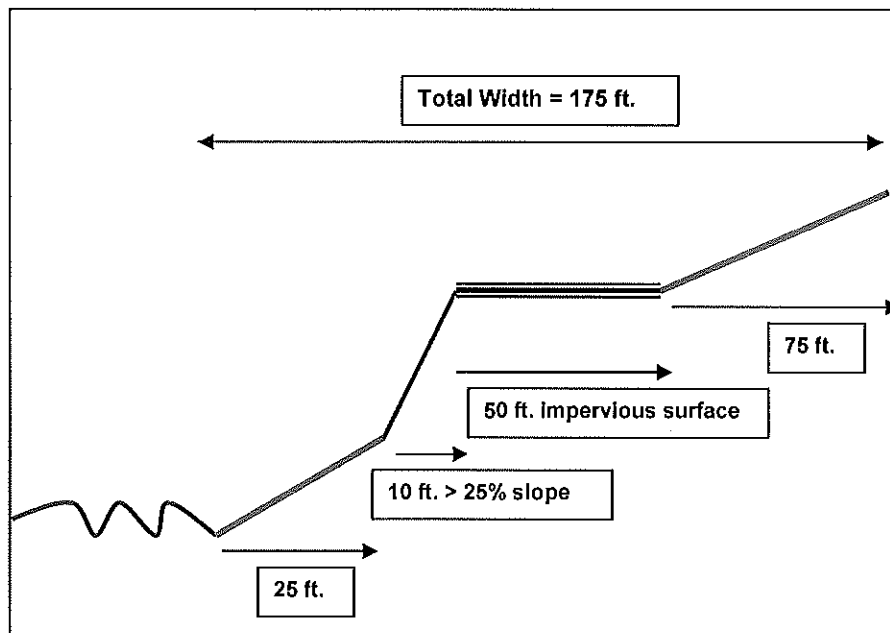
If a fixed buffer width is chosen, it should be on the conservative side to provide leeway for slope and soil type. Data for the Eightmile River watershed show that significant areas of the land bordering the river have slopes that are above 15%. Therefore, we believe it is necessary to make a fixed buffer width wider than the average minimum recommendation of 100 ft.

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<sup>15</sup> Described in the US Army Corps of Engineers (1991) literature review.

<sup>16</sup> Peterjohn and Corell 1994.

**Fig.1:** Variable buffer width adjusted from 100 feet to 175 feet to account for effects of slope and impervious surface.



### c. Three Zone

The Three Zone system was originally developed as part of an initiative to protect the Chesapeake Bay. The combination of vegetation types (trees, grass and shrubs) helps maximize the efficiency and diversity of benefits that the buffer provides (Figure 2).

#### Zone 1

*Minimum Width:* 15 ft.

*Composition:* Native trees and shrubs

*Function:* Bank stabilization, habitat, shade, flood prevention

*Management:* None allowed except bank stabilization and removal of problem vegetation.

#### Zone 2

*Minimum Width:* 60 ft.

*Composition:* Native trees and shrubs.

*Function:* Removal of nutrient, sediments and pollutants from surface and groundwater, habitat

*Management:* Some removal of trees to maintain vigorous growth.

#### Zone 3

*Minimum Width:* 30 ft.

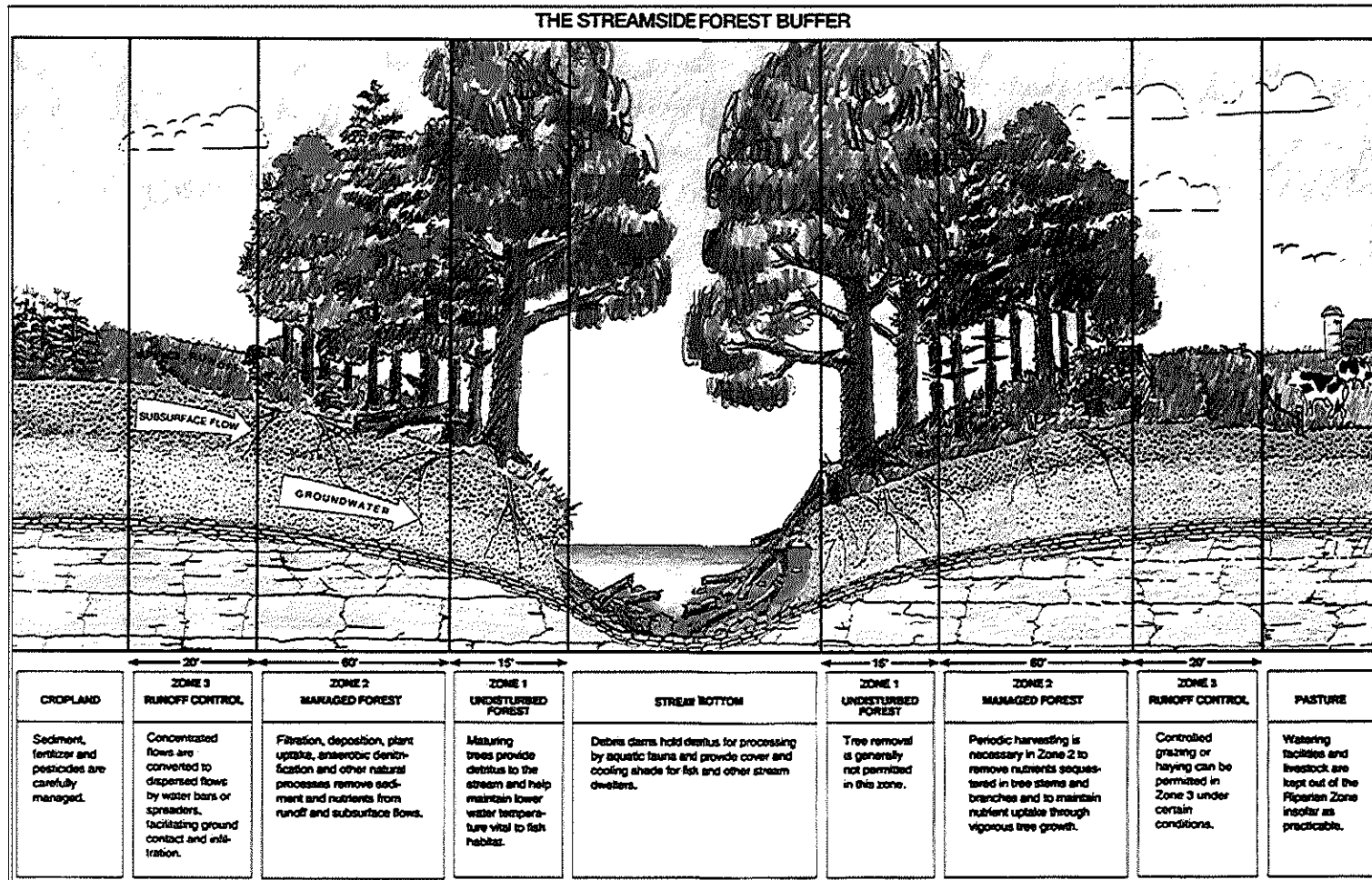
*Composition:* Grasses and herbaceous plants

*Function:* Slow surface runoff, trap sediments and pesticides

*Management:* Mowing



Fig. 2: Three-Zone System



Source: Welsch 1991. Riparian Forest Buffers: Function and Design For Protection and Enhancement of Water Resources.

## 5. What order streams to protect

Buffers are most effective when they are contiguous. Guidelines for buffer widths recommend that long, continuous buffer strips should often be a higher priority than fragmented strips of greater width.<sup>17</sup> Small gaps in vegetation along the bank can channelize runoff into the river and effectively negate the effect of surrounding buffers. For this reason, landowners who currently have lawns that run to the edge of the river should be encouraged to replant trees and shrubs along the bank. In addition, footpaths cleared for river access should be winding, rather than straight, and as narrow as possible to minimize sedimentation.

Failure to extend protection to the smaller headwater streams in the river basin also ignores important sources of sedimentation and pollution. To preserve water quality in the Eightmile River, it is essential to protect all of its tributaries. In fact, smaller order streams often account for the greatest miles of watercourse in a basin. Buffering low order streams (1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>) has greater positive influence on water quality than wider buffers on portions of larger order streams already carrying polluted water. While it may be politically infeasible to set wide buffer zones around intermittent and ephemeral streams, this omission is not justified by the science. A University of Georgia study of riparian buffers warns, "Governments that do not apply buffers to certain classes of streams should be aware that such exemptions reduce benefits substantially."<sup>18</sup> A review of buffers by the U.S. Army also notes that "even the best buffer strips along larger rivers and streams cannot significantly improve water that has been degraded by improper buffer practices higher in the watershed".<sup>19</sup>

Smaller headwater streams have the greatest area of land-water interaction, and have the greatest potential to accept and transport sediment. Ephemeral streams, which only exist during periods of high rain, can serve as important sources of sediment and pollutants to the river. It is important that they are maintained in a vegetated condition in order to help trap and slow the flow of pollutants. Furthermore, removing riparian vegetation from the banks of small, heavily shaded streams will have a much greater impact on stream temperature and aquatic habitat throughout the watershed than removing vegetation from larger rivers, where only a fraction of the water is shaded. Rather than ignoring these streams completely, a compromise would be to create a smaller setback. Clinnick et al (1985) advocate a minimum of a 20 m wide buffer for ephemeral streams, and where that is not possible, at least leaving the banks vegetated<sup>20</sup>.

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<sup>17</sup> Fisher and Fischenich 2000

<sup>18</sup> Wenger 1999

<sup>19</sup> Fisher and Fischenich 2000

<sup>20</sup> Wenger 1999



## Appendix 1–Summary of Effective Buffer Widths from Literature Review

| Author                      | Effective Width of Buffer (in feet) |                      |                    |                     |                    |                  |                    |                     |
|-----------------------------|-------------------------------------|----------------------|--------------------|---------------------|--------------------|------------------|--------------------|---------------------|
|                             | Aquatic Wildlife                    | Terrestrial Wildlife | Stream Temperature | Litter/Debris input | Nutrient Retention | Sediment Control | Bank Stabilization | Pesticide Retention |
| Wenger 1999                 |                                     | 220-574 ft.          | 33 – 98 ft.        | 50 ft.              | 50 – 100 ft.       | 82 – 328 ft.     | –                  | > 49 ft.            |
| Army Corps 1991             | 98 ft.                              | 30 – 656 ft.         | 33 – 66 ft.        | 66-102 ft.          | 52 – 164 ft.       | 33 – 148 ft.     | 49 – 98 ft.        | 49 – 328 ft.        |
| Fisher and Fischenich 2000  | > 98 ft.                            | 98-1,640 ft.         | –                  | 10 – 33 ft.         | 16.4-98 ft.        | 30-200 ft.       | 30 -66 ft.         | –                   |
| Broadmeadow and Nisbet 2004 | 33 –164 ft.                         | –                    | 49 – 230 ft.       | 82 – 328 ft.        | 16.4-98 ft.        | 49 – 213 ft.     | –                  | –                   |

## Appendix 3

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## Appendix 2 - General Recommended Widths of Buffer Zones

Source: Jontos 2004 (modified after Fisher and Fischenich 2000)

| <i>Function</i>          |                                                                                                                                                                                                                                                                                                                                                                                                                                     | <i>Recommended Width</i> |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Water Quality Protection | Buffers, especially dense grassy or herbaceous buffers on gradual slopes, intercept overland runoff, trap sediments, remove pollutants, and promote ground water recharge. For low to moderate slopes, most filtering occurs within the first 10 m, but greater widths are necessary for steeper slopes, buffers comprised of mainly shrubs and trees, where soils have low permeability, or where NPS loads are particularly high. | 5 to 30 m                |
| Stream Stabilization     | Buffers, particularly diverse stands of shrubs and trees, provide food and shelter for a wide variety of riparian and aquatic wildlife                                                                                                                                                                                                                                                                                              | 10 to 20 m               |
| Riparian Habitat         | Riparian vegetation moderates soil moisture conditions in stream banks, and roots provide tensile strength to the soil matrix, enhancing bank stability. Good erosion control may only require that the width of the bank be protected, unless there is active bank erosion, which will require a wider buffer. Excessive bank erosion may require additional bioengineering techniques.                                            | 30 to 500 m +            |
| Flood Attenuation        | Riparian buffers promote floodplain storage due to backwater effects, they intercept overland flow and increase travel time, resulting in reduced flood peaks.                                                                                                                                                                                                                                                                      | 20 to 150 m              |
| Detrital Input           | Leaves, twigs and branches that fall from riparian forest canopies into the stream are an important source of nutrients and habitat.                                                                                                                                                                                                                                                                                                | 3 to 10 m                |

## Appendix 4 - Web Resources

Chesapeake Bay Committee. Chesapeake Bay Riparian Handbook: A guide for establishing and maintaining riparian forest buffers.

<http://www.chesapeakebay.net/pubs/subcommittee/nsc/forest/handbook.htm>

Connecticut Association of Wetland Scientists. Jontos, R. 2004. Vegetative buffers for water quality protection: an introduction and guidance document.

<http://www.ctwetlands.org/Draft%20Buffer%20Paper%20Version%201.0.doc>

Connecticut River Joint Commission. 2005. Introduction to riparian buffers. *From: Riparian Buffers for the Connecticut River Valley*, no.1. <http://www.crtc.org/riparianbuffers.htm>.

Environmental Defense. 2003. Riparian buffers: common sense protection of North Carolina's waters. [http://www.environmentaldefense.org/documents/2758\\_NCbuffers.pdf](http://www.environmentaldefense.org/documents/2758_NCbuffers.pdf)

Klapproth, J.C. and Johnson, J.E. 2000. Understanding the science behind riparian forest buffers: effects on water quality. Publication Number 420-151. <http://www.ext.vt.edu/pubs/forestry/420-151/420-151.html>

Krumine, M. 2004. Riparian buffers de-mystified! *Tributary Times*, 3(5). Delaware Department of Natural Resources and Environmental Control, Division of Water Resources. [http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/trib\\_times\\_current.htm](http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/trib_times_current.htm)

Maryland Department of Natural Resources Forest Service. Riparian forest buffers: function and design for protection and enhancement of water resources. <http://www.dnr.state.md.us/forests/publications/buffers.html>

National Agroforestry Center. Riparian forest buffers. <http://www.unl.edu/nac/riparian.html>

USDA Natural Resources Conservation Service. Buffers for conservation in New Hampshire: [http://www.nh.nrcs.usda.gov/features/Buffers/what\\_buffers.html](http://www.nh.nrcs.usda.gov/features/Buffers/what_buffers.html)

Welsch, D.J. 1991. Riparian forest buffers: function and design for protection and enhancement of water resources. USDA Forest Service, NA-PR-07-91. [http://www.na.fs.fed.us/spfo/pubs/n\\_resource/buffer/cover.htm](http://www.na.fs.fed.us/spfo/pubs/n_resource/buffer/cover.htm)

Wenger, S. 1999. A review of the scientific literature of riparian buffer width, extent and vegetation: [http://outreach.ecology.uga.edu/tools/buffers/lit\\_review.pdf](http://outreach.ecology.uga.edu/tools/buffers/lit_review.pdf)



# WEDNESDAY, APRIL 25 | 12 PM

Lionshead Welcome Center  
Lower level of Lionshead  
Parking Structure

A Complimentary  
Ecology Presentation

**FREE**

**FREE LUNCH**  
for attendees

Come enjoy a complimentary lunch and listen to Pete Wadden, Town of Vail Watershed Education Coordinator, discuss the history and ongoing controversy surrounding the philosophies of Conservation and Preservation in the United States. Experts from the Town of Vail, Walking Mountains Science Center, and Eagle River Watershed Council will be on hand to answer questions about what residents can do to help Restore the Gore. There will also be stickers and informational brochures available to attendees.



walking mountains<sup>®</sup>  
science center



TOWN OF VAIL  
970.479.2144 | [lovevail.org](http://lovevail.org)

# Project Re-Wild

The Town of Vail will provide partial funding to riparian and stream bank restoration projects on private land that reduce sediment and pollution loads in Gore Creek and its tributaries by (1) establishing native vegetation buffers, (2) stabilizing stream banks or (3) reducing impervious surfaces. The town will provide up to 75% funding to projects that staff determine best serve each of the three aforementioned goals.

## APPLICATION PROCESS



Homeowners or their agents who wish to apply for partial project funding from the Town of Vail must submit a completed application form in addition to all other local, state, and federal permit applications. Applicants will be asked to take time to provide detailed answers to the questions in the application packet and provide any additional information that is available such as architectural drawings and photos. Town staff will determine whether each proposed project meets the criteria listed below and will award funding to projects which best:

- Prevent erosion or reduce sediment loading in the creek
- Restore native riparian vegetation
- Remove impervious surfaces
- Rehabilitate or create wetlands or floodplains
- Incorporate BMPs in their design
- Improve in-stream habitat (pool/riffle complexes, meanders, etc.)
- Occur in high priority areas (areas of highest concern based on MMI scores)
- Provide detailed map and architectural plan of proposed project
- Have the greatest potential to add Value to the Environment

## ELIGIBILITY



This fund will provide assistance to private homeowners in the Town of Vail who wish to restore stream bank on their property abutting Gore Creek or its tributaries. Funds may not be used for projects on Town of Vail stream tract property.



# WHAT GOES WHERE

You can help preserve Gore Creek. Here's how.

## LANDSCAPE DESIGNER'S GUIDE

As a landscape architect or landscape designer in Vail, you do a lot to keep our town beautiful.

But you may not realize that Gore Creek—the main waterway that meanders through town—is suffering the impact of fertilizers, pesticides, and landscaping techniques that destroy native vegetation.

As rain or melting snow flows across our yards, rooftops, and paved areas, it picks up pollutants including sediment, organic matter, pesticides and fertilizers. Polluted water then flows off these properties to roadways, ditches or through storm drains to Gore Creek, harming important aquatic insects, increasing algae blooms and adding sediment all of which impact the food chain for our prized trout fishery. The cumulative impacts of urbanization in the Gore Creek valley over the past half-century have had a significant impact on the health of Gore Creek, including the insects, fish, birds and vegetation that depend on clean water.

Because landscaping is so closely tied to natural processes, design and maintenance practices can have a significant effect on water quality in Gore Creek and beyond. The good news is you can improve the Creek's health by adopting a few simple practices.

- Add trees and shrubs to your clients' yards to capture, hold and filter rainwater.
- Encourage your clients to use up to three inches of mulch (like leaves, aged wood chips, compost or grass clippings),

primarily in spring and fall. Mulch stabilizes soil temperature, prevents weeds, feeds the soil for healthier plants and helps to conserve water.

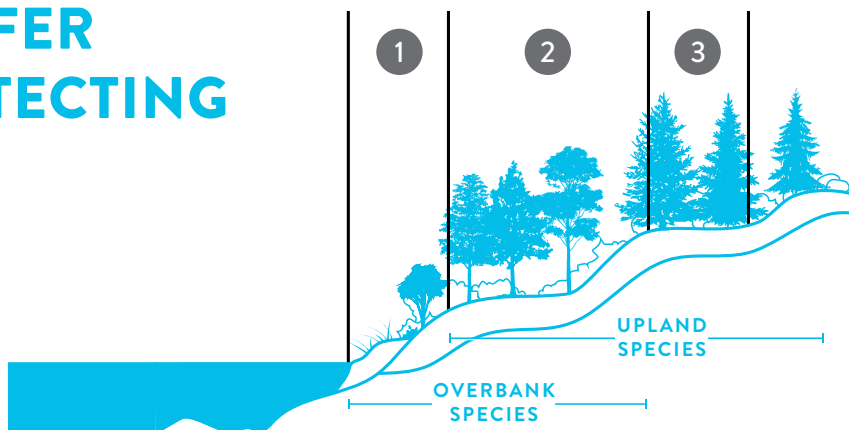
- Incorporate swales and berms into landscapes to slow runoff and prevent it from leaving yards.
- Consider installing a rain garden and directing roof drains to it.
- Consider using porous pavements such as pavers, flagstone and gravel instead of impervious surfaces such as asphalt or concrete for sidewalks and driveways.
- Observe town ordinances regarding riparian buffers and setbacks.
- Use the Three-Zone Buffer System (next page) for guidance on building and landscaping activities within 100 feet of any stream.
- Minimize the use of turf where possible, which will in turn reduce fertilizer, pesticide and water requirements.
- Plant a diverse landscape, which will naturally minimize pest problems.

Thank you for playing a critical role in preserving a special part of Vail's community—Gore Creek.

LEARN MORE AT [LOVEVAIL.ORG](http://LOVEVAIL.ORG)



# THREE-ZONE BUFFER SYSTEM FOR PROTECTING GORE CREEK



## 1 < 25 FEET OVERBANK ZONE

This area is important for bank stability, preventing erosion, filtering and absorbing pollutants, and providing habitat for terrestrial and aquatic wildlife. Contains wetland plants and mature riparian forest.

- Leave native vegetation undisturbed.
- Reintroduce native shrubs, grasses and forbs as a substitute for turf and other manmade improvements.
- Limit the use of pesticides to what is absolutely needed to control invasive weed species.

## 2 25–75 FEET TRANSITIONAL ZONE

This area lies between upland development and the overbank zone, and is important in filtering stormwater runoff and absorbing pollutants. Contains mature native forest and vegetation.

- Design low-impact landscaping, which reduces maintenance requirements and less need for pesticide and fertilizer.
- Reduce the use of turf and impervious surfaces such as concrete and asphalt paving.
- Create vegetative buffers to filter runoff from roofs, drives and roadways.

## 3 75–100 FEET UPLAND ZONE

This is an area for actively managed landscapes or natural conditions, which allows water to slowly filter into the ground.

- Lawn, garden, and compost wastes can be stored here, and stormwater BMPs may be installed, but this zone should be left as undisturbed as possible in order to optimize the value of the riparian buffer.
- Minimize turf areas to what is truly needed. Avoid siting any impervious surfaces in this zone.



# WHAT TO PLANT

The Rocky Mountains are home to numerous native plant species. These plants are adapted to the highly variable climate and micro-climates found in mountain habitats. This list offers recommendations for areas along Gore Creek, as well as upland and transitional zones away from the water's edge. These plants can be used in

ornamental landscape plantings as buffers between landscaped and native areas or in native habitat restorations. Planting a variety of species provides biodiversity, which protects against pest outbreaks and provides important habitat for native fauna—all key components in improving water quality in Vail.



Thin-leaved  
Alder



Twinberry  
Honeysuckle



Bog  
Birch

| COMMON NAME                   | SCIENTIFIC NAME             | HEIGHT | SPREAD |
|-------------------------------|-----------------------------|--------|--------|
| <b>OVERBANK: TREES/SHRUBS</b> |                             |        |        |
| Thin-leaved Alder             | <i>Alnus incana</i>         | 15-30' | 15-20' |
| Bog Birch                     | <i>Betula grandulosa</i>    | 3-6'   | 3-8'   |
| Red-twig Dogwood              | <i>Cornus sericea</i>       | 6-8'   | 8-12'  |
| Twinberry Honeysuckle         | <i>Lonicera involucrate</i> | 3-5'   | 3-6'   |
| Narrow-leaved Cottonwood      | <i>Populus angustifolia</i> | 30-50' | 20-30' |
| Lance-leaved Cottonwood       | <i>Populus x acuminata</i>  | 40-60' | 30-40' |
| Drummond's Willow             | <i>Salix drummondiana</i>   | 6-12'  | 6-12'  |
| Coyote Willow                 | <i>Salix exigua</i>         | 6-12'  | 4-8'   |
| Yellow Mountain Willow        | <i>Salix monticola</i>      | 8-12'  | 6-8'   |



Harebells

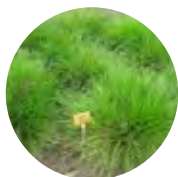


Cow Parsnip



Western Blue Flag

| COMMON NAME            | SCIENTIFIC NAME               |
|------------------------|-------------------------------|
| <b>OVERBANK: FORBS</b> |                               |
| Monkshood              | <i>Aconitum columbianum</i>   |
| Marsh Marigold         | <i>Caltha leptosepala</i>     |
| Harebells              | <i>Campanula rotundifolia</i> |
| Chiming Bells          | <i>Mertensia ciliata</i>      |
| Cow Parsnip            | <i>Heracleum maximum</i>      |
| Western Blue Flag      | <i>Iris missouriensis</i>     |



Tufted  
Hairgrass



Slender  
Wheatgrass



Baltic  
Rush

| COMMON NAME                      | SCIENTIFIC NAME               | DISTRIBUTION |
|----------------------------------|-------------------------------|--------------|
| <b>OVERBANK: NATIVE SEED MIX</b> |                               |              |
| Tufted Hairgrass                 | <i>Deschampsia caespitosa</i> | 20%          |
| Streambank Wheatgrass            | <i>Elymus lanceolatus</i>     | 20%          |
| Slender Wheatgrass               | <i>Elymus trachycaulus</i>    | 15%          |
| Big Bluegrass                    | <i>Poa secundiflora</i>       | 5%           |
| Western Wheatgrass               | <i>Pascopyronsmithii</i>      | 15%          |
| Fowl Bluegrass                   | <i>Poa palustris</i>          | 20%          |
| Baltic Rush                      | <i>Juncus balticus</i>        | 5%           |

Thank you for playing a critical role in preserving a special part of Vail's community—Gore Creek.

LEARN MORE AT [LOVEVAIL.ORG](https://lovevail.org)





Rabbitbrush



Quaking Aspen



Boulder Raspberry

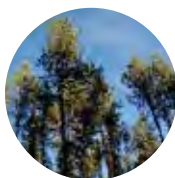
| COMMON NAME                           | SCIENTIFIC NAME               | HEIGHT | SPREAD                             |
|---------------------------------------|-------------------------------|--------|------------------------------------|
| <b>UPLAND: DECIDUOUS TREES/SHRUBS</b> |                               |        |                                    |
| Rocky Mountain Maple                  | Acer glabrum                  | 20-30' | 10-20'<br><i>(smaller in Vail)</i> |
| Saskatoon Serviceberry                | Amelanchier alnifolia         | 6-20'  | 6-12'                              |
| Rabbitbrush species                   | Chrysothamnus nauseosus       | 2-6'   | 2-6'                               |
| Potentilla or Cinquefoil              | Pentaphylloides floribunda    | 2-3'   | 2-3'                               |
| Quaking Aspen                         | Populus tremuloides           | 20-50' | 20-30'                             |
| Native Chokecherry                    | Prunus virginiana melanocarpa | 8-20'  | 8-12'                              |
| Wax Currant                           | Ribes cereum                  | 2-4'   | 2-4'                               |
| Woods Rose                            | Rosa woodsii                  | 3-6'   | 3-6'                               |
| Boulder Raspberry                     | Rubus deliciosus              | 3-6'   | 3-6'                               |
| Thimbleberry                          | Rubus parviflorus             | 3-5'   | 4-6'                               |
| Red-berried Elder                     | Sambucus pubens               | 4-12'  | 4-12'                              |
| Snowberry                             | Symphoricarpos albus          | 3-5'   | 3-5'                               |



Native  
White Fir



Rocky Mountain  
Juniper



Lodgepole  
Pine

| COMMON NAME                    | SCIENTIFIC NAME          | HEIGHT | SPREAD |
|--------------------------------|--------------------------|--------|--------|
| <b>UPLAND: EVERGREEN TREES</b> |                          |        |        |
| Native White Fir               | Abies concolor           | 40-60' | 20-30' |
| Rocky Mountain Juniper         | Juniperus scopulorum     | 20-30' | 8-12'  |
| Engelmann Spruce               | Picea engelmannii        | 40-60' |        |
| Colorado Blue Spruce           | Picea pungens            | 40-60' |        |
| Bristlecone pine               | Pinus aristata           | 10-20' |        |
| Lodgepole pine                 | Pinus contorta latifolia | 50-70' | 10-15' |
| Douglas-fir                    |                          | 50-80' |        |



Rocky Mountain  
Columbine



Silvery  
Lupine

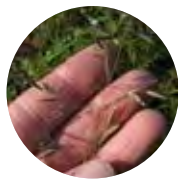


Pussytoes

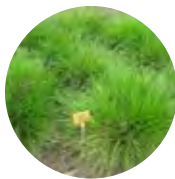
| COMMON NAME              | SCIENTIFIC NAME       |
|--------------------------|-----------------------|
| <b>UPLAND: FORBS</b>     |                       |
| Rocky Mountain Columbine | Aquilegia caerulea    |
| Rocky Mountain Penstemon | Penstemon strictus    |
| Richardson's Geranium    | Geranium richardsonii |
| Silvery Lupine           | Lupinus argenteus     |
| Aspen Daisy              | Erigeron speciosus    |
| Sulphur Flower           | Eriogonum umbellatum  |
| Pussytoes                | Antennaria rosea      |



Mountain  
Brome grass



Sandberg  
Bluegrass



Tufted  
Hairgrass

| COMMON NAME                    | SCIENTIFIC NAME        | DISTRIBUTION |
|--------------------------------|------------------------|--------------|
| <b>UPLAND: NATIVE SEED MIX</b> |                        |              |
| Streambank Wheatgrass          | Elymus lanceolatus     | 20%          |
| Mountain Brome grass           | Bromus marginatus      | 20%          |
| Slender Wheatgrass             | Elymus trachycaulus    | 15%          |
| Blue Wildrye                   | Elymus glaucus         | 5%           |
| Big/Canby Bluegrass            | Poa secunda            | 5%           |
| Rocky Mountain Fescue          | Festuca saximontana    | 5%           |
| Sandberg Bluegrass             | Poa secunda            | 5%           |
| Prairie Junegrass              | Koeleria cristata      | 5%           |
| Tufted Hairgrass               | Deschampsia caespitosa | 5%           |

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LEARN MORE AT [LOVEVAIL.ORG](https://lovevail.org)





**Gary Vick**

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614 Cowdin Drive  
Glenwood Springs, Co  
(303) 548-0962 (cell)  
[garywvick@icloud.com](mailto:garywvick@icloud.com)

September 16, 2019

The City of Glenwood Springs  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
Attention: Mr. Trent Hyatt, Senior Planner, Community Development

RE: Proposed revision to Ordinance 070.040.020(d)(24) Conservation of Waterways

Honorable Mayor, City Council, and Planning and Zoning Commissioners:

I am grateful for and appreciate your taking the time to review the attached package that is submitted to facilitate your review of the subject revision. I look forward to discussing these items with you at scheduled P&Z and Council meetings.

I respectfully urge you to reject the proposed revision.

The proposed revision puts severe limitations on the use of our property in exchange for no quantifiable, demonstrated gain. There is no outcry for this revision, and it is not required at this time. It will result in potentially severe devaluation of the property values of homeowners along the Roaring Fork River. It ignores the rights of property owners to use and enjoy their land by forwarding the goals of well intentioned but minority environmental groups. The revision has not been subject to even a cursory cost/benefit analysis. The City has not determined how many properties would be made non-compliant by this revision, nor to what extent. There has been no meaningful outreach on the part of the City to solicit stakeholder input or work with citizens to craft an ordinance that can garner stakeholder support. The proposed ordinance does not meet the City's threshold for ordinance change. These arguments are substantiated in the attachments hereto.

Living on a river is magical. It is a truly wonderful experience. As residents living along the Roaring Fork in Glenwood Springs, we are lucky. Most of us purchased our properties for the express purpose of viewing, using, accessing, and enjoying the river. We listen to the river every day. We sleep to it every night. We watch it at breakfast and dinner every day. We fish in it. We watch families of fox, deer, bear, raccoon, mink, geese, ducks, hawks, and bald eagles feed and play in it. We watch the stars by it, picnic by it, and camp by it. We kayak and raft to our own back door. We do so responsibly, caring for the environment that we paid a premium to own.

We use our backyards much as you do, only there is no proposed ordinance revision

that could sterilize and make unusable up to 90% of your backyard's most attractive features without meaningful stakeholder input and without the City demonstrating any quantifiable need for, or quantifiable benefit from, this sterilization. You are not facing an ordinance that would limit your enjoyment and severely impact the value of your property.

I have provided City Staff ("Staff") with alternate language for the ordinance that mitigates many of these concerns (the "Proposed Changes"). I also provided thorough justification for the Proposed Changes. I have asked Staff to provide these documents in your packets.

Staff has reviewed the Proposed Changes and has stated to me that many of the changes are desirable. Perplexingly, none of the Proposed Changes have made it into the text of the code you will review tonight. You are reviewing something that, apparently, Staff might want to modify, that the City has not justified, that negatively impacts stakeholders along the river, and that has not had the benefit of meaningful outreach on the part of the City.

Accordingly, you have no choice other than to deny approval of the ordinance as presented. Alternatively, you could recommend that Council instruct Staff to i) engage stakeholders to solicit their input and concerns, ii) incorporate changes based on such input that Staff feels is appropriate, iii) fully justify the need for the ordinance with a proper cost/benefit analysis, and iv) resubmit the ordinance for approval.

Thank your for your efforts in the review of this material.

Best regards,

*/signed by Gary W. Vick/*

Gary W. Vick

*Attachments*



## Discussion

***The Proposed Ordinance does not appear to meet City Ordinance requirements for an Ordinance Change, section 070.060.040.(c)(3)d.3***

- ii. **Does not conflict with other provision of this Code or other provisions of the Glenwood Springs Municipal Code.**

Rebuilding of existing non-conforming structures (such as those in the proposed setback area) is contemplated in the Code, but the Proposed Code stipulates that no excavation may occur in the setback area. Such excavation may be required in order to rebuild a nonconforming structure, and could be a conflict in the code.

- iii. **Is necessary to address a demonstrated community need**

The staff report states that the City lags behind neighboring communities in the protection of water resources.

This statement is not accurate.

The Roaring Fork Conservancy (“RFC”) performed a spot comparison of ordinances found in nearby municipalities and counties. This is shown below.

| REGION             | SETBACK                   | DETAILS                                                                                                                                                                                                                                           |
|--------------------|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| City of Aspen      | 100ft/100 year floodplain | Development is “subject to heightened review.” (Ord. 26.435.040)                                                                                                                                                                                  |
| Town of Basalt     | 50ft                      | Prohibits development and cutting of riparian and wetland vegetation. (Ord. 16-464a)                                                                                                                                                              |
| Town of Carbondale | Unspecific                | If new development is proposed adjacent to any river, all practical means should be used to preserve natural grade, drainage patterns, soil and vegetation. (Ord. 4-2007)                                                                         |
| Eagle County       | 75ft/100 year floodplain  | No development within 75ft of high water mark or 100 year floodplain (whichever is greater).                                                                                                                                                      |
| Garfield County    | 35ft                      | Prohibits removal of any existing native vegetation or conducting any activity which will cause any loss of riparian area unless it involves the approved removal of noxious weeds, nonnative species, or dead or diseased trees.                 |
| Pitkin County      | 100ft/100 year floodplain | 100 foot buffer for all activity and development. Setback may be reduced to a minimum of 50 feet if reduction does not result in water quality degradation, stream bank erosion and/or a reduction in the quality of riparian or wetland habitat. |

The RFC comparison did not include municipalities downstream from Glenwood Springs from whom no outcry regarding water quality has been heard. The RFC’s inclusion of county ordinances for comparison is not appropriate insofar as municipalities generally have much greater density

and diversity of land use than do counties which can be much more rural, are more agricultural in nature, and require different land use criteria. One has only to compare a drive down Midland Avenue to a drive to Grand Junction to see this. Some individual landowners in nearby counties, for example, can easily have more river frontage than the 50 stakeholders addressed in this letter combined.

Accordingly, I prepared a more thorough comparison of ordinances in neighboring municipalities in the table below. The comparison concentrates on municipalities and omits counties. Though it does not capture every riverfront municipality in the state, it is what could put together in the time available. It captures a much better picture of where Glenwood stands in comparison to its neighbors than does the RFC comparison.

Six of the 10 municipalities reviewed have no riparian setbacks of any kind, and only one, Basalt, applied vegetation limitations retroactively to existing homeowners. Those municipalities without setbacks see no need for them. There is no demonstrated need for revised setbacks in Glenwood Springs.

Glenwood Springs does not lag behind the majority of its neighboring municipalities in the protection of water sources. There is no need to “keep up with the Jones”, and the Proposed Ordinance would be one of the most restrictive to existing homeowners in the comparison.



| Municipality        | Setback                   | Vegetation Restriction Retroactive to existing Properties | Summary of Ordinance                                                                                                                                                                                                                                                                                                                                               |
|---------------------|---------------------------|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Aspen (from RFC)    | 100'/100 yr Flood-plain   | No                                                        | Development subject to heightened review                                                                                                                                                                                                                                                                                                                           |
| Snowmass Village    | 25' from Riparian edge    | No                                                        | <u>New development only.</u> Recreational access sites allowed. Vegetation loss to be minimized, replacement vegetation ratio may be less than 1:1 to facilitate a view of, and use of, the creek.                                                                                                                                                                 |
| Basalt (from RFC)   | 50'                       | <b>Yes</b>                                                | Apparently very restrictive, prohibits development and cutting of riparian and wetland vegetation.                                                                                                                                                                                                                                                                 |
| Carbondale          | <u>None</u>               | No                                                        | Developments shall minimize impacts to...wetlands, and...stands of trees. Such resources... shall be preserved where practicable...development shall be designed to preserve existing waterways...primary vegetation (trees)...and other features.                                                                                                                 |
| Vail                | 30' or 50' from stream CL | No                                                        | Decks may extend 10' into setback, <u>no restrictions on vegetation.</u> City historically has paid 75% of regrowth design costs for citizens, is considering more restrictive code <u>after outreach and stakeholder input</u> but staff expects "very serious pushback" from citizens.                                                                           |
| Gypsum              | <u>None</u>               | No                                                        | Community Development Director states that nothing is driving the need for an ordinance. City adopted <u>Eagle River Watershed Plan</u> but specifically, and significantly, did not adopt the setbacks associated with the plan.                                                                                                                                  |
| New Castle          | <u>None</u>               | No                                                        | Planning Department stated no specific restrictions exist                                                                                                                                                                                                                                                                                                          |
| Silt                | <u>None</u>               | No                                                        | Nothing found in review of code, messages left for city staff                                                                                                                                                                                                                                                                                                      |
| Rifle               | <u>None</u>               | No                                                        | Nothing found in review of code, messages left for city staff                                                                                                                                                                                                                                                                                                      |
| Parachute           | <u>None</u>               | No                                                        | ...subdivisions... shall preserve, insofar as possible, ... drainage, ..., lakes, rivers, streams and trees. Significant vegetation, including dominant or mature trees & shrubs shall be retained where possible.                                                                                                                                                 |
| Glenwood (existing) | 30' from HWM ~ 8127 cfs   | No                                                        | Entire Ordinance: No improvement, building, structure, excavation, dumping or backfill shall be placed, built, undertaken or approved within a thirty-foot setback area horizontally from the high water mark of any river or live stream, except for bridges, paths for non-motorized use, irrigation structures or flood control and erosion protection devices. |
| Glenwood (proposed) | 50' from OHWM per USGS    | <b>Yes</b>                                                | See proposed ordinance and Proposed Changes in letter to Trent Hyatt 8-31-19                                                                                                                                                                                                                                                                                       |

You should instruct Staff to provide a more thorough comparison for review, inclusive of additional parameters and municipalities.

**iv. Is necessary to respond to substantial changes in conditions and/or policy**

Staff states that adoption of the proposed standards would help the City meet future compliance with EPA Municipal Separate Storm Sewer System (MS4) permit requirements if the population exceeds 10,000 in the 2020 census.

The Proposed Ordinance is premature, as is the perceived need to meet MS4 without knowing the results of the census.

If it is necessary to meet MS4, the Proposed Ordinance does not help to meet compliance in a substantial or meaningful way. The lands covered by the Proposed Ordinance represent less than 1% of the City's land area. The vast majority of the City's storm water disposal is untreated, running through yards, streets, and drainage systems directly into the river system. The vast majority of storm water does not go through any riparian environment of any kind. As such, improvement of the riparian environment, even by a substantial amount, would not materially affect overall storm water quality.

The bulk of the City's inability to comply with the MS4 permit, if any inability exists, has nothing to do with the areas addressed by the Proposed Amendment. The interior of the City, where most storm water is generated, should be the focus of this requirement, not the narrow riparian zones along the river.

To use this MS4 as a justification for the Proposed Ordinance is disingenuous and violates the requirements for ordinance change and its intent.

***The Proposed Ordinance lacks balance between cost and benefit.***

Many endeavors in life can be successful if one simply copies a similar, previously successful process. I didn't invent that phrase: Compaq, Dell, Microsoft, and other successful business did.

A relevant process to follow here is exemplified by the EPA under previous administrations. Prior to implementing clean water regulations the EPA gathers input from stakeholders from all sides the issue. Environmental groups, whom I generally support, are consulted. Industry, citizens, and municipalities are consulted. Significantly, no one group writes the rules. Rather, the EPA balances goals and needs, performs cost/benefit analyses, and writes regulations that generally garner the widest possible support.

Now lets compare this process to the derivation of the Proposed Ordinance that is before you today.



The Proposed Ordinance has been authored by Staff and the River Commission ("RC") with significant input from the RFC and certain members of City Council (collectively, the "Authors"). Staff states that the Proposed Ordinance has been in process for several years. Stakeholders have not been solicited or consulted to any meaningful degree during the drafting of the ordinance and were notified of the Proposed Ordinance through a single mailing approximately two weeks prior to a scheduled vote on the ordinance by the Planning and Zoning Commission ("P&Z"). The ordinance furthers the well intentioned goals of the Authors alone at the expense of reduced property values on the part of stakeholders.

The Authors have not performed any cost/benefit analysis, or even a cursory cost/benefit comparison, to justify the Proposed Ordinance. The Authors have not quantified the benefits of the Proposed Ordinance and have ignored the serious potential impact on the property values of stakeholders.

Significantly, they have not identified the number of properties that will be made non-compliant by the Proposed Ordinance and to what extent they will become non-compliant.

This is no way to run a railroad. Costs and benefits are properly discussed below.

### ***Costs of the Proposed Ordinance***

The costs of the Proposed Ordinance will be born by a small number of stakeholders and could be in the million of dollars.

The Proposed Ordinance restricts, or sterilizes, a portion of the land owned by homeowners. It limits a homeowner's use of his property, potentially limits his ability to clear or even trim vegetation so as to be able to see, use, access, and enjoy the river he paid dearly to be able to see, use, access, and enjoy. As proposed, it may limit the ability of a homeowner to rebuild a non-conforming structure or build a new structure at the 50' edge of the setback area due to lack of construction access.

The value of a less restricted property is more than the value of a more restricted property. The only question is to what degree. In my case, I paid a 28% premium for my property to be on the river and have a view of, use of, and access to the river. This premium is born out by square footage tax assessments of my property compared to other properties in my neighborhood.

If a homeowner's view, use, and access to the river are hindered and his ability to develop, redevelop, or rebuild his property is limited by the Proposed Ordinance, then the Proposed Ordinance will cause him to potentially loose the premium associated with his property.

There is no hard data as to how much more homeowners along the Roaring Fork paid to be able to see, use, and access the river, or how much the property value will be reduced by the Proposed Ordinance, but we can get a feel for the order of magnitude of this premium by making some reasonable assumptions. In my case the amount of market value that I will lose under the Proposed Ordinance is on the order of \$100,000 (\$450,000 market price X  $(1 - 1/1.28)$  ~ \$100,000).

According to Staff, there are 50 odd private homes along the river that could be affected by the Proposed Ordinance. Though many of these homes are larger and more expensive than mine, if these homes incur a \$100,000 devaluation per property, valuation losses of over \$5 million could be incurred by the stakeholders.

As established in the next section, there is no corresponding benefit associated with this cost.

The Authors claim that there will be no impact on property valuation. None. They claim that property values may increase under the Proposed Ordinance. These claims defy common sense. The value of a less restricted property is more than the value of a more restricted property.

That said, I had the Chairman of the RC tell me that *"Common sense does not apply. We have a study showing that riparian setbacks have no effect on property values and may increase them."* Another member of the RC told me that resale prices would not be affected by the Proposed Ordinance because *"whoever can afford (this) property can afford to get any variance they need"*. I had not realized variances were for sale.

The Chairman of the RC was kind enough to forward me a copy of the subject study performed in 2006 by Dr. Brian A. Mikelbank of Cleveland State University ("CSU") entitled *Hedonic Analysis of Riparian/Wetland Setbacks*. It was performed on a fee basis on behalf of Chagrin River Watershed Partners, Inc. ("CRWP"), a watershed conservancy group similar to the RFC.

The study performed a regression analysis (a statistical analysis of outcomes with respect to multiple variables) on roughly 4,000 home sales over several years in the CRWP watershed area, roughly 400 of which bordered a stream or river. The overwhelming majority of properties bordering a stream or river had setbacks in place. The regression analysis took into account a multitude of variables that could influence transaction prices. The regression analysis did not show a correlation between setbacks and transaction prices.

As a degreed engineer turned CFO that has taken both graduate and post graduate statistics classes, this seemed a bit counterintuitive to me. As a numbers guy I read the study cover to cover, number for number. On page 15 of the study I found the reason why the regression analysis did not find a correlation between setbacks and transactions prices. Page 15 states (emphasis added):



“While a homebuyer valuing the environmental protection the setback provides could explain this result, our focus group meeting indicated that this explanation is unlikely in this market.

The consensus opinion expressed at that meeting was that potential homebuyers do not know about setback designations. Further, the consensus was that it was unlikely that realtors would even know whether or not a property had a designated setback. Thus, the focus group predicted that setback designation would not be an influence in the area housing market. That makes the results of the community specific model somewhat suspect”.

Two things bothered me after I read the study.

First, the vast majority of homes with setbacks were the same homes that were on the river. The setback variable and the streamside variable were therefore coupled. If you get one, you generally get the other. Because the variables were coupled, the higher prices paid for homes with setbacks might be attributed to their being on a stream, a generally desirable trait. Absent common sense, there is no way to know.<sup>1</sup>

Second, it seems to me that a buyer would not be in a position to pay more, or less, for a property with, or without, a setback if he or she was unaware of the existence of the setback when the real estate transaction was made. It seems to me that statistically measuring if people will pay more, or less, for a property with, or without, a setback is impossible if the parties do not know about the setback and factor the setback into their pricing decision.<sup>2</sup>

The Author’s contention that riparian setbacks do not influence real estate transaction prices is based on a study that has fatal flaws. Their conclusion is false. Setbacks will be widely known in Glenwood Springs and required to be disclosed at the time of sale. Setbacks will have a negative impact on transaction prices.

This conclusion is verified by attached emails from two statisticians. One reviewed the study at my request, and the other is Dr. Mickelbank, the author of the study.

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<sup>1</sup> For an analogy, consider that Ferraris come with fancy tires not found on other cars. If you do a regression analysis on 1,000 various car sales and include car brand and tire type as variables, the analysis may not be able to distinguish between these two effects because they always come together. So common sense is used to determine whether the buyer paid \$300,000 for the Ferrari, or for the tires.

<sup>2</sup> Staying with the car sales analogy, suppose that 500 of the 1,000 cars above had a handful of sand thrown into their engines prior to the sale and no one knew about it. The regression analysis would not detect any devaluation in price due to the sand in the engine because no one knew it was there and no one paid less for the car with sand in its engine. Can you conclude that sand in the engine, if known about, has no effect on the price? No.

### ***Benefits of Proposed Ordinance***

The Authors have not demonstrated a need for the Proposed Ordinance.

The benefits shown by the RFC have not been shown to be needs, are general in nature, none were quantified, and no credible argument was presented showing that implementation of the Proposed Ordinance would mitigate any of the concerns discussed in the proposed benefits to any meaningful, measureable degree.

The Roaring Fork River is over 70 miles in length. Only about 4 of those miles are in the city of Glenwood Springs. The fact of the matter is that there is no wholesale, overt destruction or degradation of riparian habitat along the banks of the Roaring Fork River through Glenwood Springs by homeowners who live along the river. To the contrary, most homeowners love the river more than the Authors do and are good environmental stewards of the lands they paid a premium to own and use.

In its July 19, 2019 letter to the Mayor, Council, and the P&Z the RFC infers that the Proposed Ordinance will have a positive economic impact because it will:

- *Reduce drinking water costs in the event that the City's secondary water source is required to be used.* This claim is not substantiated. The City's water supply currently meets applicable specification, as does its drinking water.
- *Reduce erosion.* This claim is not quantified, even on a cursory level. Examination of the river from Google Earth, Red Mountain, or by floating the river does reveal some areas of erosion within Glenwood Springs but it is impossible to tell over what time frame these occurred and they do not require a broad-brush ordinance to correct.
- *Increase property values.* This claim is false as shown in the previous section.
- *Support the local fishing economy.* Homeowners along the Roaring Fork generally love to fish. The RFC does not quantify this claim in any fashion whatsoever and there is no measureable degradation to the fishing industry by homeowners along the river or any measureable increase claimed if the Proposed Ordinance is adopted. The statement is completely general.
- *Tourism will be increased by improved aesthetics.* Aesthetics are in the eye of the beholder. Comments shouted to homeowners from passing commercial rafters are universally complimentary with respect to the aesthetics of individual properties. I hear such comments literally every day in the summer season. Not once in 21 years have I heard a derogatory comment relating to the aesthetics of my property or those of my neighbors.

People have impacted their environments as far back as our Native American ancestors. By default, tradeoffs are made between an ecosystem and a municipality. During discussions regarding the Proposed Ordinance, a liaison Council member told me that "*we must do everything possible to protect the river.*" Really? Everything? At any cost? The EPA does not see it that way. Nor does Staff.



When I related this conversation to Staff, the planner literally burst out laughing. He stated *“well, in that case we might as well just go shoot ourselves right now, because we will always have some level of impact on the river.”*

You may hear from the Authors that river temperatures are rising and that last summer there was an algae plume in the river. All true. Our environment is getting warmer, and last summer was particularly dry and hot. That is when algae plumes occur. But we are not burning the Amazon along the banks of the Roaring Fork River here in Glenwood Springs. You will not hear the Authors present any credible scientific evidence to support any claim that if the Proposed Ordinance had been in place last summer then these anomalies or any others would have been avoided.

In a document entitled *Glenwood Springs Riparian Assessment* dated February 26, 2018, members of the RC and RFC make the following observations that I comment on below.

- *The Banks at Threemile Creek are marginally vegetated and under erosion.*

The National Forest Service (“NFS”) routinely closes damaged areas to traffic to facilitate revegetation. This problem does not need a broad-brush ordinance to resolve.

- *(summarized) Backyard development creep and riparian vegetation clearing are increasing...some (landowners) have cleared ... access down the hill slope (that) may disrupt riparian function and if copied...could result in extensive loss of riparian habitat. Potential treatments include curtailing ... development ... to preserve riparian function while still allowing private landowner(s)...to enjoy riverside amenities. Public education is a key component for addressing these concerns.*

A number of points regarding vegetation are relevant here.

1. The claim is anecdotal and unsubstantiated.
2. There is no pre and post analysis over any defined time frame to justify a claim that creep is significant or detrimental. There is no objective science here. There is no wholesale or overt degradation of riparian habitat that warrants this broad brush approach.
3. Staff has stated that there are roughly 50 private homes along the river in Glenwood. The extent of their riverfront is therefore limited, and the extent of any cleared or developed riverfront is even more limited. Staff has provided no hard data on this riverfront footage.
4. Property owners have a right to use, enjoy, view, and access the river on the property they paid a premium to own.
5. Efforts to discuss alternative usage scenarios have been rebuffed by the Authors. Property owners currently enjoy 100% use of their

property. The Proposed Ordinance's provision to allow property owners to use only 10% of their riparian area is unfair and insufficient by any standard. It is invasive and an affront to property owners rights. When you live on the river, you understand this.

6. The Assessment states that "*Public Education is a key... (see above)*. So where, exactly, has been this public outreach and education? With the exception of Staff, the Authors have largely refused to engage well intensioned citizens in a constructive revision of the Proposed Ordinance. Instead, it is being considered with scant notice to stakeholders after years of work by the Authors to further their own environmental views.

The Assessment's claim seems rooted to some extent in the Authors' objection to non-native grasses in the riparian zone. The following table was reproduced from a 2005 study provided by the RFC entitled *Riparian Buffer Zones: Functions and Recommended Widths*. As shown below, it suggests that grasses actually fare pretty well in comparison to other types of vegetation.

| Function                                                                     | Grass  | Shrubs | Trees  |
|------------------------------------------------------------------------------|--------|--------|--------|
| <b>Sediment trapping</b>                                                     | High   | Medium | Low    |
| <b>Filtration of Sediment<br/>born Nutrients,<br/>Microbe and Pesticides</b> | High   | Low    | Low    |
| <b>Soluble forms<br/>of Nutrients<br/>and Pesticides</b>                     | Medium | Low    | Medium |
| <b>Flood Conveyance</b>                                                      | High   | Low    | Low    |
| <b>Reduction of Stream<br/>Bank Erosion</b>                                  | Medium | High   | High   |

The study goes on to say that the removal efficiency of grasses, compared to an ideal mix of grasses, shrubs, and trees, have a removal efficiency of 61% of nitrates, 72% of phosphorus, and 44% of orthophosphates. Grasses are therefore not completely inept at removal of pollutants. And remember, the existing and potential area of grasses along the riverbank is relatively small.



The takeaway here is that non native homeowner grasses comprise a very small percentage of the short Roaring Fork riverbank through Glenwood Springs, that there is no objective evidence to suggest that the amount of grass coverage is egregious, detrimental, or increasing, that grass is better than or equal to 4 of the 5 functions listed in the table above, that grass provides meaningful absorption of nitrates and phosphorous, and that the vast majority of storm water runoff does not flow through the riparian environment but drains through storm sewers directly into the river which makes concentrating on homeowner riverbanks somewhat of a fruitless exercise.

It cannot be concluded that the Proposed Ordinance would result in meaningful reduction in riparian function or increase water quality to any meaningful, demonstrable degree.

***Gary W. Vick***

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614 Cowdin Drive  
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(303) 548-0962

August 31, 2019

Mr. Trent Hyatt  
Senior Planner, Community Development  
The City Glenwood Springs  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601

RE: Basis of changes to proposed Riparian Setback Ordinance

Trent,

I appreciate your meeting with me last Monday to review changes to the proposed ordinance regarding riparian setbacks (the "Proposed Changes"). As we discussed, the vast majority of your original language has been retained and most of the Proposed Changes are expansions and clarifications. Based on our conversations it appears you are in agreement with many of the Proposed Changes.

I recommend that you incorporate these changes prior to the next P & Z meeting and notify affected stakeholders of the changes so that their comments may be considered by P & Z.

The proposed ordinance is somewhat cavalier with respect to the rights of property owners. What follows is a summary of the reasoning for the Proposed Changes and is provided to facilitate discussion among your staff and your advisors.

**Purpose**

The purpose of the ordinance has been expanded in the Proposed Changes based on consultations with you, members of the River Commission, and members of Council. It now fully reflects the intent of the ordinance as represented to me by these parties. This section is self explanatory.

## Definitions

Definitions are added for clarity and will of course need to be relocated to the definitions section of the Code.

## Standards

Generally, the standards have been expanded to reflect the consultations mentioned above. Proposed Changes focus on three main areas:

1. **Improvements have been segregated into two separate sections: new and existing to adequately provide for “grandfathering”.**

Section 070.010.070 (Nonconformities) was not designed to, nor does it, address riparian areas. Section 070.10.070 (f) (3) is the closest applicable section and addresses landscaping. It states that the nonconforming features must be upgraded if, among other things, *any* changes are made to parking areas and *certain* changes are made to structures outside of the riparian area. Simply put, an insignificant change to something not impacting the riparian area could result in a loss of grandfathering. This is not the intent of the grandfathering discussed with members of Council and the River Commission. Section 070.10.070 is inappropriate for this particular purpose.

Accordingly, separate sections covering new and existing improvements were added in the Proposed Changes.

2. **Trimming of vegetation is allowed in the Proposed Changes.**

Consultations with you and Council Members affiliated with the River Commission indicate that it is not the intent of the ordinance to restrict a private owner's view and use of the waterway by restricting his ability to trim vegetation. The term “clearing” in the proposed ordinance is vague.

Accordingly, Clearing of Native Vegetation has been added to the definitions and trimming is specifically allowed in the Proposed Changes provided that root systems are not damaged or destroyed.

3. **A 15 foot work zone has been added to facilitate construction, rebuilding, and repair of new and existing structures.** The provision provides that any vegetation disturbed in this process will be reasonably replaced.



It is the intent of the proposed ordinance to allow structures to be built within 50 feet of the OHWM and for existing structures within the setback to be rebuilt or repaired. Unfortunately, the proposed ordinance does not account for the need to have space around a new or existing structure for crews or equipment. The unintended consequence of the proposed ordinance is to increase the setback by the distance required to work around the structure. This is not the intent of the proposed ordinance as presented to me in the consultations reference above.

This is remedied simply by inclusion of a 15 foot perimeter work zone in the Proposed Ordinance, provided that commercially reasonable efforts are made to substantially replace any disturbed vegetation within the 15 foot perimeter. This retains the intent of the riparian setback.

### **Applicability**

Proposed Changes to Applicability relate to two main areas, river access and consistency between subparagraphs 2 and 4.

1. **Consistent threshold for Paragraph 2 and 4.** Paragraphs 2 and 4 have different thresholds of performance and remedy. As currently proposed, City activities are not as limited as homeowner activities. The Proposed Changes correct this and a “do no harm” standard is used for both paragraphs.
2. **Stairs.** Many homeowners have a need for stairs on steeper parts of the banks along the river. Whether stairs do or do not now exist, this is a safety issue and homeowners have a right to safe river access. Stairs are provided for in the Proposed Changes.
3. **River Access.** The Proposed Changes allow for increased access and use of the river vis-à-vis the proposed ordinance. The proposed ordinance allows clearing 10% of the vegetation in the setback area, whereas the Proposed Changes increase this to the greater of 25% or that required to allow for an Access Corridor 30 feet wide through the setback area.

Many homeowners purchased their properties on the Roaring Fork expressly for the purpose of viewing, using, accessing, and generally enjoying the river. Most paid a premium to do so. Living on the river is magical. Take it from someone who does it everyday: the river and its wildlife are healthy. One

only has to float the river or view the river from Red Mountain to confirm that no wholesale, overt destruction of riparian environment is occurring along the banks of the Roaring Fork through Glenwood Spring.

Rather than use local solutions to address local areas of habitat loss, the proposed ordinance would sterilize and makes unusable up to 90% of a homeowners river frontage without meaningful stakeholder input and without the City demonstrating any quantifiable need for, or quantifiable benefit from, this sterilization.

That said, in an attempt to strike a balance between homeowners who own and use the river frontage every day and those who will incur no quantified benefit or any personal cost associated with its sterilization, the Proposed Changes includes an expansion of the usable riparian area that many homeowners may find acceptable.

There is a minimum amount of access a homeowner requires to view, access, use, and enjoy the river, regardless of the size of his lot or the length of his stream frontage.

Different homeowners may have different thoughts, but I recommend 30 feet for the Corridor Width because this allows a small lot owner to have adequate access to the river. I have a 30 foot corridor on my 75 foot lot and in my personal experience this is the minimum you need to get two or three rafts, some kayaks, lawn chairs, coolers, friends, family, and a couple of dogs together along the river bank for a get together. It is also the minimum I need for fishing, relaxing, and viewing. Keep in mind it is my land, not yours. I currently have 75 feet I can use; limiting my unrestricted use to 30 feet is a generous offer on my part.

I recommend 25% as the area parameter because, by any objective measure, telling any home owner that he can only use 10% of what he already owns and can currently use without restriction is authoritarian, heavy handed, one sided, and an affront to the rights of property owners rights. This may not have been the intent, but it is the result. The 10% figure was arrived at by and large by people who don't live on the river and have 100% use of their own back yards to use as they see fit. I might have authored such a 10% proposal myself if I did not live on the river. But I do.

So, how do these Proposed Changes compare to the proposed ordinance? The following calculation is pertinent: There are roughly 4 miles of river through Glenwood Springs. That's about 8 miles of riverbank, or about 42,000 feet of riverbank in aggregate along both sides of the river. The Proposed Changes would allow 50 homeowners to clear 30 feet of vegetation along the riverbank. Not all homeowners would take advantage of this. Some might not want to, and others might not be able to due to topography, and some may have already done so and are grandfathered. Some might put the corridor in areas of no riparian habitat.

But let's make an extremely onerous assumption and say that all 50 homeowners clear a new 30 foot Access Corridor to the riverbank through virgin riparian habitat. That means that 1,500 feet of river front could be cleared. Under this extreme scenario, 1,500 feet out of 42,000 feet, or 3.6% of the riverfront, would not remain sterilized by the Proposed Changes. Said another way, 96.4% would remain sterilized. If one takes into account that grasses could be planted in the Access Corridor, and that these grasses have, according to data provided by the Roaring Fork Conservancy, between 70% and 90% (depending on the pollutant) of the filtering capacity of a mixed riparian habitat, then less than 1% of the filtering capacity of the stream bank would be affected. That's not much. The proposed Changes give you between 96% and 99% of what you are asking for. And frankly that's on the low side, because not everyone will construct such a corridor.

I am not trying to be melodramatic, but homeowners along the Roaring Fork cannot accept the proposed ordinance in its current form. We have the motivation, resources, expertise, and remedies available to successfully contest this issue.

You love the river as much as I do, and I know trampling on property owner rights was not your intent. But the proposed ordinance does exactly that as an unintended consequence. The Proposed Changes are more than reasonable, mitigate many concerns, should be incorporated in their entirety, presented to stakeholders for comment, and subsequently reviewed by P & Z and Council.

Regards,

*/ signed by Gary W. Vick/*

Gary W. Vick



#### (24) **Conservation of Waterways**

It is the purpose of the Subsection 070.040.020 (d) (24) to: 1) conserve and promote the health of the City's riparian ecosystems and water quality by maintaining a functional natural buffer adjacent to waterways, 2) allow owners of properties affected by this ordinance to access, use, view, and personally enjoy the river ecosystem and waterway, 3) not materially degrade the underlying value of any property affected by this ordinance, and 4) not impede development or redevelopment of any property affected by this ordinance except as set forth below.

For the purposes of this Subsection 070.040.020 (d) (24):

- **Clearing of Native Vegetation** shall be defined as complete removal of vegetation and the removal or destruction of the root systems associated with that vegetation.
- **Ordinary High Water Mark ("OHWM")** shall be defined */USGS definition to be inserted here/*.
- **Riparian Setback Area** shall be defined as the area within 50 feet of the OHWM measured perpendicular to the OHWM that contains Riparian habitat.
- **Access Corridor** shall be defined as a continuous corridor not to exceed 30 feet in width measured collinear with the OHWM through the Riparian Setback Area.

#### **a. Applicability**

All new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfill shall be subject to the requirements of 070.040.020 (d) (24) b *Standards* unless the applicant demonstrates to the City Engineer and the Director by the preponderance of the evidence that one or more of the following conditions is met:

1. The removal of native vegetation, not to exceed the greater of 25% of the Riparian Setback Area or area of the Access Corridor, to allow a property owner private access to, use of, view of, and personal enjoyment of the

river ecosystem and waterway. This shall not be interpreted to allow for permanent structures of any kind within said area (except for access steps no more than 4 feet in width and no more than 18 inches high), nor shall it be interpreted to prevent trimming of native vegetation outside of the Access Corridor or 25% of the Riparian Setback Area so long as that vegetation has historically been trimmed and so long as the root systems of the vegetation are not removed or destroyed.

2. The construction of bridges, public utilities, public paths for non-motorized use, public open spaces, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices that to not result in water quality degradation, increased stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.
3. Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations.
4. Applicant demonstrates that the area does not contain significant riparian plant species or functions or is impacted by previous earth disturbance activities and proposed activity does not result in water quality degradation, increased stream bank erosion, or a reduction in the function and quality of a riparian area or wetlands.

**b. Standards**

1. No new improvement, building, structure, excavation, grading, dumping, Clearing of Native Vegetation, or backfill shall be placed, built, undertaken or approved within the Riparian Setback Area associated with any river or live perennial stream, provided that: i) trimming of any native vegetation is permitted in the Riparian Setback Area so long as the root systems of the vegetation are not removed or destroyed, and ii) the Riparian Setback Area may be disturbed within the footprint of any new improvement, building structure, or excavation within a 15 foot perimeter of any new improvement, building, structure, or excavation to facilitate construction provided that commercially reasonable efforts are made to substantially replace any disturbed riparian vegetation within the 15 foot perimeter with vegetation of similar type and function.

2. No existing improvement, building, structure, or excavation may be repaired, maintained, rebuilt, or redeveloped within the Riparian Setback Area or any river or live perennial stream, provided that: i) trimming of native vegetation in the Riparian Setback Area is permitted to any extent so long as that vegetation has historically been trimmed and so long as the root systems of the vegetation are not removed or destroyed, and ii) the Riparian Setback Area may be disturbed within the footprint of any existing improvement, building structure, or excavation and within a 15 foot perimeter of any existing improvement, building, structure, or excavation to enable repair, maintenance, rebuilding, or redevelopment of such improvement, building, structure, or excavation provided that commercially reasonable efforts are made to substantially replace any disturbed riparian vegetation within the 15 foot perimeter with vegetation of similar type and function.
3. No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within the Riparian Setback Area.



## (24) Conservation of Waterways

~~1.~~ It is the purpose of the Subsection 070.040.020 (d) (24) to: 1) conserve and promote the health of the City's riparian ecosystems and water quality by maintaining a functional natural buffer adjacent to waterways, 2) allow owners of properties affected by this ordinance to access, use, view, and personally enjoy the river ecosystem and waterway, 3) not materially degrade the underlying value of any property affected by this ordinance, and 4) not impede development or redevelopment of any property affected by this ordinance except as set forth below.-

For the purposes of this Subsection 070.040.020 (d) (24):

- Clearing of Native Vegetation shall be defined as complete removal of vegetation and the removal or destruction of the root systems associated with that vegetation.
- Ordinary High Water Mark ("OHWM") shall be defined */USGS definition to be inserted here/*.
- Riparian Setback Area shall be defined as the area within 50 feet of the OHWM measured perpendicular to the OHWM that contains Riparian habitat.
- Access Corridor shall be defined as a continuous corridor not to exceed 30 feet in width measured collinear with the OHWM through the Riparian Setback Area.

### a. Applicability

~~a.~~

All new improvements, buildings, additions, structures, excavations, grading, dumping, clearing of native vegetation, or backfill shall be subject to the requirements of 070.040.020 (d) (24) b *Standards* unless the applicant demonstrates to the City Engineer and the Director by clear and convincing the preponderance of the evidence that one or more of the following conditions is met:

- ~~2.1.~~ The removal of native vegetation, not to exceed ~~the greater of 40~~25% of the ~~setback area~~Riparian Setback Area, or area of the Access Corridor, to allow a property owner ~~private~~ ~~private~~ access to, ~~use of, view of, and~~ ~~and~~ personal enjoyment of the ~~river ecosystem and~~ waterway. This shall not be interpreted to allow for permanent structures of any kind within said area ~~(except for access steps no more than 4 feet in width and no more than 18 inches high), nor shall it be interpreted to prevent trimming of native vegetation outside of the Access Corridor or 25% of the Riparian Setback Area so long as that vegetation has historically been trimmed and so long as the root systems of the vegetation are not removed or destroyed.~~
- ~~3.2.~~ The construction of bridges, public utilities, public paths for non-motorized use, public open spaces, wildfire mitigation activities, irrigation structures, flood control and erosion protection devices that to not result in water quality degradation, ~~increased~~ stream bank erosion, or a reduction in the function and quality of a riparian area or wetland.
- ~~4.3.~~ Removal of vegetation listed on the Garfield County noxious weed list, Chinese Elm, or Siberian Elm in compliance with applicable regulations. ~~Vegetation shall be replaced with appropriate riparian plant species to limit erosion.~~
- ~~5.4.~~ Applicant demonstrates that the area does not contain ~~ss~~significant riparian plant species or functions or is impacted by previous earth disturbance activities and proposed activity ~~does not result in water quality degradation, increased stream bank erosion, or a reduction in the function and quality of a riparian area or wetlands~~improves water quality, ~~limits erosion, and promotes riparian or wetland restoration.~~

#### b. Standards

1. No ~~new~~ improvement, building, structure, excavation, grading, dumping, ~~ec~~clearing of ~~n~~Native ~~v~~Vegetation, or backfill shall be placed, built, undertaken or approved within ~~fifty feet of the ordinary high water mark,~~

~~measured horizontally,~~ the Riparian Setback Area ~~of associated with~~ any river or live perennial stream, provided that: i) trimming of any native vegetation is permitted in the Riparian Setback Area so long as the root systems of the vegetation are not removed or destroyed, and ii) the Riparian Setback Area may be disturbed within the footprint of any new improvement, building structure, or excavation within a 15 foot perimeter of any new improvement, building, structure, or excavation to facilitate construction provided that commercially reasonable efforts are made to substantially replace any disturbed riparian vegetation within the 15 foot perimeter with vegetation of similar type and function.

2. No existing improvement, building, structure, or excavation may be repaired, maintained, rebuilt, or redeveloped within the Riparian Setback Area or any river or live perennial stream, provided that: i) trimming of native vegetation in the Riparian Setback Area is permitted to any extent so long as that vegetation has historically been trimmed and so long as the root systems of the vegetation are not removed or destroyed, and ii) the Riparian Setback Area may be disturbed within the footprint of any existing improvement, building structure, or excavation and within a 15 foot perimeter of any existing improvement, building, structure, or excavation to enable repair, maintenance, rebuilding, or redevelopment of such improvement, building, structure, or excavation provided that commercially reasonable efforts are made to substantially replace any disturbed riparian vegetation within the 15 foot perimeter with vegetation of similar type and function.

~~1.3.~~ No chemical treatments, including but not limited to fertilizers, pesticides, and/or herbicides, are permitted within ~~said fifty foot~~ the ~~Setback Area~~ Riparian Setback Area.



**From:** Brian A Mikelbank [b.mikelbank@csuohio.edu](mailto:b.mikelbank@csuohio.edu)  
**Subject:** RE: Could you please answer a couple of quick questions on a 2006 study you performed?  
**Date:** September 3, 2019 at 3:12 PM  
**To:** Gary Vick [garywvick@icloud.com](mailto:garywvick@icloud.com)

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Hi Gary:

No imposition at all – it is good to know that this research is being discussed!

I have inserted responses below your specific questions.

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**From:** Gary Vick [<mailto:garywvick@icloud.com>]  
**Sent:** Thursday, August 29, 2019 12:42 PM  
**To:** Brian A Mikelbank <[b.mikelbank@csuohio.edu](mailto:b.mikelbank@csuohio.edu)>  
**Subject:** Fwd: Could you please answer a couple of quick questions on a 2006 study you performed?

Dr. Mikelbank,

I am retired and live on the Roaring Fork River in Glenwood Springs, Colorado. The City is considering introducing a setback ordinance which limits property owners activities within 50 feet of the Roaring Fork river. There is currently a 30' setback covering structures, but the proposed ordinance increases the setback and restricts other activities in the setback area.

While this may be generally desirable, my neighbors and I are concerned that the proposed ordinance could reduce property values by limiting their use and redevelopment potential in the future. A developer or builder, for example, could be further restricted by the proposed ordinance and therefore might pay less for a more restricted property than he would for a property that is less restricted. At least that's the theory.

Yes! This was exactly the perception CRWP was facing when we started talking about this project.

The City provided me with a copy of your 2006 “Hedonic Analysis of Riparian/Wetland Setbacks”. It is a thorough study and I enjoyed reading it. As you know, it was commissioned by Chagrin River Watershed Partners, a watershed conservancy and reviewed roughly 4,000 home sales in the watershed area, roughly 400 of which bordered a stream or river. As you know, the study concludes that setbacks do not decrease property values and may increase them.

The conclusions seem counterintuitive to me. While I have a background in engineering and finance and have taken undergraduate and graduate statistics courses, I would welcome your comments regarding a couple of observations I have with the study.

1. First, the study was commissioned by a conservancy group (link

1. First, the study was commissioned by a conservancy group (link here: <https://crwp.org>). I don't know that they had an agenda or were seeking a predetermined outcome, but setbacks generally help their cause, as would, by corollary, any data showing setbacks are good for property values. When they ask you to perform the study, were they seeking satisficing data to confirm a theory that setbacks have no impact on property values?

At our college's research centers it is an early conversation that we're being hired to answer a research question, whether or not that answer is what they might be looking for. I think organizations coming to a university know that, but we always review. Given their mission, they obviously thought setbacks were a good thing. And they heard from local realtors that prospective purchasers don't know if there is a setback or not. But when they went to communities to talk about implementing setbacks they were getting pushback exactly along the lines you mentioned earlier – that all else equal, we might reasonably expect deed restrictions to reduce property value. They wanted to know what the data had to say on the matter.

2: Second, the homes with setbacks are, by and large, the same ones that are on a stream or river. It seems to me these variables could be coupled. Any increase in prices for homes with setbacks may have been due to simply being on the stream or river, a generally desirable thing.

Agreed. That is why it was important to have a mix of stream front houses in the sample that did and did not have setback restrictions. Actually, I seem to recall that I should use "setback designation" not "setback restriction"! This allows the regression model to distinguish between the separate effects of being stream front vs. being stream front with a setback designation.

3: Third, the second and third full paragraphs on page 15 of the study state that when properties were bought and sold, the consensus opinion was that neither homeowners nor realtors were aware of any setbacks. It seems to me that a buyer would therefore not be in a position to pay more, or less, for a property with, or without, a setback if he or she was unaware of the existence of the setback. It seems to me that statistically measuring if people paid more, or less, for a property with, or without, a setback is impossible if the buyers did not know about the setback and factor the setback into their pricing decision.

Again, agreed. The issue, though, was the degree to which the assembled focus group captured the entirety of the market reality. Certainly they were a valuable source of information, but they surely hadn't talked to all of the purchasers, sellers (and potential purchasers and sellers) throughout the market, throughout the years being covered in the study.

If designation doesn't impact house price, there are two options – buyers/sellers didn't know, or they knew and didn't care.

We did get a few blips of positive impacts, but it seemed that those weren't very robust.

But you're right, if people don't know, then a statistical finding of positive or negative price impact is really telling you about something else. In the case of Auburn and Bainbridge it seemed to be

capturing some type of “late-in-the-study-period” effect as prices were ramping up (before the housing crisis!). We did have year indicator variables that should have accounted for this, but perhaps not in its entirety.

I think my take-away, looking back, is that the focus group probably had a good sense of the buying and selling public – that setback designations were not on their radar, and thus might not exhibit a strong price impact either way. But I think the experience of you and your neighbors is similar to what CRWP was trying to make sense of. That even though they were hearing from real estate professionals that buyers don’t know of them, when they talked to homeowners about establishing designations in their communities there were concerns over the loss of value and loss of development/expansion potential.

I hope this is helpful and that you are satisfied with how your community moves forward.

Don’t hesitate if you have additional questions,

Brian.

I may have missed something and any comments or clarifications on these items would be greatly appreciated.

I apologize for the imposition but am grateful for your help. Thank you so much.

Regards,

Gary W. Vick  
614 Cowdin Dr  
Glenwood Springs, CO 81601  
(720) 548-0962 (cell)

Link to study:

[https://crwp.org/files/final\\_report\\_hedonic\\_analysis\\_riparian\\_wetland\\_setbacks.pdf](https://crwp.org/files/final_report_hedonic_analysis_riparian_wetland_setbacks.pdf)



**6 September 2019**

This statement is provided at the request of Gary Vick and in review of the September 2006 study, “Hedonic Analysis of Riparian/ Wetland Setbacks”, prepared by Brian A. Mikelbank.

In statistics, there are three steps used to infer causality or cause-and-effect. The three steps simply put are (1) relationship, (2) temporal precedence, and (3) non-spuriousness. I was asked to review a study for these elements with regard to inferences on the causality between setback policies and real estate valuations. The study shows statistical significance for no effect on the principles of step (1) relationship. The study isolates for temporal precedence by selecting valuations that occurred after the setback policies were enacted, appealing step (2). However, the most important and troublesome step of non-spuriousness was not able to be established. Non-spuriousness refers to showing that the relationship from step 1 is not false or potentially caused by a third extraneous variable. In the provided study, there are several factors that indicate the findings may be due to a spurious (false) relationship between setback policies and real estate prices. To name a couple of these factors, the valuation methods for the real estate did not include the knowledge of a setback policy by the transacting parties, and the resulting regression tools contain variables, such as location, that provide a stronger statistical relationship with real estate prices. So, while the study provides mathematical statistics for a no-effect or no-relation between setback policy and real estate prices, it does not provide causal statistical significance for the effects of consumer valuation through real estate prices from setback policies. [This is not a statement on the value of setback policies or a political opinion/recommendation of the reviewer on such matters.]



**Elizabeth T Poulos, Ed.D.**  
SummitCOPrep@gmail.com

About the Author: Dr. Elizabeth Poulos is a statistics and economics instructor at Colorado Mountain College. In addition to a Doctor of Education, Dr. Poulos’ academic degrees include an MBA, a Master of Financial Analysis, a Master of Business in Financial Risk Management, and a Bachelor of Economics. She is an award-winning scholar with publications and presents on a variety of topics internationally.

**From:** [Julie Rippy](#)  
**To:** [Trent Hyatt](#)  
**Subject:** Letter sent to P & Z - Consideration of a Code Amendment to Section 070.040.020(d)(24)  
**Date:** Tuesday, September 17, 2019 12:17:58 PM

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Hi Trent. Hope you are well! I am not sure if this came across your desk, but below is a letter Randy and I sent to Gretchen requesting she forward it on to the P & Z Commissioners prior to the meeting in July. We also copied council on this letter. I wanted to make sure to send it on to you since you are the Senior Planner on this code amendment proposal

Since the meeting ran so late with the ANB agenda item, many folks who may have wanted to speak on this agenda item did not get the opportunity, as they had to leave. We would like to formally request to you and P & Z Commissioners that the item be opened to public comment at the Sept. 24th meeting.

As always, thank you!

Julie Rippy

Dear Planning & Zoning Commissioners,

Because we are unable to attend the public hearing this evening, we feel compelled to express our views via email on the proposed waterways code amendment topic.

Although we certainly appreciate the spirit of the proposed amendment to the Development in Waterways and Areas of Special Flood Hazard of the municipal code, we do not support the proposed amendment standards and/or the proposed applicability of those standards. We believe this proposal, as is, oversteps the city's authority as to what property owners and tax payers should be able to *responsibly and legally* do on their own property. Plus this would render some existing homes on narrow lots worthless if homeowners chose to remodel their existing homes.

We live on the Roaring Fork River and believe we are good stewards of the river. We agree with the idea of protecting our waterways and currently do so with how we manage our property. However, we feel this proposal is the wrong plan, is far too aggressive and intrusive, and that it impedes upon our rights as property owners to conduct small, benign projects. We are not saying that property owners along the river should clear-cut vegetation or build a full-size home along the river's edge. But we should be allowed, within reason and current code standards, to utilize our property as we see fit. Barring any structure, regardless of size, or barring any removal of native vegetation, regardless of project scope, is not fair to property owners, nor would it necessarily protect the waterways.

For example, if we want to build for a small deck, patio or tree house and clear out some vegetation within 50 feet of the riverbank to allow a line-of-sight of the river, we should have the right to do so... all WITHOUT being subjected to jumping through numerous hoops and navigating through red tape, only with the potential of a negative outcome. We pay extremely high property taxes due to the ever-increasing tax evaluations of property along the river and

this plan inhibits us from being able to enjoy our property how we legally choose.

Also, please consider that this plan does greatly curb a homeowner's ability to freely exercise wildfire mitigation, which could create a vulnerable situation for the homeowner and a liability for the city.

We request that this unreasonable amendment proposal not be considered, as-is, and that planners go back to the drawing board and design a much more balanced and fair amendment proposal while taking the rights of responsible homeowners along the river into consideration.

We appreciate your time and attention to our comments!

Sincerely,

Randy and Julie Rippy  
2262 Midland Ave.  
Glenwood Springs



Mauriene Howey  
2308 Midland Avenue  
Glenwood Springs, CO 81601  
970-230-9496

To: The Members of the Planning & Zoning Committee  
Our Honorable Mayor  
City Council Members

My name is Mauriene Howey and I live at 2308 Midland Avenue. The back part of my property fronts on a beautiful stretch of the Roaring Fork River.

I have heard that there is a proposed new code amendment that stands to greatly affect my riverfront.

Please consider the following:

My property is steep along the edge of the river. To access the river safely requires steps. The steps I have now are fairly minimal and will periodically need to be improved. The steps also require a minimal amount of brush trimming to be used safely .

My family respects and appreciates the river and they hope to inherit and use my property for decades to come.

If a rule was passed prohibiting me from maintaining and improving my steps, that rule would basically make the river inaccessible from my own property as the river cannot be accessed safely without the steps.

I am concerned about any rule that would inhibit the use of the river by my grandkids, great grandkids, and guests.

I also have outstanding views of the river **and Mount Sopris**. I am concerned about any rule that would limit my ability to trim brush and maintain trees on my own property. Even if such a rule is loosely enforced, I am concerned that if the rule is written to enable restrictions on brush and tree trimming that such a rule could be more strictly enforced in the future by authorities.

I paid a premium for my property because of the ability to access the river and for the views. My tax values reflect such amenities and I pay a significant amount of taxes based on the physical amenities of the property. Any rules that negate these amenities in any way seem both unfair for the property owner and unwise for the tax values of the city.

If my rights to use the river and maintain the vegetation adjoining such were to be infringed upon in any way, such actions would be an unreasonable taking of private property rights. In this case it would be a significant taking of valuable property rights. This amendment would lower the value of my property because it would limit my access to the river.

I have great concerns that the proposed new code as written infringes on my ability to fully utilize my property as outlined above.

I am 82 years old and admittedly have limited resources to fight this battle if one arises. I would greatly appreciate the city and the planning commission looking after my rights without such a battle. Thank you for your consideration and assistance with the above concerns.

Sincerely,

Mauriene Dickens Howey

970-230-9496



## Planning & Zoning Commission Staff Report

Date: February 25, 2020

To: Planning & Zoning Commission

From: Gretchen Ricehill, Asst. Director Community Development Dept.

Subject: Consideration a variance from the required 20-foot rear yard setback

|                              |                                                                                                           |
|------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>REQUEST</b>               | Consideration of a variance from the required 20-foot rear yard setback.                                  |
| <b>APPLICANT</b>             | Steven B. Pittman                                                                                         |
| <b>OWNER</b>                 | Steven B. Pittman and Patricia T. Pittman                                                                 |
| <b>ZONE</b>                  | R/2 multi-family Oasis Creek Planned Unit Development                                                     |
| <b>LOCATION:</b>             | 604 Traver Trail                                                                                          |
| <b>SURROUNDING LAND USES</b> | North: residential, open space<br>South: residential, open space<br>East: open space<br>West: residential |
| <b>LOT SIZE</b>              | 6617 square feet                                                                                          |

### ACTION ITEM SUMMARY

**Action 1: Consideration of a variance from the required 20-foot rear yard setback.**

**Staff Recommendation:** Staff recommends that the Planning and Zoning Commission approve the variance request with findings and conditions of page 8 of this report.

### PROJECT SUMMARY

Steven Pittman, owner and resident of 604 Traver Trail has applied to encroach 7.78 feet into the required 20-foot rear yard setback to allow for a 159 square foot addition onto an existing master bedroom. The purpose of the expansion is to provide accessible space for wheelchair use as this is the only bedroom on the main level of the home.

Consideration of variance applications are reviewed and decided upon by the Planning and Zoning Commission. Variance requests must meet all seven of the following criteria:

1. The subject property has an exceptional shape, topography, building configuration or other exceptional site condition that is not a general condition throughout the zone district;
2. The strict application of the Code standards for which a variance is sought would produce undue hardship;
3. The applicant did not create the hardship by his/her own actions;
4. The variance requested does not harm the public and does not impair the intent or purposes of this Code, goals, and policies, including the specific regulation for which the variance is sought;
5. The variance request demonstrates exceptional hardship not related to purposes of convenience or financial burden;

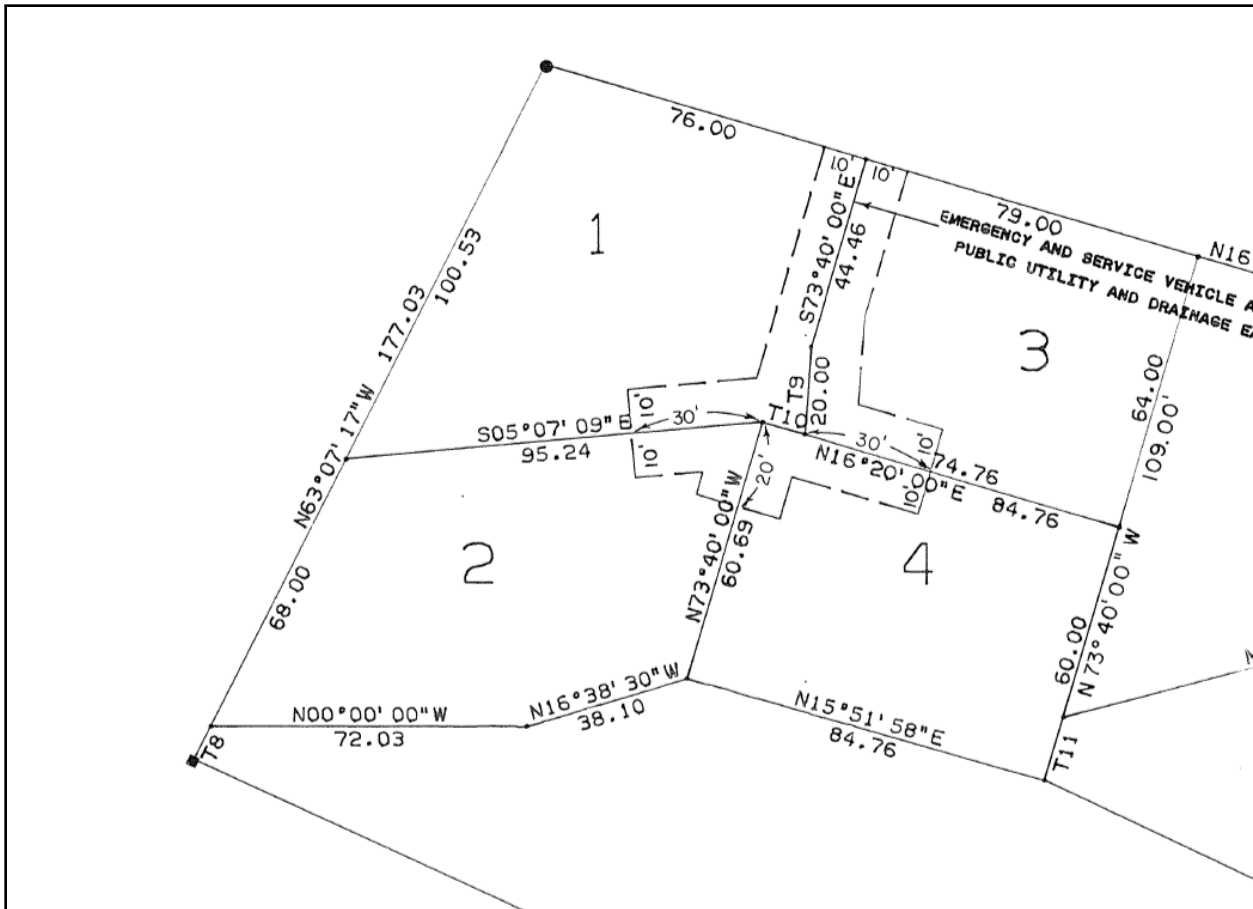


6. The variance request will not violate building or fire code requirements; and
7. The variance is the minimum variance that will afford relief of the subject standards of the Code.

Attached for the Commission's review is the applicant's narrative including responses to the variance criteria; site plan and floor plan of the existing and proposed home improvements; preliminary structural analysis; drainage analysis; and support letters from two neighbors. Following is background information about the property and staff's analysis of the variance request.

#### Background

This home is located on Lot 2, Tract B of the Oasis Creek Planned Unit Development which was originally platted in 1980 and re-platted in 1981. At the time of original platting, rear yard setbacks for all lots in Tract B were 25 feet, however this requirement was amended (reduced) the following year to 20 feet. The front setbacks in Tract B are 20 feet and side setbacks are 5 feet. Lot 2 was created with 5 sides, shown in the 1981 re-plat plat image below.

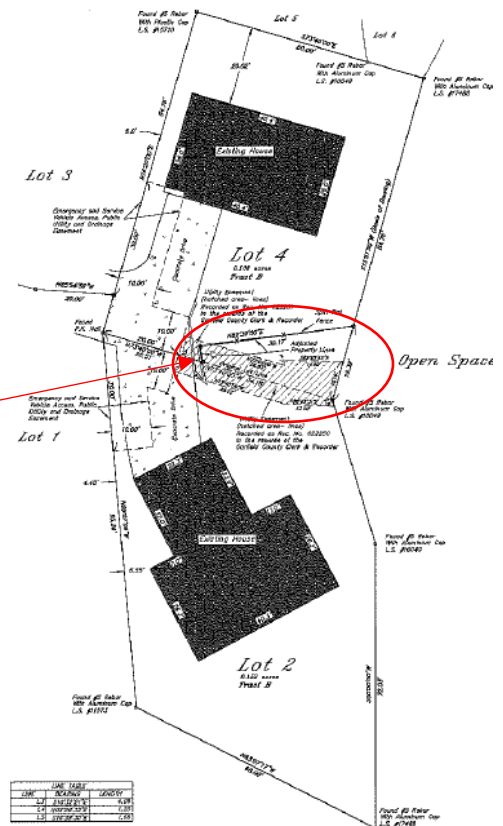


In 1983, the home was constructed and sited in a northwest/southeast orientation as shown in the aerial below. Access to the home is provided via driveway from Traver Trail that is shared by four homeowners.



In 2002, then owner Donna Fell, and the owner of Lot 4 adjusted the north property line which added 423.7 square feet to Lot 2. The city was granted a utility easement across much of that adjusted area.

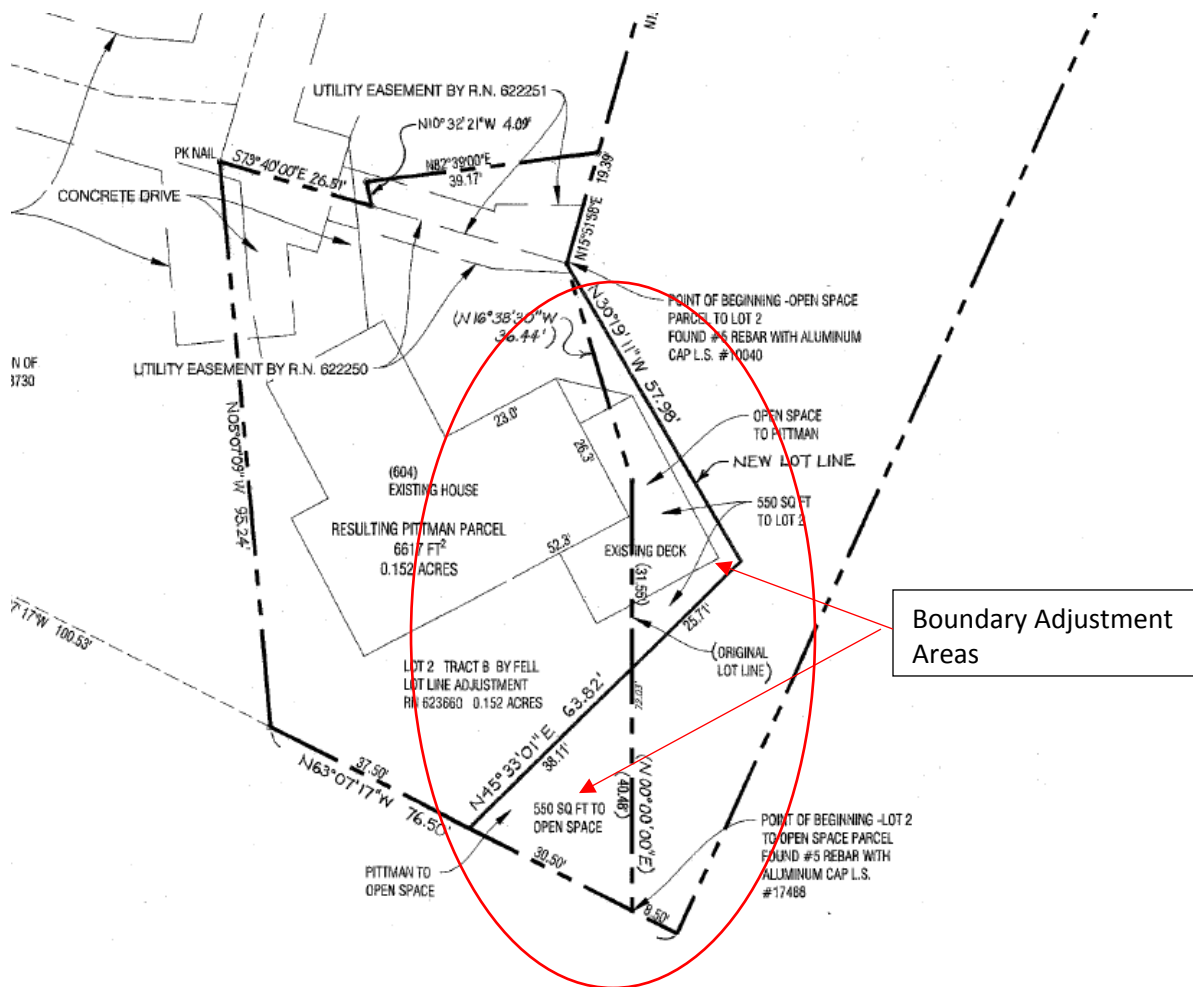
Boundary Adjustment area



In 2007, owner Donna Fell applied for a variance from the east side setback to allow for the replacement of an existing deck that encroached into that setback and into the adjoining dedicated open space. The Planning and Zoning Commission gave conditional approval to the variance request although the owner never followed through with construction.

In 2011, Steven and Patricia Pittman purchased the home.

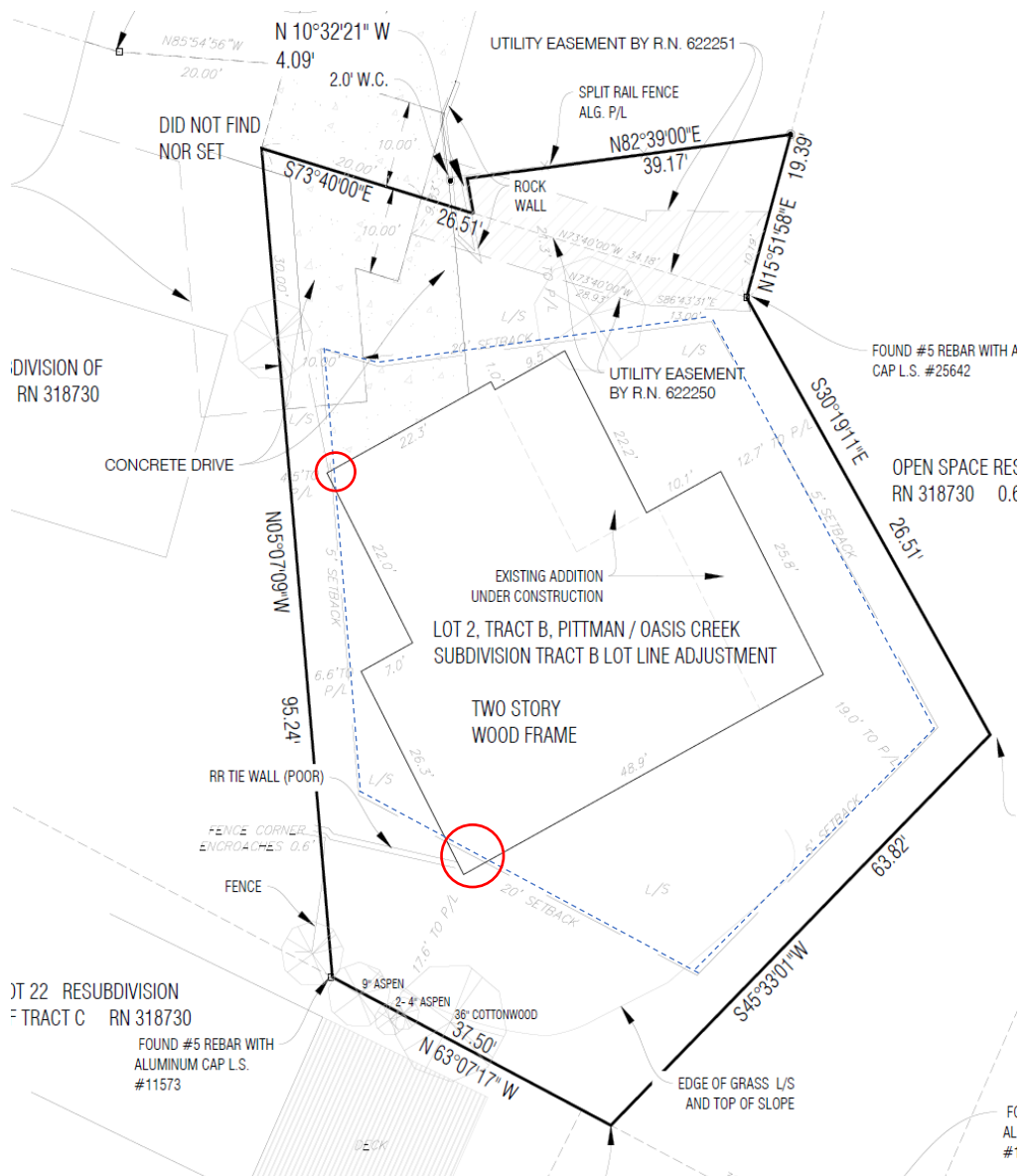
In 2018, the Pittman's began the process of replacing the deck per the 2007 approvals which included working with the Oasis Creek HOA to adjust the lot lines such that the deck no longer encroached into the open space.



In summary, the current boundary configuration is shown below with a depiction of the setbacks. Following the 2018 adjustment, it was determined that the front setback roughly paralleled the north boundary, the side setbacks paralleled the east and west boundaries as well as the southeast property line, and the rear setback paralleled the southwest boundary. Note that because of the home's angled



orientation, there are existing encroachments into both the west side yard and rear setbacks that date to the time the home was constructed.



#### Variance Criteria

Below is staff's analysis of the proposed project and its compliance with the seven variance criteria.

**1. The subject property has an exceptional shape, topography, building configuration or other exceptional site condition that is not a general condition throughout the zone district**

As noted above, the property is oddly configured with 8 sides of varying orientation. The establishment of these property lines originally occurred in 1980 and amended in 1981, 2002 and 2018. Additionally, when constructed in 1983, the home was placed at an angle on the lot. Because of the 2018 boundary adjustment, the east elevation is the only side of the home that neatly parallels one of the eastern boundary lines. The remaining boundaries are at various orientations relative to the position of the home. The applicant notes in his narrative variance questionnaire that the rear yard setback requirement typically assumes a rectangular lot configuration and cannot anticipate the implications of oddly shaped lots. Staff agrees that the establishment of the southwest boundary as the "rear" property line, rather than the southeast boundary may seem like an arbitrary decision made at the time of the 2018 boundary adjustment. It may have been more logical to assign the southeast boundary as the "rear" property line, as it is more directly opposite the front of the home. However, even that orientation would have resulted in the house and deck encroaching into the rear setback. Establishment of the southwest boundary as the "rear" appears to date to 2007 at the time the owner received a setback variance for her deck replacement. At that time the eastern boundaries were considered a "side" yard. Therefore, by default, that made the southwest property line the "rear".

**2. The strict application of the Code standards for which a variance is sought would produce undue hardship**

The applicant notes that the angular relationship of the home to the lot boundaries makes it impractical to expand the existing small master bedroom (roughly 261 square feet) without encroaching into the rear setback. In fact, as depicted above, the southwest corner of the home already encroaches three feet into this setback, and this encroachment dates to the time that the home was constructed. The owner proposes constructing an 8.5-foot wide addition for just the length of the bedroom (18.75 feet). This addition will encroach 7.78 feet into the setback, leaving over 12 feet between the dwelling and the southwest property line.

**3. The applicant did not create the hardship by his/her own actions**

The property configuration was originally established when Oasis Creek, Tract B was platted in 1980 and as re-platted the following year. According to building department records, this home was constructed in 1983. The applicant purchased this property in 2011, years after the property lines were established, after the home was constructed, and apparently well after it was determined that the southwest property line was the boundary from which the rear yard setback was measured.

**4. The variance requested does not harm the public and does not impair the intent or purposes of this Code, goals, and policies, including the specific regulation for which the variance is sought**

The owner points out that there is dedicated open space immediately adjacent to his property to the southeast. The bedroom addition, which amounts to a 56 square foot encroachment into the rear setback, will not be apparent to the general public. It will however be partially visible from the exterior deck of the neighboring house to the south, 546 Traver Trail,

although views from this deck are to the south. According to the owner's narrative, this neighboring deck is about 10 feet below and 16.8 feet distant from the proposed bedroom expansion. A mature tree (as seen in the aerial) is located between the neighboring deck and the proposed expansion which will provide a degree of screening. To further mitigate any potential impacts, the owner proposes adding fencing and/or shrubs which reach a mature height of 6 to 8 feet. The applicant included a letter of support from Terry Harrington, the owner of 546 Traver Trail which includes details of an agreement between these property owners. This is considered a private agreement between property owners, especially provisions requiring improvements to 546 Traver Trail. However, those provisions that include improvements on the Pittman's property can be included as recommended conditions of approval. These include: requiring submission of a landscape plan which depicts landscaping and/or fencing occurring on Pittman property; limiting fence height along the shared property line to not more than 3 feet; trimming the existing tree to remove dead/dying branches; and prohibiting construction activity prior to 8AM on Saturday, Sunday and holidays.

**5. The variance request demonstrates exceptional hardship not related to purposes of convenience or financial burden**

The bedroom addition cannot be accommodated elsewhere on the property or within the home. This is the only bedroom on the main level. The intent of the expansion is to provide an accessible space for the owners which will allow them to age in-place.

**6. The variance request will not violate building or fire code requirements**

The requested variance will require a building permit application and review/approval of both the building and fire departments. Construction therefore is expected to comply with both the building and fire code requirements.

**7. The variance is the minimum variance that will afford relief of the subject standards of the Code.**

The intent of the proposed bedroom expansion is to make this room accessible for use by the owners as they age in-place. The bedroom is small with only one foot between the bed and closet door. Expansion will provide more room for a wheelchair in the event it is needed in the future. It is important to note that this is the only bedroom on the main level and the owners are gradually making improvements throughout the main level of the home to improve accessibility. The owner considered other options to avoid expansion into the rear setback, such as angled walls, but none of the options achieved the needed accessibility throughout the bedroom. Therefore, the 56 square foot encroachment into the rear setback is the minimum necessary to afford relief of the 20-foot rear yard setback requirement.



## REVIEWING AGENCY COMMENTS

The application was distributed to the reviewing agencies. No comments/concerns were received.

## REQUIRED ACTIONS

**Action 1: Consideration of a variance from the required 20-foot rear yard setback.**

### Action Alternatives

The Planning and Zoning Commission may approve, approve with conditions, or deny the variance. The Commission may also continue the hearing with a request for specific information necessary to determine compliance with the Municipal Code and city goals and policies.

**Staff Recommendation:** Staff recommends that the Planning and Zoning Commission approve the variance request with findings and conditions of page 8 of this report.

### Suggested Findings:

1. The subject property has an exceptional shape, topography, building configuration or other exceptional site condition that is not a general condition throughout the zone district;
2. The strict application of the Code standards for which a variance is sought would produce undue hardship;
3. The applicant did not create the hardship by his/her own actions;
4. The variance requested does not harm the public and does not impair the intent or purposes of this Code, goals, and policies, including the specific regulation for which the variance is sought;
5. The variance request demonstrates exceptional hardship not related to purposes of convenience or financial burden;
6. The variance request will not violate building or fire code requirements; and
7. The variance is the minimum variance that will afford relief of the subject standards of the Code.

### Suggested Conditions:

1. The owner shall comply with all verbal representations made in the public hearing, as outlined in all application materials, and/or as revised per conditions herein and approved by the Community Development Director.
2. The owner shall submit a landscape plan that depicts the number, size and species of landscape materials and/or fencing that will be planted on the owner's property. Fence height along the shared property line with 546 Traver Trail shall not be more than 3 feet in height.
3. Prior to construction the owner shall submit a building and/or grading permit application.
4. Construction activity shall not occur before 8AM on Saturday, Sunday and holidays.
5. All contractors must be licensed to work in the city of Glenwood Springs.
6. Prior to issuance of the certificate of occupancy the owner shall –
  - a. Trim dead and/or dying branches from the deciduous tree overhanging the owner's southwest property line;
  - b. Provide an as-built survey showing the extent of the encroachment into the rear yard setback.



## Site Photographs



Looking north to Pittman residence from 546 Traver Trail. Excavated dirt reflected permitted work on Pittman deck.



Looking west to 546 Traver Trail from dedicated open space. Photo shows grade difference between 546 Traver and Pittman residence, top right corner of photo.





Showing view from 546 Traver Trail deck.



Looking southeast from Pittman residence. Corner of home at left is existing bedroom and subject of this variance request.





## LAND USE APPLICATION

City of Glenwood Springs  
Economic and Community Development Dept.  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
970-384-6411

| Ordinance Amendments                       |                          | Development Permits                      |                                     |
|--------------------------------------------|--------------------------|------------------------------------------|-------------------------------------|
| Rezoning                                   | <input type="checkbox"/> | Site/Architectural Plan Review           | <input type="checkbox"/>            |
| Rezoning to Planned Unit Development (PUD) | <input type="checkbox"/> | Administrative                           | <input type="checkbox"/>            |
| Annexation                                 | <input type="checkbox"/> | Minor                                    | <input type="checkbox"/>            |
| Condominiumization                         | <input type="checkbox"/> | Major                                    | <input type="checkbox"/>            |
| Annexation                                 | <input type="checkbox"/> | Master Plan                              | <input type="checkbox"/>            |
| Street Vacation                            | <input type="checkbox"/> | Construction Plans                       | <input type="checkbox"/>            |
|                                            | <input type="checkbox"/> | Location & Extent                        | <input type="checkbox"/>            |
| <b>Subdivisions</b>                        |                          | Right of Way Encroachment License        | <input type="checkbox"/>            |
| Minor Subdivision                          | <input type="checkbox"/> | Floodplain Development Permit            | <input type="checkbox"/>            |
| Preliminary Plat                           | <input type="checkbox"/> |                                          | <input type="checkbox"/>            |
| Final Plat                                 | <input type="checkbox"/> | <b>Flexibility and Relief Procedures</b> | <input type="checkbox"/>            |
| Vacation of Right-of-Way                   | <input type="checkbox"/> | Variance                                 | <input checked="" type="checkbox"/> |
|                                            |                          | Administrative Adjustment                | <input type="checkbox"/>            |
|                                            |                          | Appeal                                   | <input type="checkbox"/>            |

| Applicant/Property Owner Information: |                                          |                      |                                          |
|---------------------------------------|------------------------------------------|----------------------|------------------------------------------|
| Applicant                             |                                          | Owner                |                                          |
| STEVEN B PITTMAN                      |                                          | STEVEN B PITTMAN     |                                          |
| Relationship to Owner                 |                                          | Owner                |                                          |
| (OWNER)                               |                                          | PATRICIA J. PITTMAN  |                                          |
| Applicant Address                     |                                          | Owner Address        |                                          |
| 604 N. TRAVER TRAIL                   | GLENWOOD SPRINGS, CO 81601               | 604 N. TRAVER TRAIL  | GLENWOOD SPRINGS, CO 81601               |
| Phone (970) 366-2025                  | Email Address finethings.trish@gmail.com | Phone (970) 366-2025 | Email Address finethings.trish@gmail.com |

| Property Information:                                    |                                               |
|----------------------------------------------------------|-----------------------------------------------|
| Address                                                  | Parcel Number                                 |
| 604 N. TRAVER TRAIL GLENWOOD SPRINGS, CO 81601           | 218504305002                                  |
| Subdivision                                              | Lot and Block Number                          |
| OASIS CREEK SUBDIVISION - RESUB TRACT B/PER LOTLINE ADJ. | LOT 2, TRACT B                                |
| Zone District                                            | Existing Land Use Single Family - Residential |

| General Project Description:                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| THE REQUEST IS TO ENCROACH INTO THE REAR LOT SETBACK. A PROPOSED 8.5' EXPANSION OF AN EXISTING BEDROOM WOULD RESULT IN A 7.8' ENCROACHMENT INTO THE CODE REQUIRED 20' REAR YARD SETBACK. |

| Signatures:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                   |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------|
| The owner or applicant must be present at the hearing. All public hearings must be properly noticed according to G.S.M.C. Section 070.010.030. Signatures of all owners of the property must appear before the application is accepted. Partnerships or corporations may have the authorized general partner or corporate officer sign the application. (Attach additional incorporation documents if necessary.) I declare under the penalty of perjury that the above information is true and correct to the best of my knowledge. | STEVEN B. PITTMAN | 12/17/19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Applicant         | Date     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [Signature]       | 12/17/19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Owner             | Date     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | [Signature]       | 12/17/19 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Owner             | Date     |



Reception#: 801703  
 04/22/2011 03:27:09 PM Jean Alberico  
 1 of 1 Rec Fee:\$11.00 Doc Fee:36.00 GARFIELD COUNTY CO

Recorded at \_\_\_\_\_ o'clock \_\_\_\_\_ M. \_\_\_\_\_  
 Reception No. \_\_\_\_\_ Recorder \_\_\_\_\_

## WARRANTY DEED

THIS DEED, made on April 22, 2011

Between Donna R. Fell

of the County of Garfield, and State of Colorado, grantor, and

Steven B. Pittman and Patricia T. Pittman  
 As joint tenants with full rights of survivorship

whose legal address is: 604 N. Traver Trail, Glenwood Springs, CO 81601

of the County of Garfield and State of Colorado, grantee:

WITNESSETH, That the grantor for and in consideration of the sum of \$360,000.00 DOLLARS, the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell and convey and confirm unto the grantee, his heirs and assigns forever, all the real property together with improvements, if any, situate, lying and being in the County of Garfield and State of Colorado described as follows:

Lot 2  
 Tract B  
 Oasis Creek Subdivision  
 According to the Fell Lot Line Adjustment plat recorded March 26, 2003 as Reception No. 623660

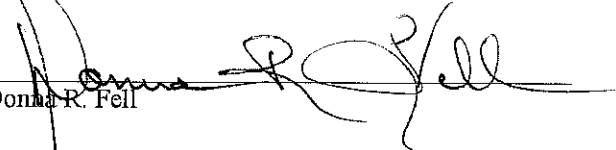
as known by street and number as: 604 N. Traver Trail Glenwood Springs CO 81601

TOGETHER with all and singular the hereditaments and appurtenances thereto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the grantor either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the grantee, his heirs and assigns forever. And the Grantor, for himself, his heirs, and personal representatives, does covenant, grant, bargain, and agree to and with the Grantee, his heirs and assigns, that at the time of the ensealing and delivery of these presents, he is well seized of the premises above conveyed, has good, sure, perfect, absolute and indefeasible estate of inheritance, in law, in fee simple, and has good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form as aforesaid, and that the same are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever, except general taxes and assessments for the year 2011 and subsequent years and all those specific exceptions described by reference to recorded documents as reflected in Commonwealth Title Company's Commitment No. 1102032 TRGC

The grantor shall and will WARRANT AND FOREVER DEFEND the above bargained premises in the quiet and peaceable possession of the grantee, his heirs and assigns, against all and every person or persons lawfully claiming the whole or any part thereof. The singular number shall include the plural, the plural the singular, and the use of gender shall be applicable to all genders.

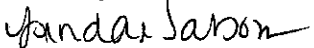
IN WITNESS WHEREOF the grantor has executed this deed on the date set forth above.

  
 Donna R. Fell

STATE OF COLORADO )  
 ) ss.  
 COUNTY OF GARFIELD )

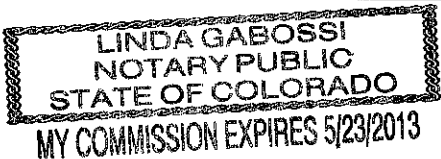
The foregoing instrument was acknowledged before me on April 22, 2011, by Donna R. Fell.

WITNESS my hand and official seal



My commission expires:

Notary Public



Commonwealth File No. 1102032 TRGC

Return to:  
 Vicki Lee Green Realtors  
 930 Grand Avenue  
 Glenwood Springs, CO 81601

CWT 110 2032

December 17, 2019

Glenwood Springs Board of Adjustments and Appeals  
City of Glenwood Springs  
108 W. 8<sup>th</sup> Street  
Glenwood Springs, CO 81601

Re: Request for Setback Variance  
Steven & Patrica Pittman Residence  
604 N. Traver Trail, Glenwood Springs, CO

Dear Board Members,

The attached setback variance application has been prepared for the proposed house improvements at the above reference address in Oasis Creek. Approval of this variance would allow us to expand our small master bedroom and add a second point of egress for the residence.

Our lot is irregular shaped (not rectangular) which was already challenging for placement of the original residence. The rear yard setback typically assumes a rectangular lot configuration and cannot anticipate the implications of setbacks on oddly shaped lots. The placement of the existing residence creates an angular (non-parallel) relationship between the house and the rear property line. Additionally, the site slopes steeply down to the east and south from the existing residence.

There is dedicated open space to the northeast and southeast of Lot 2 and this 56 square foot encroachment will not be apparent to the general public. The bedroom expansion will be visible from the exterior deck of the adjacent residence to the southwest (Lot 22). That deck is approximately 10.0 feet below the proposed expansion finished floor and approximately 16.8 feet horizontally from the edge of the neighboring deck to the corner of the proposed expansion. Primary views from that neighboring deck are to the south, overlooking Glenwood Springs. The expansion will not disrupt the view experience from the Lot 22 deck. An existing mature deciduous tree is located along the north side of the common lot line between the proposed expansion and the Lot 22 deck. This



tree helps minimize the presence of the existing residence and also the proposed expansion. To further screen the expansion and existing residence from Lot 22's deck, landscape fencing or plantings of large (6 to 8 foot at mature height) shrubs are proposed. The Lot 22 deck is significantly below the expansion so the proposed fencing or shrubs will effectively minimize the visual presence of the proposed expansion as seen from the neighboring deck.

The attached letter from Terry Harrington, owner of Lot 22, indicates her support for our proposed encroachment conditioned with specific landscaping requirements, which we are in agreement with. Another letter (provided separately) from Michael Tatro, owner of Lot 1 (Adjacent west lot), has no issues with our proposed encroachment.

In summary the requested variance does not harm the public and will not impair the intent or purposes of the City's code, goals and policies. The proposed home improvements do not interfere with the adjacent property view corridors.

We request variance approval, with the conditions specified by Terry Harrington, so that we may continue forward with our home improvements.

I appreciate your time and consideration to this application.

Sincerely,

A handwritten signature in blue ink, appearing to read "S.B. Pittman", with a stylized flourish at the end.

Steven B. Pittman  
604 N. Traver Trail,  
Glenwood Springs, CO  
970 366-2025

## Variance Criteria

### **Instructions**

1. Complete this questionnaire after you have had your pre-application conference. Once completed, submit this questionnaire along with the other items on the checklist. Complete one questionnaire for each variance you are requesting. Use a separate sheet if necessary.
2. It is important to remember that the decision to approve or deny a variance is a discretionary action based on how well you meet all the variance criteria. This is your opportunity to describe in detail the reason why you need to deviate from the Municipal Code. If you are unable to provide justification of how your application meets each of the criteria below, you may want to consider whether a variance is truly warranted.

### **Variance type**

**Explain what Municipal Code requirement you are requesting a variance from and what it is that you are proposing that does not meet this requirement.**

The request is to encroach into the Rear Lot Setback. A proposed 8.5 foot expansion of an existing bedroom would result in a 7.8 foot encroachment into the Code required 20 foot Rear Yard Setback (see attached graphic plan).

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### **Variance Criteria**

1. **Explain how your property has an exceptional shape, topography, building configuration or other exceptional site condition that is not a general condition throughout the zone district.** LOT 2 of the PITTMAN/OASIS CREEK SUBDIVISION TRACT B LOT LINE ADJUSTMENT MAP (RN 909762) is an irregular shaped lot (not rectangular) which creates challenges for building on this small; 6,617 square foot lot. The rear yard setback typically assumes a rectangular lot configuration and cannot anticipate the implications of setbacks on oddly shaped lots. The placement of the existing residence creates an angular (non-parallel) relationship between the house and the rear property line. Additionally, the site slopes steeply down to the east and south from the existing residence.
2. **Explain how the strict application of the Code standards for the variance you are seeking produces undue hardship.** The angular relationship of the exiting residence to rear lot line makes it impractical to provide an expansion of the small master bedroom without encroachment into the rear setback. The south corner of the existing residence already encroaches 3.0 feet into the rear setback. The 8.5 foot expansion is for just the width of the of the existing small bedroom and also provides for an second point of egress for the residence via a new deck connecting to an existing deck on the northeast side of the building.

3. **Explain how you did not create the hardship by your own actions.** The residence was in place when purchased. The current residence has only one access doorway.

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4. **Explain how the requested variance does not harm the public and does not impair the intent or purposes of this Code, goals, and policies, including the specific regulation in question.**

There is dedicated open space to the northeast and southeast of Lot 2 and this 56 square foot encroachment will not be apparent to the general public. The bedroom expansion will be visible from the exterior deck of the adjacent residence to the southwest (Lot 22). That deck is approximately 10.0 feet below the proposed expansion finished floor and approximately 16.8 feet horizontally from the edge of the neighboring deck to the corner of the proposed expansion. Primary views from that neighboring deck are to the south, overlooking Glenwood Springs. The expansion will not disrupt the view experience from the Lot 22 deck. An existing mature deciduous tree is located along the north side of the common lot line between the proposed expansion and the Lot 22 deck. This tree helps minimize the presence of the existing residence and also the proposed expansion. To further screen the expansion and existing residence from Lot 22's deck, landscape fencing or plantings of large (6 to 8 foot at mature height) shrubs are proposed. The Lot 22 deck is significantly below the expansion so the proposed fencing or shrubs will effectively minimize the visual presence of the proposed expansion as seen from the neighboring deck.

5. **Explain how the variance request demonstrates exceptional hardship not related to purposes of convenience or financial burden.** No other space is available on the property to allow for the bedroom expansion with a second doorway access.

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6. **Explain how the variance request will not violate building or fire code requirements.** Building access for emergency personnel and equipment should remain the same, plus the proposed building improvements will allow quicker emergency access from/to the master bedroom end of the house.

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7. **Explain how the variance is the minimum variance that will afford relief of the subject standards of the Code.** The proposed improvement encroaches 56 square feet of set back area which is a minor impact on the lot, and a minimum impact for the neighbors.

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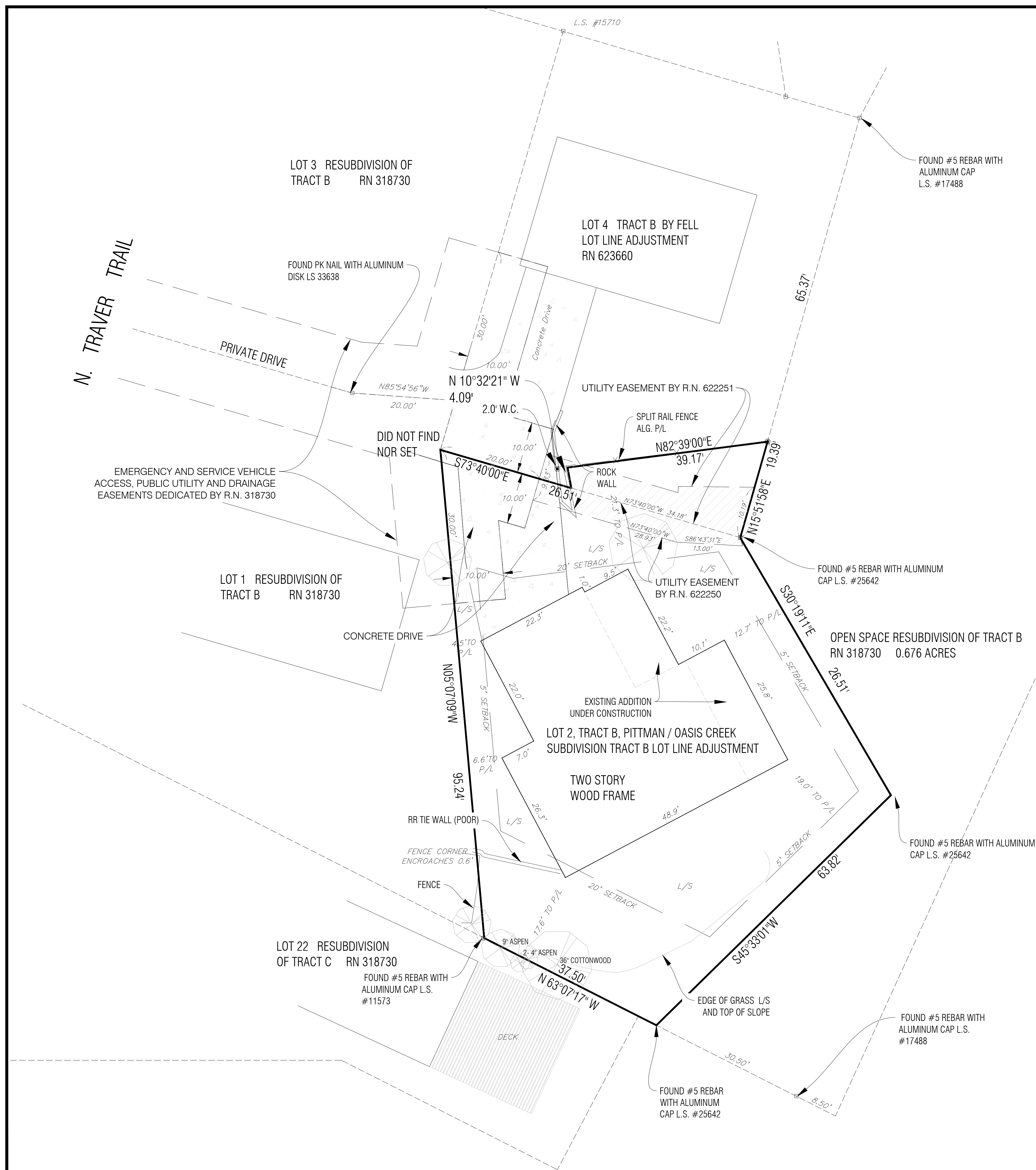
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*SURVEY NOTES:*

**LEGAL DESCRIPTION**

### IMPROVEMENT LOCATION CERTIFICATE

I FURTHER CERTIFY THAT THE IMPROVEMENTS ON 604 N. TRAVER TRAIL ON THIS DATE, DECEMBER 3, 2019, EXCEPT UTILITY CONNECTIONS, ARE ENTIRELY WITHIN THE BOUNDARIES OF THE PARCEL, EXCEPT AS SHOWN, THAT THERE ARE NO ENCROACHMENTS UPON THE DESCRIBED PREMISES BY IMPROVEMENTS ON ANY ADJOINING PREMISES, EXCEPT AS INDICATED, AND THAT THERE IS NO APPARENT EVIDENCE OR SIGN OF ANY EASEMENT CROSSING OR BURDENING ANY PART OF SAID PARCEL, EXCEPT AS NOTED.

Steven J Smith







| REVISION TABLE |      |                         |
|----------------|------|-------------------------|
| NUMBER         | DATE | REVISION BY DESCRIPTION |
|                |      |                         |
|                |      |                         |
|                |      |                         |
|                |      |                         |

CLIENT INFORMATION:

Glaninetti Spring Creek Ranch

Glennetti Spring Creek Ranch  
Pittman Residence  
Site, Grading & Landscape Plan

DRAWINGS PROVIDED BY:

NGS PROVIDED BY:  
Boundaries Unlimited Inc.  
923 Cooper Avenue  
Suite 201  
Glenwood Springs, CO 81601  
tele: 970.445.5252

DATE:

12/17/2019

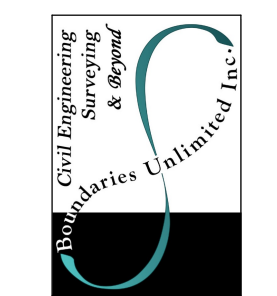
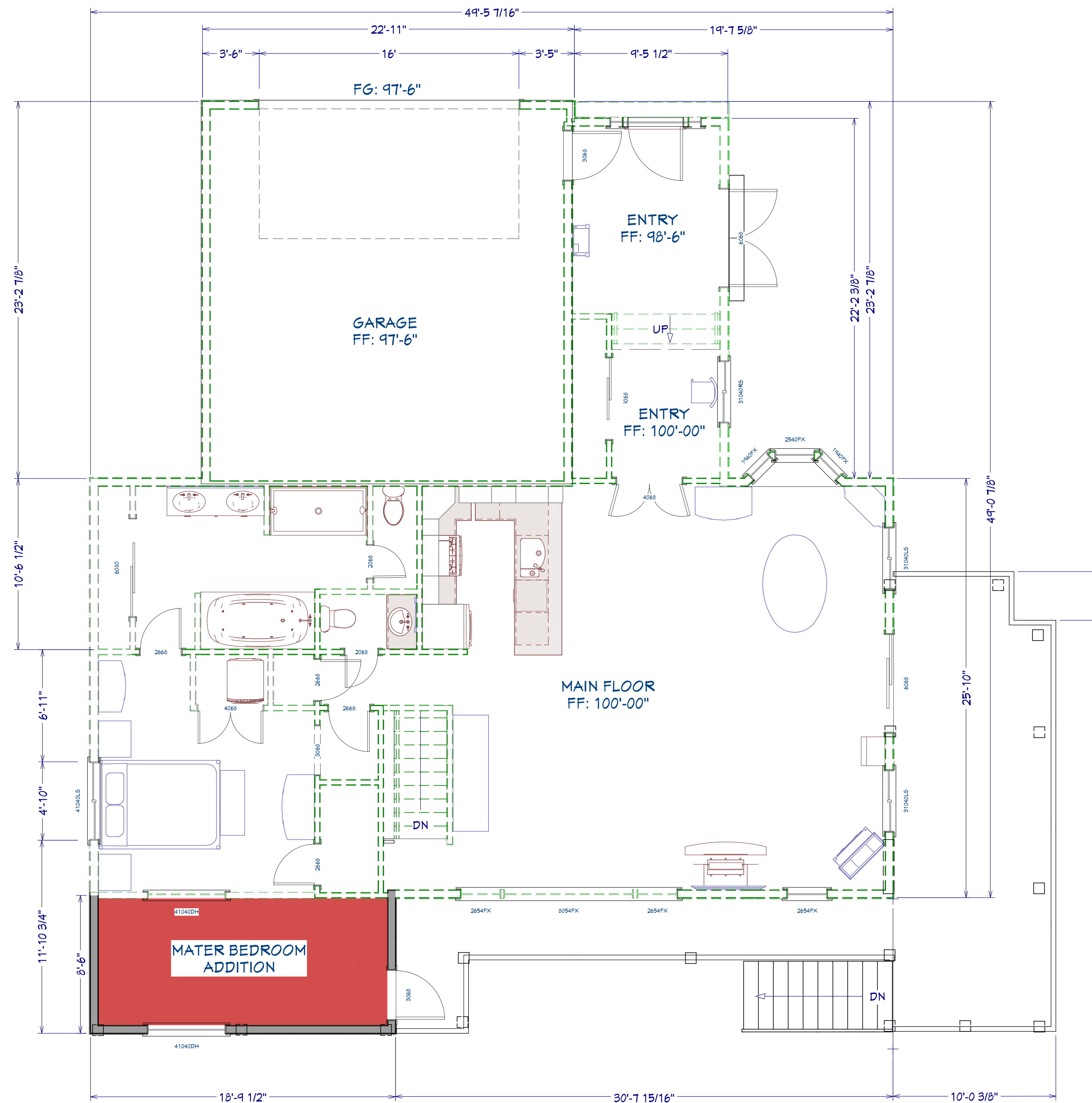
SCALE:

$$1/4'' = 1'$$

SHEET:

P-1





| REVISION TABLE |      | DESCRIPTION |
|----------------|------|-------------|
| NUMBER         | DATE | REVISOR     |
|                |      |             |
|                |      |             |
|                |      |             |
|                |      |             |
|                |      |             |
|                |      |             |
|                |      |             |
|                |      |             |
|                |      |             |

CLIENT INFORMATION:

Glanietta Spring Creek Ranch  
**Pittman Residence**  
 Conceptual Architectural Floor Plan

DRAWINGS PROVIDED BY:  
 Boundaries Unlimited Inc.  
 923 Cooper Avenue  
 Suite 201  
 Glenwood Springs, CO 81601  
 Tele: 970.945.5252

DATE:

12/17/2019

SCALE:

1/4" = 1'

SHEET:

**P-2**



**Kumar & Associates, Inc.**  
Geotechnical and Materials Engineers  
and Environmental Scientists

5020 County Road 154  
Glenwood Springs, CO 81601  
phone: (970) 945-7988  
fax: (970) 945-8454  
email: [kaglenwood@kumarusa.com](mailto:kaglenwood@kumarusa.com)  
[www.kumarusa.com](http://www.kumarusa.com)

**An Employee Owned Company**

Office Locations: Denver (HQ), Parker, Colorado Springs, Fort Collins, Glenwood Springs, and Summit County, Colorado

March 11, 2019

Steven Pittman  
604 North Traver Trail  
Glenwood Springs, Colorado 81601  
[finethings.steve@gmail.com](mailto:finethings.steve@gmail.com)



Project No. 19-7-137

Subject: Observation of Site Conditions, Proposed Additions to Existing Residence, Lot 2,  
Parcel B, Oasis Creek, 604 North Traver Trail, Glenwood Springs, Colorado

Dear Steven:

As requested, the undersigned, a representative of Kumar & Associates, met with you at the subject site on March 2019. The purpose of our services was to observe the general site conditions, and review our subsoil experience in the area, for the purpose of providing preliminary foundation recommendations for design of the additions. This report provides our findings. The services were performed in accordance with our agreement for professional engineering services to you dated February 12, 2018.

**Proposed Construction:** Additions are planned attached to the south, east and northeast sides of the existing residence. The additions on the south and east sides will be single story wood-frame construction over a basement level. The new entry at the northeast will not have a basement level. Ground floors will be slab-on-grade. We assume foundation loadings for the additions will be relatively light and typical of the proposed type construction.

**Site Conditions:** The site is located on relatively flat terrain adjacent a steep slope down to Transfer Trail Road on the east side. The steep slope is well vegetated with brush and trees and no signs of seepage or instability were observed. There are cobbles exposed on the steep slope in areas. The terrain to the south of the residence is strongly sloping (lawn) down to the south becoming moderately steep and well vegetated with brush and trees beyond the lawn area.

**Existing Building Conditions:** The existing residence is a single story of wood frame construction over a basement level built in 1982. A single story garage addition with a slab-on-grade floor was added at the main level on the south side in 2010. We assume the building is founded on shallow spread footings. There may have been some settlement of the east foundation wall of the residence as the door at the main level on the east side shows some wracking. The attached deck at the main

level on the east side that extends to the edge of the steep slope is in generally poor condition and will be re-built.

**Foundation Bearing Conditions:** Based on our experience in the area, the soils likely consist of a shallow depth of compressible fine grained soils overlying less compressible coarse granular soils. It should be feasible to found the building and deck additions with lightly loaded spread footings with some risk of settlement. The risk of settlement is primarily if the fine grained compressible soils were to become wetted and precautions should be taken to prevent wetting. Extending the foundation bearing down to the coarse granular soils would provide a lower risk of foundation settlement. The deck footing pads should probably be re-constructed with adequate depth for frost cover but could be evaluated for foundation support at the time of construction if desired.

**Preliminary Design Recommendations:** Spread footings placed on the undisturbed natural soil designed for an allowable bearing pressure of 1,500 psf can be assumed for the foundation design. We should evaluate the bearing soils at the time of excavation and prior to footing construction to determine if changes to our foundation recommendations are needed. Some settlement of the additions with respect to the existing structure should be expected and considered in the design.

Footings should be a minimum width of 18 inches for continuous walls and 2 feet for isolated columns. All fill, topsoil and any loose disturbed soils in footing areas should be removed and the bearing level extended down to the undisturbed natural soils, and the subgrade soils adjusted to near optimum and compacted. Exterior footings should be provided with at least 36 inches of frost cover. Continuous foundation walls should be well reinforced top and bottom to span local anomalies and better withstand the effects of some differential settlement such as by assuming an unsupported length of at least 14 feet. Foundation walls acting as retaining structures should also be designed to resist a lateral earth pressure based on an equivalent fluid unit weight of at least 55 pcf for on-site soil as backfill. A perimeter foundation drain should be provided to prevent temporary buildup of hydrostatic pressure behind the basement walls and prevent wetting of the lower level. An impervious membrane, such as 20 mil PVC, may need to be provided below the drain gravel in a trough shape and attached to the foundation wall with mastic to prevent wetting of the bearing soils. The underdrain system should include at least 4 inches of free draining gravel below the basement area floor slabs.

Structural fill placed within floor slab areas can consist of the on-site soils compacted to at least 95% of standard Proctor density (SPD) at a moisture content near optimum. Backfill placed around the structure should be compacted to at least 90% SPD (95% in pavement areas) and the surface graded to prevent ponding within at least 10 feet of the building. Landscape that requires regular heavy irrigation, such as sod, and sprinkler heads should not be located within 10 feet of the foundation.



**Limitations:** The recommendations submitted in this letter are based on assumed subsoil conditions and did not include subsurface exploration to evaluate the subsurface conditions. It is possible the data obtained by subsurface exploration could change the recommendations contained in this letter. Our services do not include determining the presence, prevention or possibility of mold or other biological contaminants (MOBC) developing in the future. If the client is concerned about MOBC, then a professional in this special field of practice should be consulted. We recommend on-site observation of excavations and foundation bearing strata and testing of structural fill by a representative of the geotechnical engineer.

If you have any questions or need further assistance, please call our office.

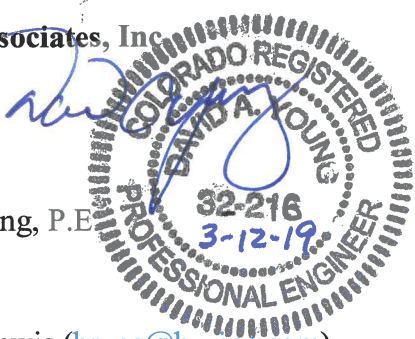
Sincerely,

**Kumar & Associates, Inc.**

David A. Young, P.E.

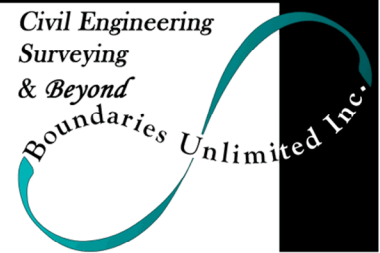
DAY/kac

cc: Bruce Lewis ([bruce@bu-inc.com](mailto:bruce@bu-inc.com))



February 5, 2020

Ms. Gretchen E Ricehill  
Community Development Director  
City of Glenwood Springs  
101 W 8<sup>th</sup> Street  
Glenwood Springs, CO 81601



RE: Drainage Analysis for 604 North Traver Trail – Pittman Setback Variance Application  
Glenwood Springs, Colorado BUI #15016.02

Dear Gretchen:

Per your email dated January 23, 2020, the following drainage analysis has been prepared to be included as part of the previously submitted Pitman Setback Variance application. The existing single-family residence is located at 604 N Traver Trail in Oasis Creek Development on a 0.15-acre irregular shaped lot. The residence, consisting of a house/garage with a concrete driveway and walk, is currently being remodeled with an entry way and living room expansion with future plans to expand the master bed-room slightly into the rear yard setback upon the approval of the variance application.

Based on the lots topography, approximately 80 percent of the site drains to the south and east. The remaining area (north driveway) drains north to a common driveway access. To mitigate the increased amount of stormwater created by the existing and new site improvements, additional stormwater management practices will need to be implemented. One area inlet installed in the paver patio and roof gutters will capture the runoff and direct it to a new buried 600± gal detention tank via 4"Ø PVC storm pipes. The tank will release the stormwater through one 1.0"Ø orifice drilled in a 4"Ø vertical standpipe installed inside the tank (see the detail on the plans). The released runoff from the tank will daylight and flow southeast toward open space as it currently does.

The site has been analyzed using the Rational method for the 25-year, 1-hour storm event in accordance with Municipal Code. Under this analysis method, the existing runoff (landscape vegetation, paved surfaces & roofs) is approximately 0.07 cfs and the developed runoff is estimated at 0.31 cfs. The controlled release rate through the orifices will be approximately 0.06 cfs, matching or less than the existing rate. Therefore, the proposed improvements will not adversely impact downstream properties.

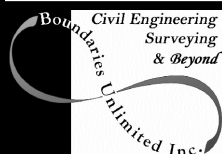
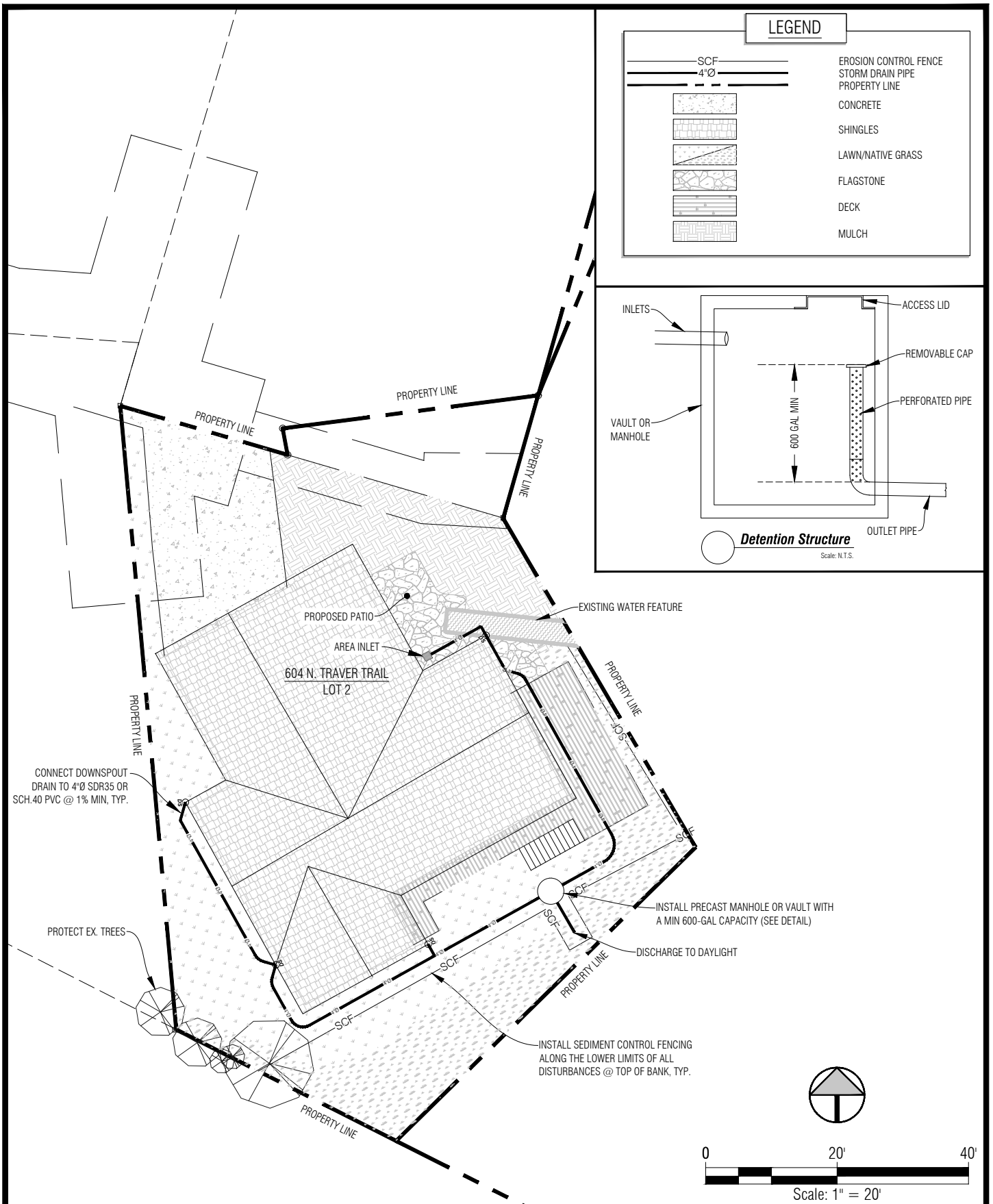
The Natural Resource Conservation Service Websoil Study (see Appendix) indicates that soils are primarily Hydrologic Group A. Rainfall intensities are based on rainfall data obtained from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Point Precipitation Frequency Estimates for the Glenwood Springs, Colorado area (See Appendix). Runoff rates and volumes were estimated using the Autodesk Storm and Sanitary Analysis v2020 stormwater modeling software. A copy of this information and modelling has been attached.

Please feel free to contact me at 456-4692 with any questions.

Sincerely,  
BOUNDARIES UNLIMITED INC.

  
Bruce D Lewis, PE  
Project Manager





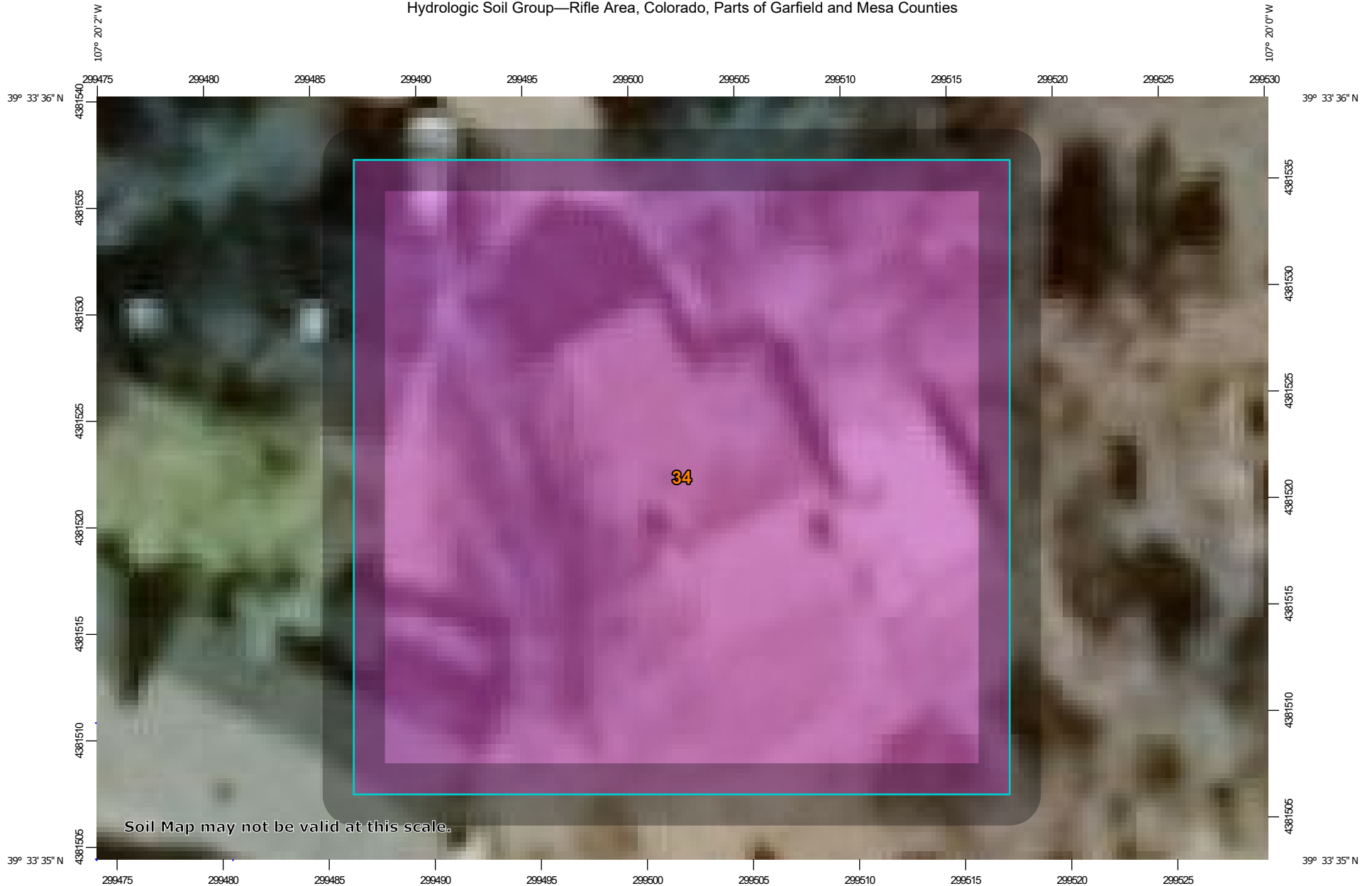
**923 Cooper Avenue  
Suite 201  
Glenwood Springs, CO 81601**  
tele: 970.945.5252

Scale: 1" = 20'  
Date: 2/5/20  
Proj #: 15016  
File: Pittman-Site Plan.dwg

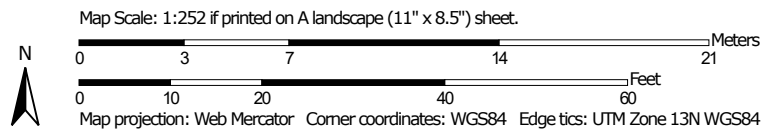
**Steven B & Patricia T Pittman  
Glenwood Springs, Colorado  
Pittman Residence  
Drainage Plan**



# Hydrologic Soil Group—Rifle Area, Colorado, Parts of Garfield and Mesa Counties



Soil Map may not be valid at this scale.



**Natural Resources  
Conservation Service**

Web Soil Survey  
National Cooperative Soil Survey  
Packet Page 186

2/5/2020  
Page 1 of 4

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points

 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available

### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Rifle Area, Colorado, Parts of Garfield and Mesa Counties  
 Survey Area Data: Version 12, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 24, 2015—Nov 2, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydrologic Soil Group

| Map unit symbol                    | Map unit name                                 | Rating | Acres in AOI | Percent of AOI |
|------------------------------------|-----------------------------------------------|--------|--------------|----------------|
| 34                                 | Ildefonso stony loam, 25 to 45 percent slopes | A      | 0.2          | 100.0%         |
| <b>Totals for Area of Interest</b> |                                               |        | <b>0.2</b>   | <b>100.0%</b>  |

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

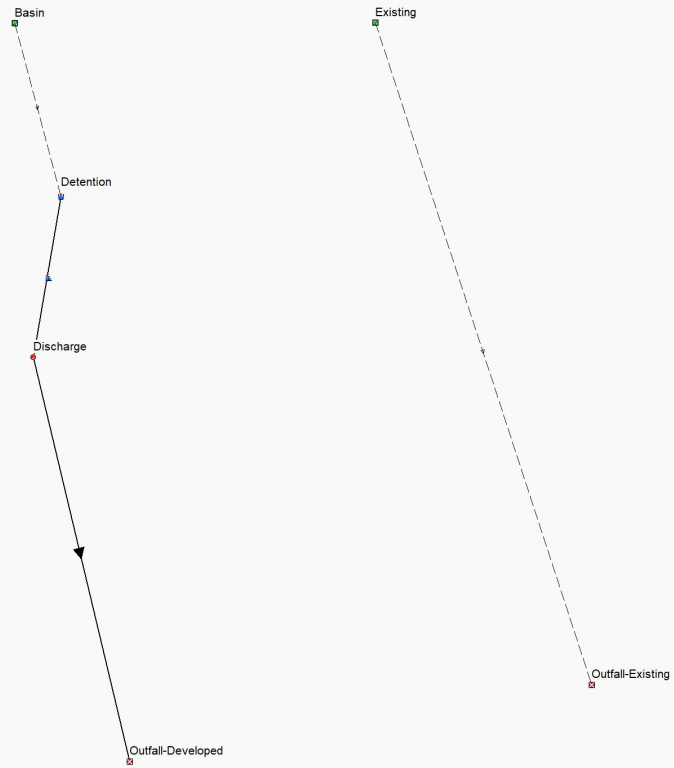
## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified



*Tie-break Rule:* Higher



Project Description

File Name ..... 15016-SSA.SPF

Project Options

Flow Units ..... CFS  
Elevation Type ..... Elevation  
Hydrology Method ..... Rational  
Time of Concentration (TOC) Method ..... SCS TR-55  
Link Routing Method ..... Kinematic Wave  
Enable Overflow Ponding at Nodes ..... YES  
Skip Steady State Analysis Time Periods ..... YES

Analysis Options

|                                      |              |               |
|--------------------------------------|--------------|---------------|
| Start Analysis On .....              | Aug 22, 2018 | 00:00:00      |
| End Analysis On .....                | Aug 23, 2018 | 00:00:00      |
| Start Reporting On .....             | Aug 22, 2018 | 00:00:00      |
| Antecedent Dry Days .....            | 0            | days          |
| Runoff (Dry Weather) Time Step ..... | 0 01:00:00   | days hh:mm:ss |
| Runoff (Wet Weather) Time Step ..... | 0 00:05:00   | days hh:mm:ss |
| Reporting Time Step .....            | 0 00:05:00   | days hh:mm:ss |
| Routing Time Step .....              | 30           | seconds       |

Rainfall Details

Return Period..... 25 year(s)



**25-year 1-hour  
Storm Event**

**BUI#19001**

**Subbasin Summary**

| SN | Subbasin<br>ID | Area               | Weighted<br>Runoff<br>Coefficient | Total<br>Rainfall | Total<br>Runoff | Total<br>Runoff<br>Volume | Peak<br>Runoff | Time of<br>Concentration |
|----|----------------|--------------------|-----------------------------------|-------------------|-----------------|---------------------------|----------------|--------------------------|
|    |                | (ft <sup>2</sup> ) |                                   | (in)              | (in)            | (ft <sup>3</sup> )        | (cfs)          | (days hh:mm:ss)          |
| 1  | Basin          | 6617               | 0.400                             | 0.42              | 0.17            | 92.6                      | 0.31           | 0 00:05:00               |
| 2  | Existing       | 6617               | 0.140                             | 0.66              | 0.09            | 50.7                      | 0.07           | 0 00:11:15               |

**25-year 1-hour  
Storm Event**

**BUI#19001**

**Node Summary**

| SN Element<br>ID    | Element<br>Type | Invert<br>Elevation | Ground/Rim<br>(Max)<br>Elevation | Initial<br>Water<br>Elevation | Surcharge<br>Elevation | Ponded<br>Area     | Peak<br>Inflow | Max HGL<br>Elevation<br>Attained | Max<br>Surcharge<br>Depth<br>Attained | Min<br>Freeboard<br>Attained | Time of<br>Peak<br>Flooding<br>Occurrence | Total<br>Flooded<br>Volume | Total Time<br>Flooded |
|---------------------|-----------------|---------------------|----------------------------------|-------------------------------|------------------------|--------------------|----------------|----------------------------------|---------------------------------------|------------------------------|-------------------------------------------|----------------------------|-----------------------|
|                     |                 | (ft)                | (ft)                             | (ft)                          | (ft)                   | (ft <sup>2</sup> ) | (cfs)          | (ft)                             | (ft)                                  | (ft)                         | (days hh:mm)                              | (ft <sup>3</sup> )         | (min)                 |
| 1 Discharge         | Junction        | 999.00              | 1002.00                          | 999.00                        | 0.00                   | 0.00               | 0.060          | 999.06                           | 0.00                                  | 2.94                         | 0 00:00                                   | 0.00                       | 0.00                  |
| 2 Outfall-Developed | Outfall         | 998.00              |                                  |                               |                        |                    | 0.060          | 998.06                           |                                       |                              |                                           |                            |                       |
| 3 Outfall-Existing  | Outfall         | 998.00              |                                  |                               |                        |                    | 0.070          | 998.00                           |                                       |                              |                                           |                            |                       |
| 4 Detention         | Storage Node    | 1000.00             | 1006.00                          | 1000.00                       |                        | 0.00               | 0.310          | 1005.53                          |                                       |                              |                                           | 0.00                       | 0.00                  |

**25-year 1-hour  
Storm Event**

**BUI#19001**

**Link Summary**

| SN | Element ID | Element Type | From (Inlet) Node | To (Outlet) Node  | Length | Inlet Invert Elevation | Outlet Invert Elevation | Average Slope | Diameter or Height | Manning's Roughness | Peak Flow | Design Flow Capacity | Peak Flow/ Design Flow Ratio | Peak Flow Velocity |
|----|------------|--------------|-------------------|-------------------|--------|------------------------|-------------------------|---------------|--------------------|---------------------|-----------|----------------------|------------------------------|--------------------|
|    |            |              |                   |                   | (ft)   | (ft)                   | (ft)                    | (%)           | (in)               |                     | (cfs)     | (cfs)                |                              | (ft/sec)           |
| 1  | Link-08    | Pipe         | Discharge         | Outfall-Developed | 15.00  | 999.00                 | 998.00                  | 6.6700        | 18.000             | 0.0150              | 0.060     | 23.51                | 0.00                         | 2.86               |
| 2  | Orifice-A  | Orifice      | Detention         | Discharge         |        | 1000.00                | 999.00                  |               | 1.000              |                     | 0.060     |                      |                              |                    |



25-year 1-hour  
Storm Event

BUI#19001

| Peak Flow<br>Depth | Peak Flow<br>Depth/<br>Total Depth<br>Ratio | Total Time<br>Surcharged |
|--------------------|---------------------------------------------|--------------------------|
| (ft)               |                                             | (min)                    |
| 0.06               | 0.04                                        | 0.00                     |

## Subbasin Hydrology

### Subbasin : Basin

#### Input Data

Area (ft<sup>2</sup>) ..... 6616.98  
Weighted Runoff Coefficient ..... 0.4000

#### Runoff Coefficient

| Soil/Surface Description                           | Area<br>(ft <sup>2</sup> ) | Soil<br>Group | Runoff<br>Coeff. |
|----------------------------------------------------|----------------------------|---------------|------------------|
| Residential Lot Size 1/8 Acre, 25 years or greater | 6616.98                    | A (6%+)       | 0.40             |
| Composite Area & Weighted Runoff Coeff.            | 6616.98                    |               | 0.40             |

#### Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

$$T_c = (0.007 * ((n * L_f)^{0.8})) / ((P^{0.5}) * (S_f^{0.4}))$$

Where :

T<sub>c</sub> = Time of Concentration (hr)  
n = Manning's roughness  
L<sub>f</sub> = Flow Length (ft)  
P = 2 yr, 24 hr Rainfall (inches)  
S<sub>f</sub> = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 \* (S<sub>f</sub><sup>0.5</sup>) (unpaved surface)  
V = 20.3282 \* (S<sub>f</sub><sup>0.5</sup>) (paved surface)  
V = 15.0 \* (S<sub>f</sub><sup>0.5</sup>) (grassed waterway surface)  
V = 10.0 \* (S<sub>f</sub><sup>0.5</sup>) (nearly bare & untilled surface)  
V = 9.0 \* (S<sub>f</sub><sup>0.5</sup>) (cultivated straight rows surface)  
V = 7.0 \* (S<sub>f</sub><sup>0.5</sup>) (short grass pasture surface)  
V = 5.0 \* (S<sub>f</sub><sup>0.5</sup>) (woodland surface)  
V = 2.5 \* (S<sub>f</sub><sup>0.5</sup>) (forest w/heavy litter surface)  
T<sub>c</sub> = (L<sub>f</sub> / V) / (3600 sec/hr)

Where:

T<sub>c</sub> = Time of Concentration (hr)  
L<sub>f</sub> = Flow Length (ft)  
V = Velocity (ft/sec)  
S<sub>f</sub> = Slope (ft/ft)

Channel Flow Equation :

$$V = (1.49 * (R^{2/3}) * (S_f^{0.5})) / n$$

$$R = A_q / W_p$$

$$T_c = (L_f / V) / (3600 \text{ sec/hr})$$

Where :

T<sub>c</sub> = Time of Concentration (hr)  
L<sub>f</sub> = Flow Length (ft)  
R = Hydraulic Radius (ft)  
A<sub>q</sub> = Flow Area (ft<sup>2</sup>)  
W<sub>p</sub> = Wetted Perimeter (ft)  
V = Velocity (ft/sec)  
S<sub>f</sub> = Slope (ft/ft)  
n = Manning's roughness

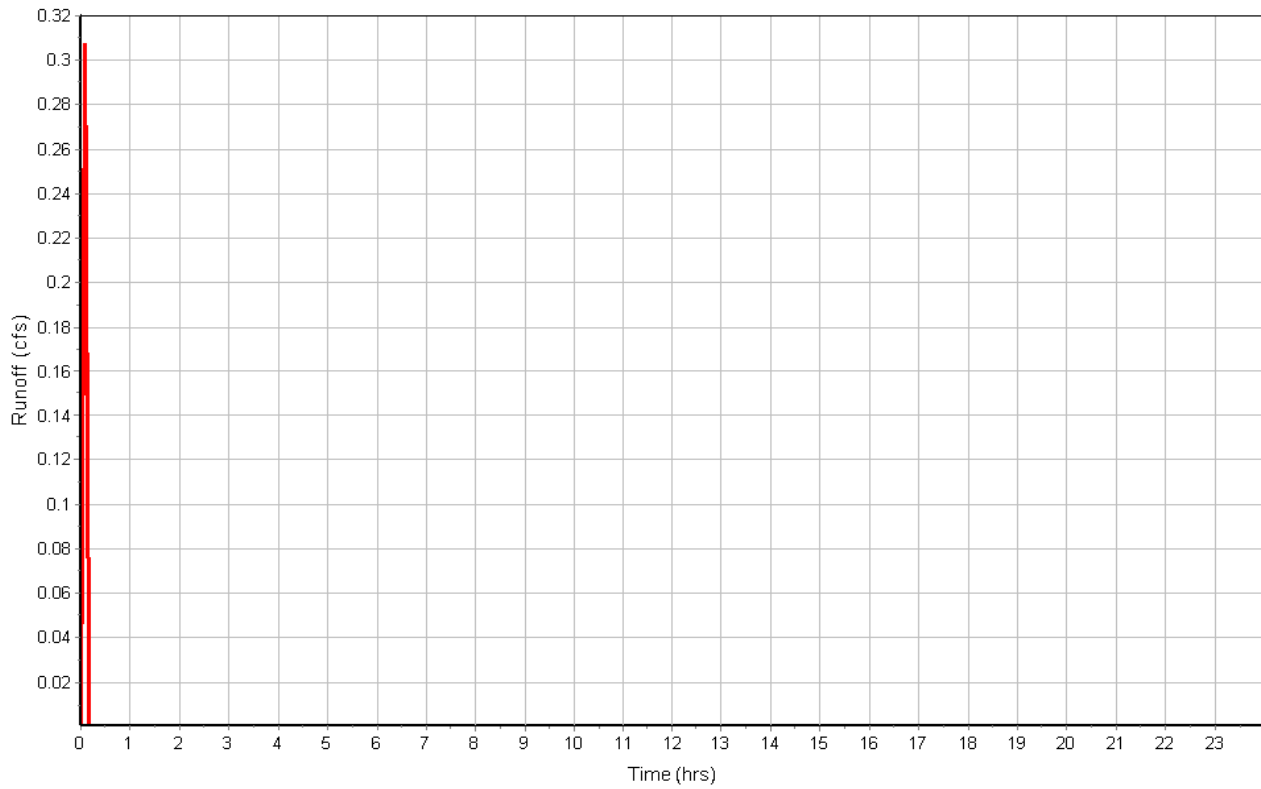
User-Defined TOC override (minutes): 5.00

#### Subbasin Runoff Results

Total Rainfall (in) ..... 0.42  
Total Runoff (in) ..... 0.17  
Peak Runoff (cfs) ..... 0.31  
Rainfall Intensity ..... 5.050  
Weighted Runoff Coefficient ..... 0.4000  
Time of Concentration (days hh:mm:ss) ..... 0 00:05:00

Subbasin : Basin

Runoff Hydrograph





**25-year 1-hour  
Storm Event**

**BUI#19001**

**Subbasin : Existing**

**Input Data**

Area (ft²) ..... 6616.98  
Weighted Runoff Coefficient ..... 0.1400

**Runoff Coefficient**

| Soil/Surface Description                | Area<br>(ft²) | Soil<br>Group | Runoff<br>Coeff. |
|-----------------------------------------|---------------|---------------|------------------|
| Forest, 25 years or greater             | 6616.98       | A (6%+)       | 0.14             |
| Composite Area & Weighted Runoff Coeff. | 6616.98       |               | 0.14             |

**Time of Concentration**

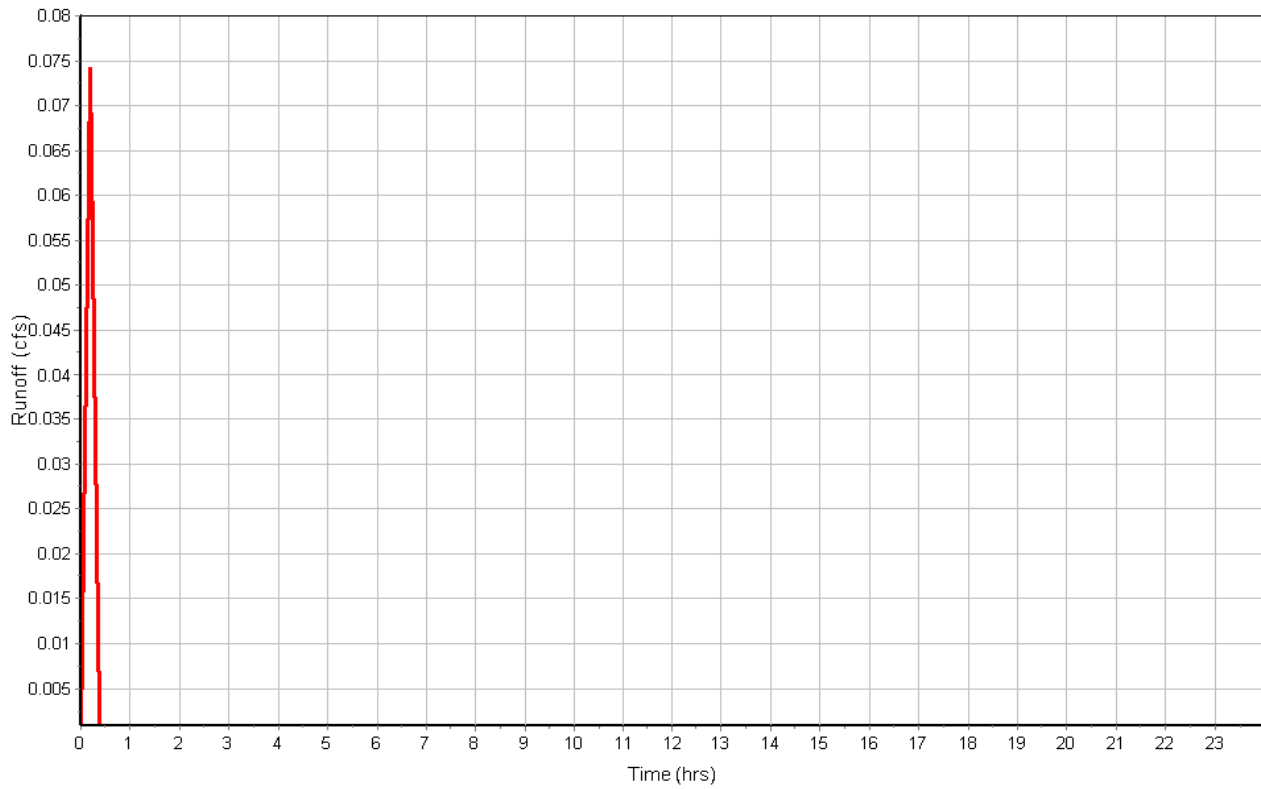
|                             | Subarea<br>A | Subarea<br>B | Subarea<br>C |
|-----------------------------|--------------|--------------|--------------|
| Sheet Flow Computations     |              |              |              |
| Manning's Roughness :       | 0.13         | 0.00         | 0.00         |
| Flow Length (ft) :          | 115          | 0.00         | 0.00         |
| Slope (%) :                 | 6            | 0.00         | 0.00         |
| 2 yr, 24 hr Rainfall (in) : | 1.0          | 0.00         | 0.00         |
| Velocity (ft/sec) :         | 0.17         | 0.00         | 0.00         |
| Computed Flow Time (min) :  | 11.26        | 0.00         | 0.00         |
| Total TOC (min) .....       | 11.26        |              |              |

**Subbasin Runoff Results**

Total Rainfall (in) ..... 0.66  
Total Runoff (in) ..... 0.09  
Peak Runoff (cfs) ..... 0.07  
Rainfall Intensity ..... 3.483  
Weighted Runoff Coefficient ..... 0.1400  
Time of Concentration (days hh:mm:ss) ..... 0 00:11:16

Subbasin : Existing

Runoff Hydrograph



25-year 1-hour  
Storm Event

BUI#19001

Junction Input

| SN Element<br>ID | Invert<br>Elevation | Ground/Rim<br>(Max)<br>Elevation | Ground/Rim<br>(Max)<br>Offset | Initial<br>Water<br>Elevation | Initial<br>Water<br>Depth | Surcharge<br>Elevation | Surcharge<br>Depth | Ponded<br>Area |
|------------------|---------------------|----------------------------------|-------------------------------|-------------------------------|---------------------------|------------------------|--------------------|----------------|
|                  | (ft)                | (ft)                             | (ft)                          | (ft)                          | (ft)                      | (ft)                   | (ft)               | (ft²)          |
| 1 Discharge      | 999.00              | 1002.00                          | 3.00                          | 999.00                        | 0.00                      | 0.00                   | -1002.00           | 0.00           |



**25-year 1-hour  
Storm Event**

**BUI#19001**

**Junction Results**

| SN Element<br>ID | Peak<br>Inflow | Peak<br>Lateral<br>Inflow | Max HGL<br>Elevation<br>Attained | Max HGL<br>Depth<br>Attained | Max<br>Surcharge<br>Depth<br>Attained | Min<br>Freeboard<br>Attained | Average HGL<br>Elevation<br>Attained | Average HGL<br>Depth<br>Attained | Time of<br>Max HGL<br>Occurrence | Total<br>Flooded<br>Volume | Total Time<br>Flooded |
|------------------|----------------|---------------------------|----------------------------------|------------------------------|---------------------------------------|------------------------------|--------------------------------------|----------------------------------|----------------------------------|----------------------------|-----------------------|
|                  | (cfs)          | (cfs)                     | (ft)                             | (ft)                         | (ft)                                  | (ft)                         | (ft)                                 | (ft)                             | (days hh:mm)                     | (ft³)                      | (min)                 |
| 1 Discharge      | 0.060          | 0.00                      | 999.06                           | 0.06                         | 0.00                                  | 2.94                         | 999.00                               | 0.00                             | 0 00:09                          | 0.00                       | 0.00                  |

25-year 1-hour  
Storm Event

BUI#19001

Pipe Input

| SN | Element ID | Length<br>(ft) | Inlet<br>Invert<br>Elevation<br>(ft) | Inlet<br>Invert<br>Offset<br>(ft) | Outlet<br>Invert<br>Elevation<br>(ft) | Outlet<br>Invert<br>Offset<br>(ft) | Total<br>Drop<br>(ft) | Average<br>Slope<br>(%) | Pipe<br>Shape | Pipe<br>Diameter or<br>Height<br>(in) | Pipe<br>Width<br>(in) | Manning's<br>Roughness | Entrance<br>Losses | Exit/Bend<br>Losses | Initial<br>Flow<br>(cfs) | Flap<br>Gate | No. of<br>Barrels |
|----|------------|----------------|--------------------------------------|-----------------------------------|---------------------------------------|------------------------------------|-----------------------|-------------------------|---------------|---------------------------------------|-----------------------|------------------------|--------------------|---------------------|--------------------------|--------------|-------------------|
| 1  | Link-08    | 15.00          | 999.00                               | 0.00                              | 998.00                                | 0.00                               | 1.00                  | 6.6700                  | CIRCULAR      | 18.000                                | 18.000                | 0.0150                 | 0.5000             | 0.5000              | 0.000                    | No           | 1                 |

**25-year 1-hour  
Storm Event**

**BUI#19001**

**Pipe Results**

| SN Element<br>ID | Peak<br>Flow | Time of<br>Peak Flow<br>Occurrence | Design Flow<br>Capacity | Peak Flow/<br>Design Flow<br>Ratio | Peak Flow<br>Velocity | Travel<br>Time | Peak Flow<br>Depth | Peak Flow<br>Depth/<br>Total Depth<br>Ratio | Total Time Reported<br>Surcharged Condition |
|------------------|--------------|------------------------------------|-------------------------|------------------------------------|-----------------------|----------------|--------------------|---------------------------------------------|---------------------------------------------|
|                  | (cfs)        | (days hh:mm)                       | (cfs)                   |                                    | (ft/sec)              | (min)          | (ft)               |                                             | (min)                                       |
| 1 Link-08        | 0.060        | 0 00:09                            | 23.51                   | 0.00                               | 2.86                  | 0.09           | 0.06               | 0.04                                        | 0.00 Calculated                             |



Storage Nodes

Storage Node : Detention

Input Data

Invert Elevation (ft) ..... 1000.00  
Max (Rim) Elevation (ft) ..... 1006.00  
Max (Rim) Offset (ft) ..... 6.00  
Initial Water Elevation (ft) ..... 1000.00  
Initial Water Depth (ft) ..... 0.00  
Ponded Area (ft²) ..... 0.00  
Evaporation Loss ..... 0.00

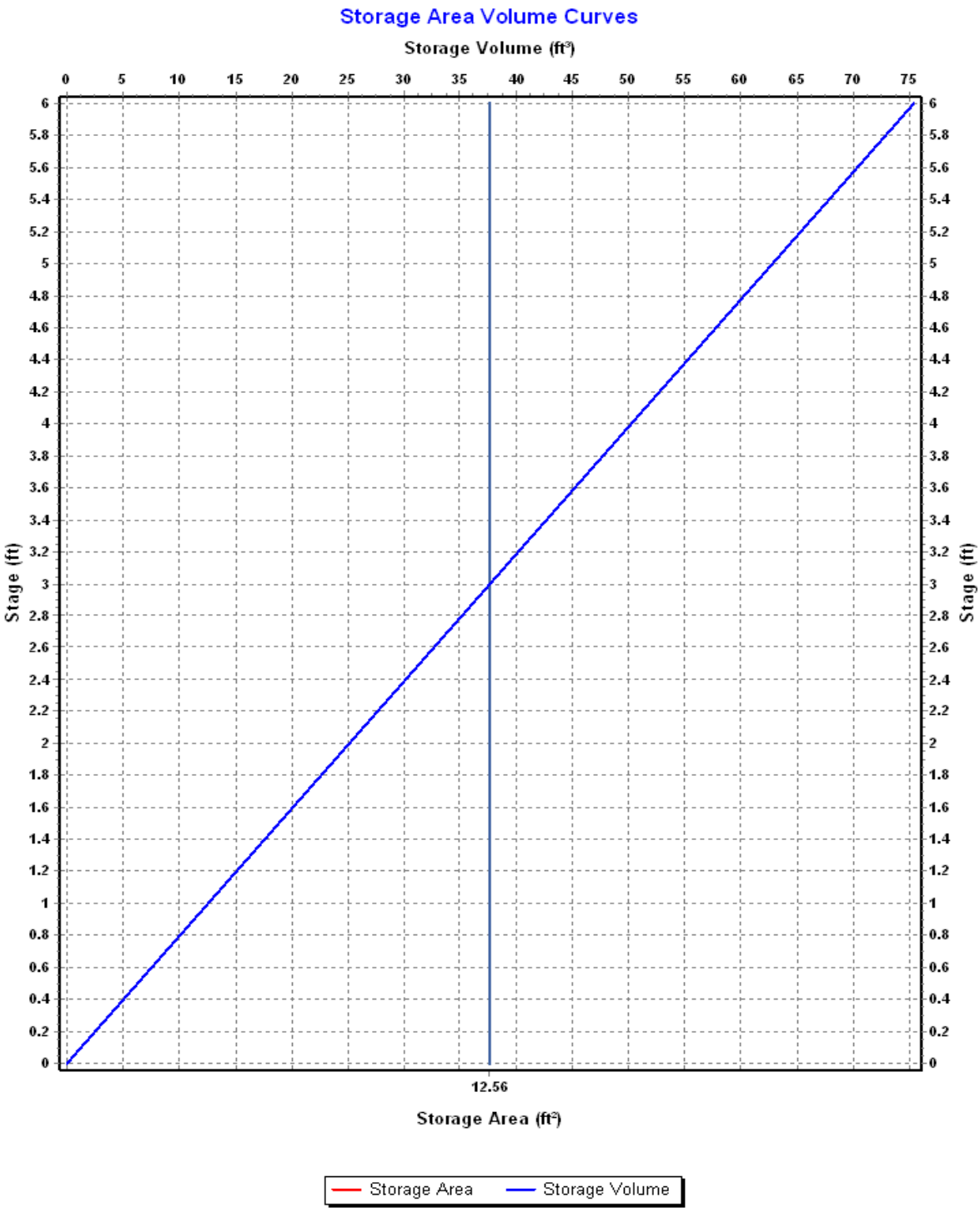
Infiltration/Exfiltration

Exfiltration Rate (in/hr) ..... 0.0000

Storage Area Volume Curves

Storage Curve : 800-Gal Tank

| Stage<br>(ft) | Storage<br>Area<br>(ft²) | Storage<br>Volume<br>(ft³) |
|---------------|--------------------------|----------------------------|
| 0             | 12.56                    | 0.000                      |
| 6             | 12.56                    | 75.36                      |



Storage Node : Detention (continued)

Outflow Orifices

| SN Element<br>ID | Orifice<br>Type | Orifice<br>Shape | Flap<br>Gate | Circular<br>Orifice<br>Diameter<br>(in) | Rectangular<br>Orifice<br>Height<br>(in) | Rectangular<br>Orifice<br>Width<br>(in) | Orifice<br>Invert<br>Elevation<br>(ft) | Orifice<br>Coefficient |
|------------------|-----------------|------------------|--------------|-----------------------------------------|------------------------------------------|-----------------------------------------|----------------------------------------|------------------------|
| 1                | Orifice-A Side  | CIRCULAR         | No           | 1.00                                    |                                          |                                         | 1000.00                                | 0.61                   |

Output Summary Results

|                                               |          |
|-----------------------------------------------|----------|
| Peak Inflow (cfs) .....                       | 0.31     |
| Peak Lateral Inflow (cfs) .....               | 0.31     |
| Peak Outflow (cfs) .....                      | 0.06     |
| Peak Exfiltration Flow Rate (cfm) .....       | 0.00     |
| Max HGL Elevation Attained (ft) .....         | 1005.53  |
| Max HGL Depth Attained (ft) .....             | 5.53     |
| Average HGL Elevation Attained (ft) .....     | 1000.07  |
| Average HGL Depth Attained (ft) .....         | 0.07     |
| Time of Max HGL Occurrence (days hh:mm) ..... | 0 00:09  |
| Total Exfiltration Volume (1000-ft³) .....    | 0.000    |
| Total Flooded Volume (ac-in) .....            | 0        |
| Total Time Flooded (min) .....                | 0        |
| Total Retention Time (sec) .....              | 86070.33 |





**NOAA Atlas 14, Volume 8, Version 2**  
**Location name: Glenwood Springs, Colorado,**  
**USA\***

**Latitude: 39.546°, Longitude: -107.3237°**

**Elevation: 5795.68 ft\*\***

\* source: ESRI Maps

\*\* source: USGS



**POINT PRECIPITATION FREQUENCY ESTIMATES**

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF\\_tabular](#) | [PF\\_graphical](#) | [Maps & aerals](#)

**PF tabular**

| <b>PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)<sup>1</sup></b> |                                            |                               |                               |                               |                               |                               |                               |                               |                               |                               |
|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| <b>Duration</b>                                                                                                     | <b>Average recurrence interval (years)</b> |                               |                               |                               |                               |                               |                               |                               |                               |                               |
|                                                                                                                     | <b>1</b>                                   | <b>2</b>                      | <b>5</b>                      | <b>10</b>                     | <b>25</b>                     | <b>50</b>                     | <b>100</b>                    | <b>200</b>                    | <b>500</b>                    | <b>1000</b>                   |
| <b>5-min</b>                                                                                                        | <b>1.45</b><br>(1.15-1.88)                 | <b>2.12</b><br>(1.68-2.75)    | <b>3.17</b><br>(2.48-4.12)    | <b>3.98</b><br>(3.12-5.21)    | <b>5.05</b><br>(3.76-6.78)    | <b>5.83</b><br>(4.25-7.97)    | <b>6.56</b><br>(4.62-9.23)    | <b>7.26</b><br>(4.88-10.5)    | <b>8.12</b><br>(5.24-12.2)    | <b>8.71</b><br>(5.52-13.4)    |
| <b>10-min</b>                                                                                                       | <b>1.07</b><br>(0.840-1.38)                | <b>1.55</b><br>(1.22-2.01)    | <b>2.32</b><br>(1.82-3.01)    | <b>2.92</b><br>(2.28-3.81)    | <b>3.70</b><br>(2.75-4.96)    | <b>4.27</b><br>(3.11-5.83)    | <b>4.81</b><br>(3.38-6.76)    | <b>5.32</b><br>(3.58-7.71)    | <b>5.95</b><br>(3.84-8.91)    | <b>6.38</b><br>(4.04-9.82)    |
| <b>15-min</b>                                                                                                       | <b>0.868</b><br>(0.684-1.12)               | <b>1.26</b><br>(0.996-1.64)   | <b>1.88</b><br>(1.48-2.45)    | <b>2.37</b><br>(1.86-3.10)    | <b>3.01</b><br>(2.24-4.03)    | <b>3.47</b><br>(2.53-4.74)    | <b>3.91</b><br>(2.75-5.49)    | <b>4.32</b><br>(2.91-6.27)    | <b>4.83</b><br>(3.12-7.24)    | <b>5.19</b><br>(3.28-7.98)    |
| <b>30-min</b>                                                                                                       | <b>0.582</b><br>(0.460-0.752)              | <b>0.824</b><br>(0.650-1.07)  | <b>1.20</b><br>(0.944-1.56)   | <b>1.50</b><br>(1.17-1.95)    | <b>1.87</b><br>(1.39-2.50)    | <b>2.14</b><br>(1.56-2.92)    | <b>2.39</b><br>(1.68-3.36)    | <b>2.63</b><br>(1.77-3.81)    | <b>2.91</b><br>(1.88-4.36)    | <b>3.10</b><br>(1.96-4.77)    |
| <b>60-min</b>                                                                                                       | <b>0.387</b><br>(0.305-0.500)              | <b>0.512</b><br>(0.404-0.663) | <b>0.707</b><br>(0.556-0.918) | <b>0.860</b><br>(0.672-1.12)  | <b>1.06</b><br>(0.786-1.41)   | <b>1.20</b><br>(0.873-1.63)   | <b>1.33</b><br>(0.935-1.87)   | <b>1.45</b><br>(0.978-2.11)   | <b>1.60</b><br>(1.04-2.40)    | <b>1.71</b><br>(1.08-2.62)    |
| <b>2-hr</b>                                                                                                         | <b>0.241</b><br>(0.193-0.308)              | <b>0.306</b><br>(0.244-0.390) | <b>0.406</b><br>(0.324-0.520) | <b>0.486</b><br>(0.384-0.625) | <b>0.588</b><br>(0.444-0.776) | <b>0.662</b><br>(0.488-0.890) | <b>0.731</b><br>(0.520-1.01)  | <b>0.796</b><br>(0.542-1.14)  | <b>0.876</b><br>(0.572-1.29)  | <b>0.930</b><br>(0.595-1.41)  |
| <b>3-hr</b>                                                                                                         | <b>0.188</b><br>(0.152-0.238)              | <b>0.227</b><br>(0.183-0.288) | <b>0.290</b><br>(0.232-0.368) | <b>0.339</b><br>(0.270-0.433) | <b>0.404</b><br>(0.308-0.530) | <b>0.451</b><br>(0.336-0.603) | <b>0.497</b><br>(0.357-0.683) | <b>0.540</b><br>(0.371-0.767) | <b>0.595</b><br>(0.392-0.872) | <b>0.634</b><br>(0.408-0.952) |
| <b>6-hr</b>                                                                                                         | <b>0.123</b><br>(0.101-0.154)              | <b>0.140</b><br>(0.114-0.175) | <b>0.168</b><br>(0.137-0.211) | <b>0.192</b><br>(0.155-0.241) | <b>0.225</b><br>(0.175-0.293) | <b>0.251</b><br>(0.190-0.332) | <b>0.277</b><br>(0.202-0.378) | <b>0.304</b><br>(0.212-0.428) | <b>0.340</b><br>(0.227-0.494) | <b>0.367</b><br>(0.239-0.544) |
| <b>12-hr</b>                                                                                                        | <b>0.076</b><br>(0.063-0.093)              | <b>0.087</b><br>(0.072-0.107) | <b>0.105</b><br>(0.086-0.129) | <b>0.120</b><br>(0.098-0.149) | <b>0.142</b><br>(0.112-0.183) | <b>0.159</b><br>(0.122-0.208) | <b>0.177</b><br>(0.131-0.238) | <b>0.195</b><br>(0.138-0.271) | <b>0.220</b><br>(0.149-0.316) | <b>0.240</b><br>(0.157-0.349) |
| <b>24-hr</b>                                                                                                        | <b>0.046</b><br>(0.039-0.056)              | <b>0.053</b><br>(0.044-0.065) | <b>0.065</b><br>(0.054-0.079) | <b>0.075</b><br>(0.062-0.092) | <b>0.089</b><br>(0.071-0.114) | <b>0.101</b><br>(0.078-0.130) | <b>0.113</b><br>(0.084-0.150) | <b>0.125</b><br>(0.089-0.171) | <b>0.142</b><br>(0.097-0.201) | <b>0.156</b><br>(0.103-0.223) |
| <b>2-day</b>                                                                                                        | <b>0.028</b><br>(0.024-0.033)              | <b>0.032</b><br>(0.027-0.038) | <b>0.039</b><br>(0.033-0.046) | <b>0.045</b><br>(0.037-0.054) | <b>0.053</b><br>(0.043-0.067) | <b>0.060</b><br>(0.047-0.076) | <b>0.067</b><br>(0.051-0.088) | <b>0.075</b><br>(0.054-0.101) | <b>0.086</b><br>(0.059-0.119) | <b>0.094</b><br>(0.063-0.133) |
| <b>3-day</b>                                                                                                        | <b>0.021</b><br>(0.018-0.025)              | <b>0.024</b><br>(0.020-0.028) | <b>0.029</b><br>(0.025-0.034) | <b>0.033</b><br>(0.028-0.040) | <b>0.040</b><br>(0.032-0.049) | <b>0.045</b><br>(0.035-0.056) | <b>0.050</b><br>(0.038-0.065) | <b>0.055</b><br>(0.040-0.074) | <b>0.063</b><br>(0.044-0.087) | <b>0.069</b><br>(0.047-0.097) |
| <b>4-day</b>                                                                                                        | <b>0.017</b><br>(0.015-0.020)              | <b>0.019</b><br>(0.017-0.023) | <b>0.024</b><br>(0.020-0.028) | <b>0.027</b><br>(0.023-0.032) | <b>0.032</b><br>(0.026-0.039) | <b>0.036</b><br>(0.029-0.045) | <b>0.040</b><br>(0.031-0.052) | <b>0.044</b><br>(0.032-0.059) | <b>0.050</b><br>(0.035-0.069) | <b>0.055</b><br>(0.037-0.076) |
| <b>7-day</b>                                                                                                        | <b>0.012</b><br>(0.010-0.014)              | <b>0.013</b><br>(0.012-0.015) | <b>0.016</b><br>(0.014-0.018) | <b>0.018</b><br>(0.015-0.021) | <b>0.021</b><br>(0.017-0.025) | <b>0.023</b><br>(0.019-0.029) | <b>0.026</b><br>(0.020-0.033) | <b>0.028</b><br>(0.021-0.037) | <b>0.032</b><br>(0.022-0.043) | <b>0.034</b><br>(0.024-0.047) |
| <b>10-day</b>                                                                                                       | <b>0.009</b><br>(0.008-0.011)              | <b>0.011</b><br>(0.009-0.012) | <b>0.012</b><br>(0.011-0.014) | <b>0.014</b><br>(0.012-0.016) | <b>0.016</b><br>(0.013-0.019) | <b>0.018</b><br>(0.015-0.022) | <b>0.020</b><br>(0.015-0.025) | <b>0.022</b><br>(0.016-0.028) | <b>0.024</b><br>(0.017-0.032) | <b>0.026</b><br>(0.018-0.035) |
| <b>20-day</b>                                                                                                       | <b>0.006</b><br>(0.006-0.007)              | <b>0.007</b><br>(0.006-0.008) | <b>0.008</b><br>(0.007-0.009) | <b>0.009</b><br>(0.008-0.011) | <b>0.011</b><br>(0.009-0.012) | <b>0.012</b><br>(0.010-0.014) | <b>0.013</b><br>(0.010-0.016) | <b>0.014</b><br>(0.010-0.017) | <b>0.015</b><br>(0.011-0.020) | <b>0.016</b><br>(0.011-0.022) |
| <b>30-day</b>                                                                                                       | <b>0.005</b><br>(0.005-0.006)              | <b>0.006</b><br>(0.005-0.007) | <b>0.007</b><br>(0.006-0.008) | <b>0.008</b><br>(0.007-0.009) | <b>0.009</b><br>(0.007-0.010) | <b>0.009</b><br>(0.008-0.011) | <b>0.010</b><br>(0.008-0.012) | <b>0.011</b><br>(0.008-0.014) | <b>0.012</b><br>(0.009-0.016) | <b>0.013</b><br>(0.009-0.017) |
| <b>45-day</b>                                                                                                       | <b>0.004</b><br>(0.004-0.005)              | <b>0.005</b><br>(0.004-0.005) | <b>0.006</b><br>(0.005-0.006) | <b>0.006</b><br>(0.006-0.007) | <b>0.007</b><br>(0.006-0.008) | <b>0.008</b><br>(0.006-0.009) | <b>0.008</b><br>(0.007-0.010) | <b>0.009</b><br>(0.007-0.011) | <b>0.010</b><br>(0.007-0.012) | <b>0.010</b><br>(0.007-0.013) |
| <b>60-day</b>                                                                                                       | <b>0.004</b><br>(0.003-0.004)              | <b>0.004</b><br>(0.004-0.005) | <b>0.005</b><br>(0.004-0.006) | <b>0.006</b><br>(0.005-0.006) | <b>0.006</b><br>(0.005-0.007) | <b>0.007</b><br>(0.006-0.008) | <b>0.007</b><br>(0.006-0.009) | <b>0.008</b><br>(0.006-0.010) | <b>0.008</b><br>(0.006-0.011) | <b>0.009</b><br>(0.006-0.011) |

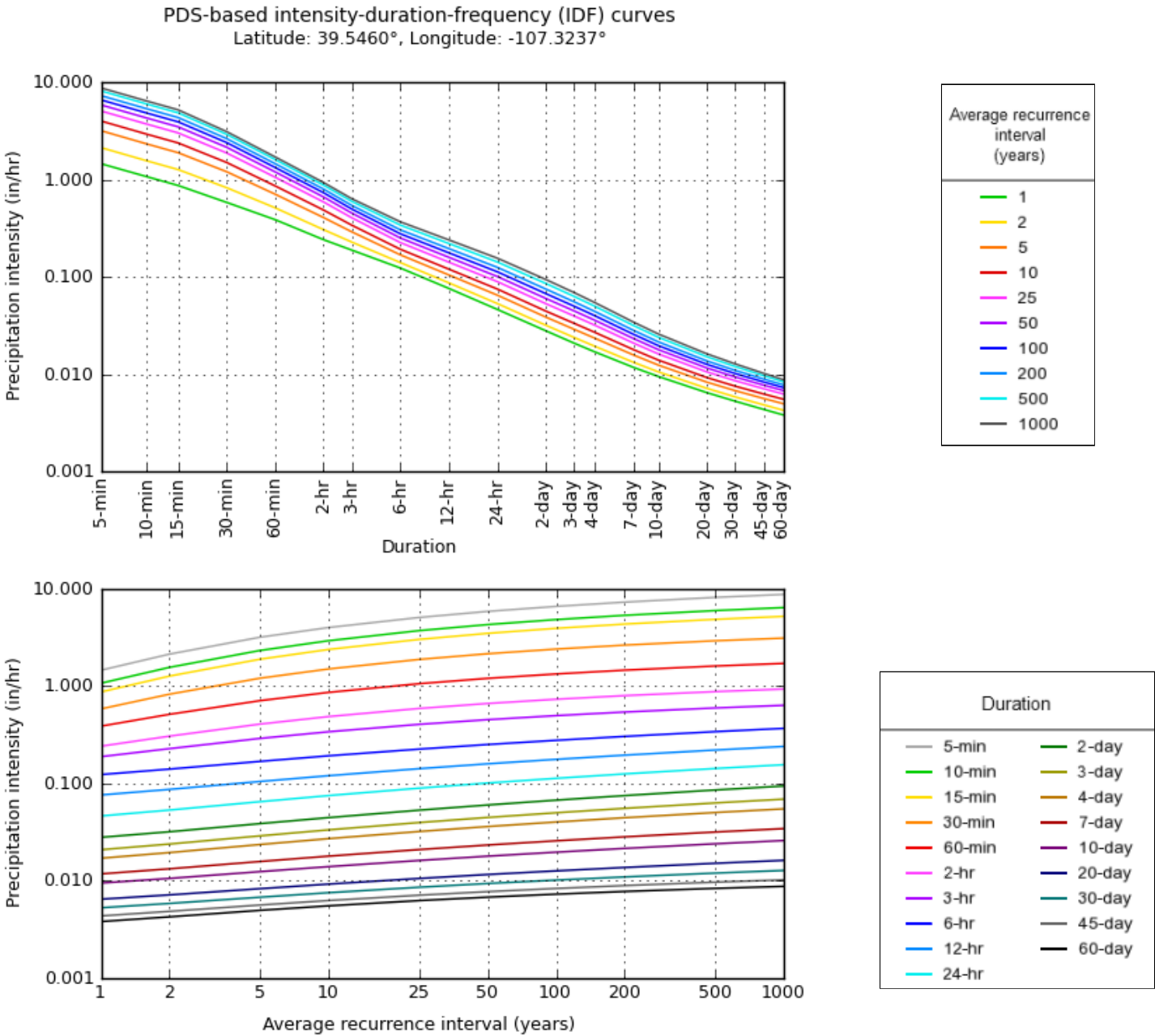
<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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**PF graphical**



NOAA Atlas 14, Volume 8, Version 2

Created (GMT): Wed Feb 5 23:01:21 2020

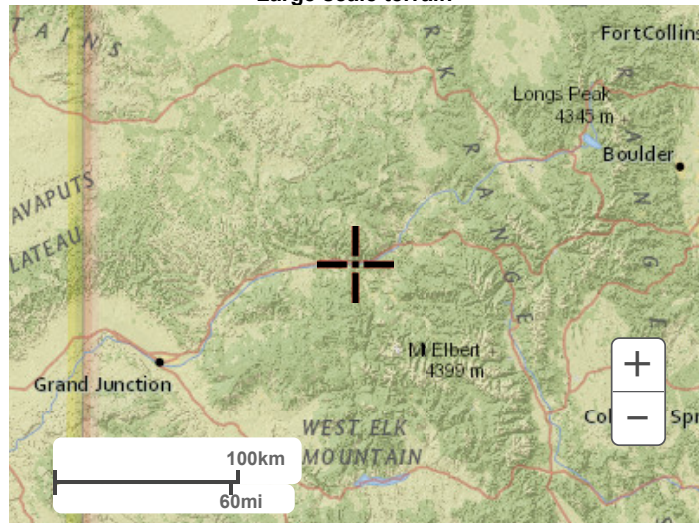
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**Maps & aerials**

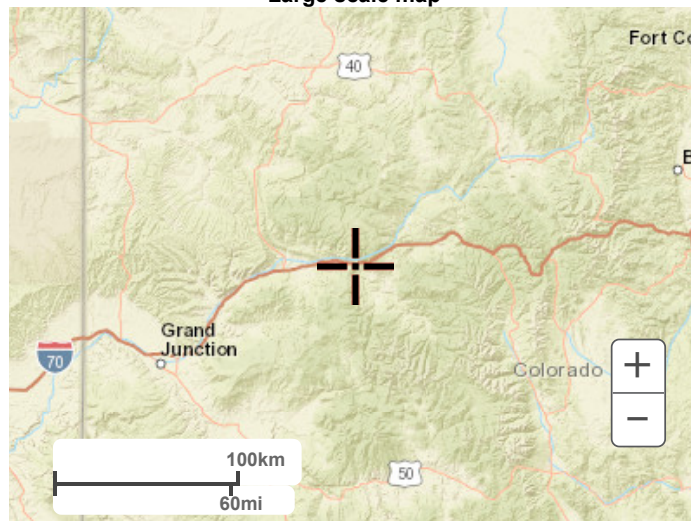
**Small scale terrain**



Large scale terrain

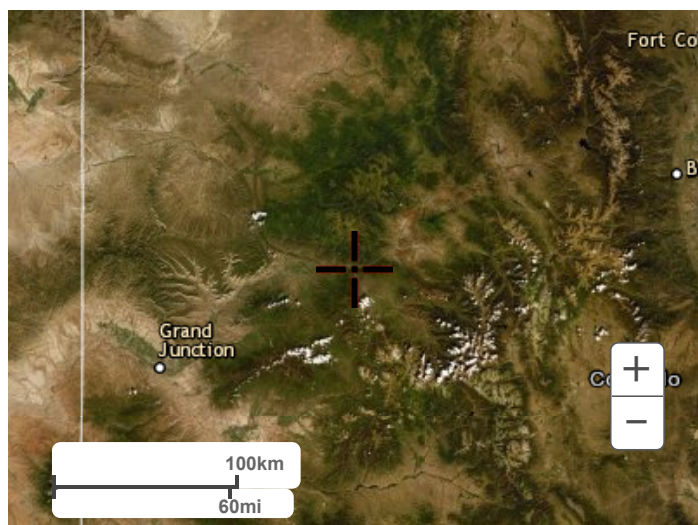


Large scale map



Large scale aerial



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1325 East West Highway  
Silver Spring, MD 20910  
Questions?: [HDSC.Questions@noaa.gov](mailto:HDSC.Questions@noaa.gov)

[Disclaimer](#)

December 8, 2019

Gretchen E. Ricehill, Director

Planning Department, City of Glenwood Springs

100 W. 8<sup>th</sup> Street, Glenwood Springs CO 81601

RE: Pittman's Proposed Rear Setback Variance Proposal

Lot 2, Pittman/Oasis Creek Subdivision, aka 604 Traver Trail, Glenwood Springs, CO

Tract B Lot line Adjustment Map

Dear Ms. Ricehill,

My mother and I are co-owners of the property described as Lot 22, Tract C, Oasis Creek Subdivision, aka 546 Traver Trail, Glenwood Springs. Our property is adjacent to the Pittman's Southerly lot line. After discussion with the Pittmans, I have reviewed their proposed plans to remodel their home at 604 Traver Trail, Glenwood Springs and visited the site to visually assess the impact it will have on our property. I concluded I am comfortable with and support their proposed improvements. Neither my mother nor I will oppose the proposed improvements to their home or their proposed encroachment into their rear setback. I understand they have a small pentagon shaped lot making it difficult to fit a square building into the setbacks.

The proposed setback variance will be specific to the dwelling extension for the corner of the back wall of the master bedroom which will encroach into the 20' setback approximately 7'5," changing the distance from the back-lot line to 12'6" at the narrowest point, see attached drawing. The Pittmans and subsequent owners agree that any fencing they install will not be higher than 3' for the distance of the 20' back setback so as not to block any additional views from our home or deck. The Pittmans have graciously offered to allow us input into the landscaping design plan that will beautify the common lot line and install it at their expense extending into our 5' setback along the north side of our deck. Landscaping will include a watering system and a combination of low scrubs, low maintenance ground cover and/or flowers. In addition, they will prune the Cottonwood tree, on their side of the lot line, both the dead branches and low view obstructing branches to open up the view. The landscape work will be installed and completed at their expense within a reasonable time after the of completion of their construction project, on or before October 31, 2020.

In addition, for the bedroom project construction the Pittmans agree not to allow contractors to start before 8 am on weekends or holidays so as to ensure minimal impact on our tenants.

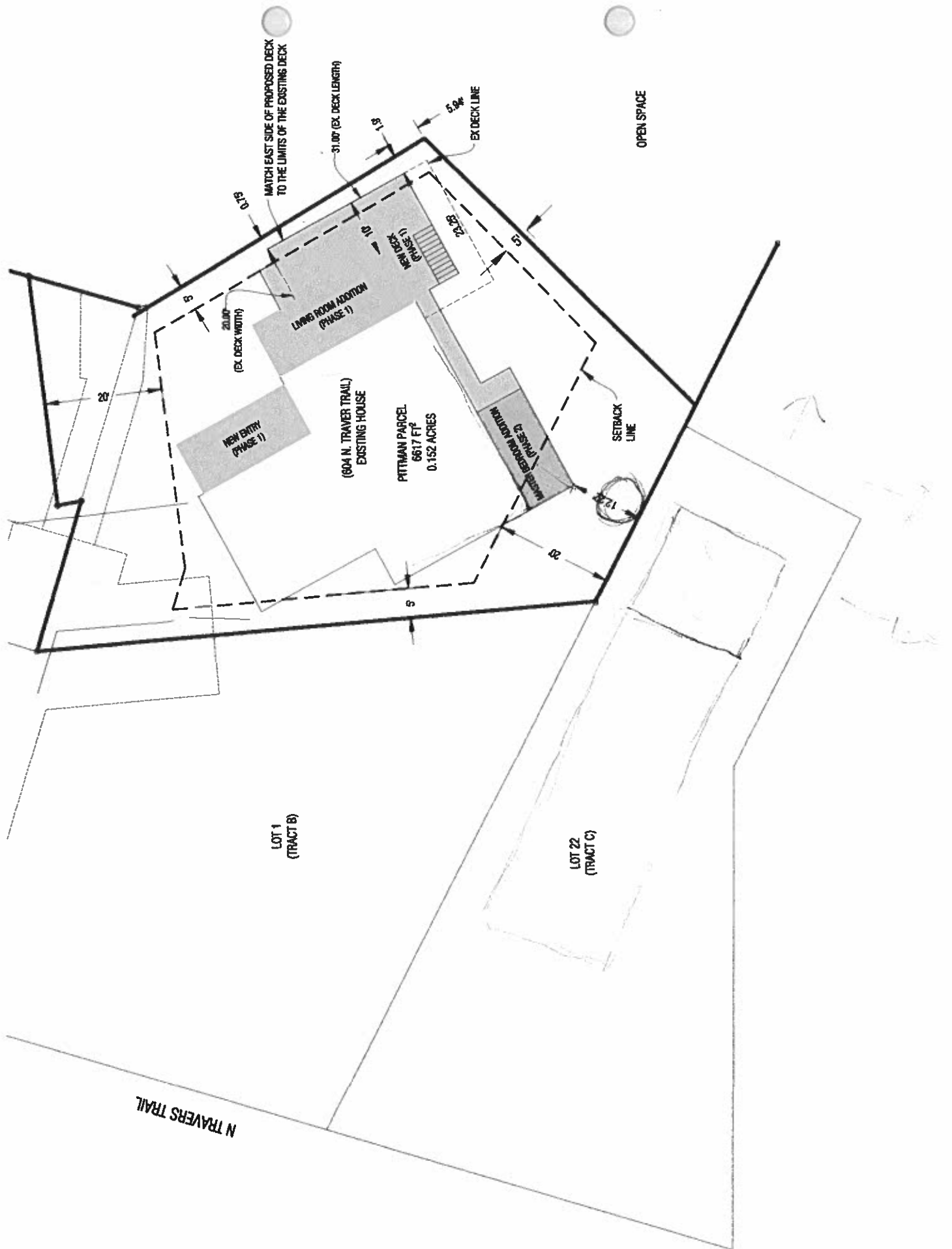
Sincerely,

*Terry Harrington*



17605 Highway 82, Carbondale, CO 81623

(970) 948-9090, [Terry.harrington@sir.com](mailto:Terry.harrington@sir.com)





Dec 4, 2019

Gretchen E Ricehill, Director  
Planning Department  
City of Glenwood Springs  
101 W. 8th Street  
Glenwood Springs, Colorado 81601

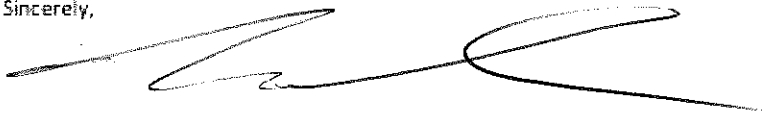
RE: Pittman's Proposed Rear Setback Encroachment  
LOT 2, PITTMAN/OASIS CREEK SUBDIVISION  
TRACT B LOT LINE ADJUSTMENT MAP  
604 N Traver Trail, Glenwood Springs, CO

Dear Ms. Ricehill:

We are owners of the home/lot adjacent to the Pittman's westerly lot line. After discussions with Steve Pittman and reviewing his plans to remodel his home, we will not oppose the proposed house improvements encroaching his property's rear 20' setback.

Please contact us with any questions you may have.

Sincerely,



Michael Tatro & Lauren Norwood  
Lot 1, Tract B, Oasis Creek Re-subdivision  
602 N Traver Trail  
Glenwood Springs, CO

Michael Tatro



## Planning Commission Report

Date February 25, 2020  
To: Planning and Zoning Commission  
From: Hannah Klausman, Senior Planner  
Subject: #01-20 Code Text Amendments–Title 070  
Accessory Dwelling Unit Standards

|                  |                                                                                                                                 |
|------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>REQUEST</b>   | Consideration of a code text amendments to Municipal Code Title 070 to amend the Accessory Dwelling Unit development standards. |
| <b>APPLICANT</b> | City of Glenwood Springs                                                                                                        |
| <b>OWNER</b>     | City of Glenwood Springs                                                                                                        |
| <b>LOCATION</b>  | City wide                                                                                                                       |
| <b>ZONE</b>      | All                                                                                                                             |

### REQUIRED ACTION

#### **Action 1:**

Consideration of a code text amendments to Municipal Code Title 070.030.040 to amend the standards for Accessory Dwelling Units (ADU) within Glenwood Springs.

Staff recommends **approval** of amendments as listed on page 2-8 of this report.

### REVIEW AUTHORITY

For actions involving amendments to the Land Use Code, the Planning & Zoning Commission is a recommending body to City Council. All Municipal Code amendments are completed by ordinance, which requires two hearings before City Council.

### SUMMARY

Accessory Dwelling Units were adopted as an allowed use in 1998 in residential zone districts to provide affordable rental housing within the current infrastructure. The code requirements have been amended several times since then to clarify intent as well as make changes to review and process. With renewed housing pressure and tight rental market, the Community Development Department is seeing a lot of applications to build or convert areas into accessory dwelling units. Frequently applications have difficulty meeting specific regulation standards such as setbacks and size limitations. Staff believes that additional review and amendments to the code standards are appropriate at this time.

The Planning and Zoning Commission (P&Z) held a joint work session with the Housing Commission and City Council on October 16, 2020 to discuss options for amending standards related to density as well as Accessory Dwelling Units. P&Z held another joint work session with the Housing Commission on November 19, 2020 to give staff further recommendations on changes to encourage increased production of Accessory Dwelling Units. From those meetings staff has prepared a draft text amendment for Accessory Dwelling Unit standards for consideration by P&Z and City Council.

### PROPOSED AMENDMENTS

Section 070.030.040 outlines the standards for all accessory uses and structures as well as additional standards specific to Accessory Dwelling Units.

## SIZE

### Maximum size of Accessory Dwelling Units

The proposed changes include increasing the maximum percentage of the principle dwelling area that an ADU can be from forty nine (49) percent to fifty five (55) percent. The images below illustrate how this allows larger ADU's based on primary dwelling size.

| Size of Primary Dwelling (Sq. Ft.) | Current % Limit of Primary Dwelling |     |     |     |     |                                          |
|------------------------------------|-------------------------------------|-----|-----|-----|-----|------------------------------------------|
|                                    | 49%                                 | 55% | 60% | 65% | 70% | 75%                                      |
| 850                                | 417                                 | 467 | 510 | 553 | 595 | 638                                      |
| 1000                               | 490                                 | 550 | 600 | 650 | 700 | 750                                      |
| 1100                               | 539                                 | 605 | 660 | 715 | 770 | 825                                      |
| 1200                               | 588                                 | 660 | 720 | 780 | 840 | <b>850 square feet Maximum Allowance</b> |
| 1300                               | 637                                 | 715 | 780 | 845 |     |                                          |
| 1400                               | 686                                 | 770 | 840 |     |     |                                          |
| 1500                               | 735                                 | 825 |     |     |     |                                          |
| 1600                               | 784                                 |     |     |     |     |                                          |
| 1700                               | 833                                 |     |     |     |     |                                          |
| 1800                               |                                     |     |     |     |     |                                          |
| 2000                               |                                     |     |     |     |     |                                          |

In addition, the maximum gross floor area allowed for an ADU is proposed to increase from the current 850 square foot maximum to 1,000 square feet as illustrated below.

| Size of Primary Dwelling (Sq. Ft.) | Current % Limit of Primary Dwelling |       |     |     |     |                                           |
|------------------------------------|-------------------------------------|-------|-----|-----|-----|-------------------------------------------|
|                                    | 49%                                 | 55%   | 60% | 65% | 70% | 75%                                       |
| 850                                | 417                                 | 467.5 | 510 | 553 | 595 | 638                                       |
| 1000                               | 490                                 | 550   | 600 | 650 | 700 | 750                                       |
| 1100                               | 539                                 | 605   | 660 | 715 | 770 | 825                                       |
| 1200                               | 588                                 | 660   | 720 | 780 | 840 | 900                                       |
| 1300                               | 637                                 | 715   | 780 | 845 | 910 | 975                                       |
| 1400                               | 686                                 | 770   | 840 | 910 | 980 | <b>1000 square feet maximum allowance</b> |
| 1500                               | 735                                 | 825   | 900 | 975 |     |                                           |
| 1600                               | 784                                 | 880   | 960 |     |     |                                           |
| 1700                               | 833                                 | 935   |     |     |     |                                           |
| 1800                               | 882                                 | 990   |     |     |     |                                           |
| 2000                               | 980                                 |       |     |     |     |                                           |

These changes to maximum size and maximum percentage of the primary dwelling size will allow larger detached and attached ADU's, however has more impact on attached ADU conversions. Currently, roughly half of the ADU conversion applications that staff see have challenges meeting the 850 square foot limitation when converting areas in their home. Frequently, homeowners are forced to lock off storage



areas, or do extensive renovations to make the ADU area smaller to conform to regulations. While this type of renovation is possible, it is usually not the most logical use of space in the home.

In addition, while conducting research on other municipal ADU regulations, staff came across several jurisdictions that have decided to allow for a size exemption for ADU's occurring within basements or within the existing structure. Planning and Zoning Commission should consider whether this is appropriate to achieve stated goals of encouraging ADU production. Three examples of this type of exemption are provided below for consideration from Arvada, CO, Golden, CO, and New Castle, CO with the "unit size exemption" highlighted.

**Arvada Colorado** Municipal Code Section 5.3.3. - Uses/structures permitted as accessory to principal residential uses.

4. **Unit Size and Configuration.** Except as modified in B.4 below, for a principal dwelling unit of 1000 square feet or more of living space, the Accessory Dwelling Unit shall be no larger than 40% of the living space of such principal dwelling unit, or 800 square feet, whichever is smaller. For a principal dwelling unit of less than 1,000 square feet of living space, the Accessory Dwelling Unit shall be no larger than 400 square feet. No Accessory Dwelling Unit shall be less than 200 square feet, and all Accessory Dwelling Units shall be designed and configured as either studio, one bedroom, or two bedroom units. Square footage calculations, as contained herein, exclude any related garage, porch or similar area.
5. **Unit Size Exception.** The limitations of B.3 shall not apply to Accessory Dwelling Units located within the footprint of an existing home as long as the Accessory Dwelling Unit is not larger than 50% of the principal dwelling unit, including the basement. For example, if a home has a 1,000 square foot basement, an Accessory Dwelling Unit could be established in this space if the principal dwelling also contains at least 1,000 square feet.

**Golden Colorado** Municipal Code Section 18.28.240 - Accessory dwelling unit, residential.

Accessory dwelling units are allowed in conjunction with all single-household detached dwellings in residential zone districts, including R-E, R-1, R-1A, R-2, R-3 and PUD, subject to the following conditions:

- (4) **Unit size and configuration.** Except as modified in subsection (5) herein, for a principal dwelling unit of 1,000 square feet or more of living space, the accessory dwelling unit shall be no larger than 50 percent of the living space of such principal dwelling unit, or 800 square feet, whichever is smaller. For a principal dwelling unit of less than 1,000 square feet of living space, the accessory dwelling unit shall be no larger than 500 square feet. No accessory dwelling unit shall be less than 200 square feet. For the purposes of this subsection, square footage calculations shall exclude any garage, porch or similar area.
- (5) **Unit size exception.** The director may approve an accessory dwelling unit that is up to 20 percent larger than otherwise allowed if it is located within the principal structure, provided that all other requirements of section 18.28.240 have been met and it does not conflict with any other requirement of this title.

**New Castle Code** Section 17.72.230

- (c) ADUs shall not be allowed on lots smaller than five thousand (5,000) square feet. The square footage of the accessory dwelling unit shall not be greater than forty-seven (47) percent of the gross square footage of the principal building (inclusive of basement square footage) but not including garages, uncovered decks, patios or porches) or eight hundred fifty (850) square feet whichever is less.

Staff recommends including a unit size exception for attached ADU's within existing homes where there is no expansion of the building footprint. P&Z could recommend one of the following type of exemptions to achieve this strategy:

1. Allow attached ADU's in existing homes to be 50% of the entire structure. (Arvada, New Castle)
2. Allow attached ADU's in existing homes to be 50 percent of the entire structure, up to a 1,000 square foot maximum. (Staff proposed language)
3. Allow attached ADU's in existing homes to be 20 percent (or other number) larger than otherwise allowed. In Glenwood's case, a 20 percent increase over what is currently allowed would be 69 percent of the primary dwelling, or with the proposed language 75 percent of the primary dwelling area. (Golden)

Staff has included language that mirrors Arvada and New Castle that considers the entire structure's square footage, as opposed to Glenwood's current method of the Primary living area minus the area to be used as an ADU and includes a maximum threshold of 1,000 square feet. This would only apply in cases where the ADU is proposed entirely within an existing home where the building footprint is not increasing.

This method allows ADU conversions within existing infrastructure with less impact to surrounding properties as there is no increase in the building footprint.

#### Maximum Combined Size of Accessory Structures

The Code section on Accessory Structures limits the maximum size, and maximum total for all accessory structures, to 1,000 square feet. This means that if a lot has a standard two car garage of 400 square feet, an accessory dwelling unit could be no more than 600 square feet. Staff is proposing exempting accessory dwelling units from this maximum combined threshold with the following language:

The maximum total for all accessory structures, not including Accessory Dwelling Units, on a lot shall be one thousand (1,000) square feet.

This will still limit all other accessory structures such as sheds and garages to a maximum 1,000 square feet while allowing accessory dwelling units to reach the maximum size allowance specific to Accessory Dwelling Units.

### **DIMENSIONAL STANDARDS**

#### Setbacks

Our current code allows for a ten foot setback when an alley is present and a seven and one half foot setback when there is no alley present. This difference in setback is to allow for proper safety from overhead utilities as well as access to underground utilities that may exist in an alley. After speaking with The Electrical Superintendent and the Public Works Director, staff found that circumstances exist where this depth of setback may be reduced further. The Building Department requires a minimum five foot setback for fire safety purposes.

Staff has included language reducing the rear yard setback requirement to five feet with criteria that include approval from the Electrical Superintendent and Public Works Director to allow for overhead and underground utility access and safety, as well as that no further encroachments such as roof eaves, may extend into the five foot setback. If the Electrical Superintendent or Public Works Director do not approve of

the reduction, the Accessory Dwelling Unit setback would be held to the setback standard as enumerated in 070.030.040(c)5.c. of ten feet when an alley is present and a seven and one half feet when there is no alley present.

#### Lot location

Detached Accessory Dwelling Units are regulated to the side and rear yard areas of a lot. Attached units are allowed in any yard of the lot. Staff believes the intent of this regulation, which is a general held standard for ADU's across the country, is to maintain the primary dwelling unit as the focal point and street facing structure. ADU's are generally meant to be "accessory-to" the primary dwelling, smaller in nature, and a less obtrusive option than adding a full size complete unit. In addition, ADU's are allowed in every residential zone as a use by right, where duplex units are limited to higher density zones. Staff acknowledges the goal of maintaining neighborhood character as identified in the comprehensive plan and has offered language to address ADU barriers as well as preserve existing neighborhood character with specific criteria for allowing an ADU front yard exemption.

Staff has proposed language that allows detached ADU's to be located in the front yard under the following circumstances:

- i. All other code requirements are met; and
- ii. The existing primary structure is located within fifteen feet of the rear lot line; or
- iii. An accessory dwelling unit is proposed within or on top of a legally conforming garage that exists in the front yard where the ADU will not increase the building footprint.

The second criteria allows for leniency for lots that have developed with the primary structure located to the back of the lot leaving inadequate rear yard area for an ADU. The ADU would still be required to meet zone district standards for front and side yard setbacks.

The third criteria recognizes that there are many detached garages that exist in the front yard that could be converted to an ADU, or an ADU added as a second story with little impact to surrounding property. An example is provided of lots with front yard detached garage structures below.





#### Required Rear Yard Coverage

Current code states that accessory structures are allowed in the required rear yard as long as no more than 40 percent of the rear yard is covered. This code aspect allows accessory structures to be partially placed within the rear yard setback as prescribed by the specific zone district. The residential zone districts have rear yard setbacks that range from twenty five (25) feet in the lower density districts to ten (10) feet in the higher density districts. It is important to note that the required rear yard is based on the zone district standard, and not the reduced rear yard setback included in the amendments for Accessory Dwelling Units of five feet.

Staff has added a definition of “Required Rear Yard” to Section 070.070.030 for clarification. That definition is as follows:

*Required rear yard.* A yard extending the full width of the lot, the depth of which is measured in the horizontal setback distance, based on the applicable zoning district and are set forth in Article 070.020: Zoning Districts, from the rear lot line.

Staff has proposed language to allow Accessory Dwelling Units specifically to cover a higher percentage, of the required rear yard, 60 percent, than what is allowed for general accessory structures, 40 percent. This allowance is in line with reducing the rear yard setback for Accessory Dwelling Units as discussed previously. The proposed amendment is as follows:

4. Accessory dwelling units may be located in the required rear yard provided that not more than sixty (60) percent of the required rear yard is covered.

The images on the next page illustrate the concept of a required yard as well as how this code section applies to Accessory Dwelling Unit placement on a lot. The required yard percentage allowance does not exempt ADU’s from a rear yard setback, only limits the area an ADU can cover. Images are not to scale and are for illustration only.

Image 1. Required Yard Areas identified by color.

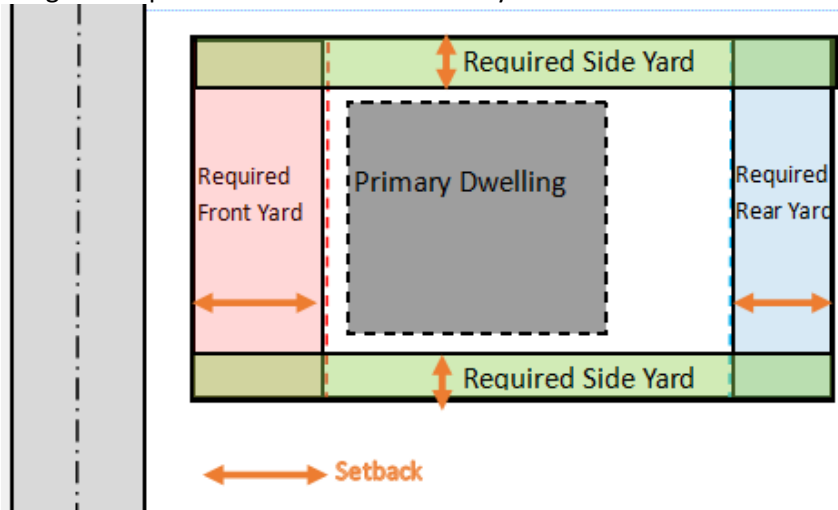


Image 2. Percentage of Required Yard Area an ADU can cover.

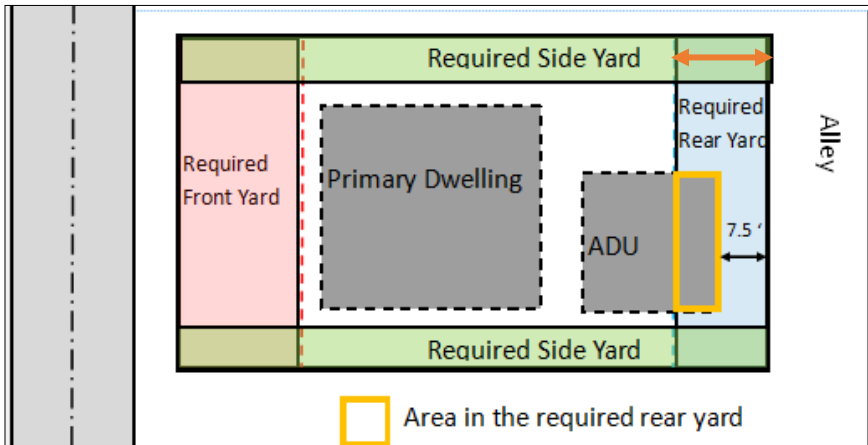
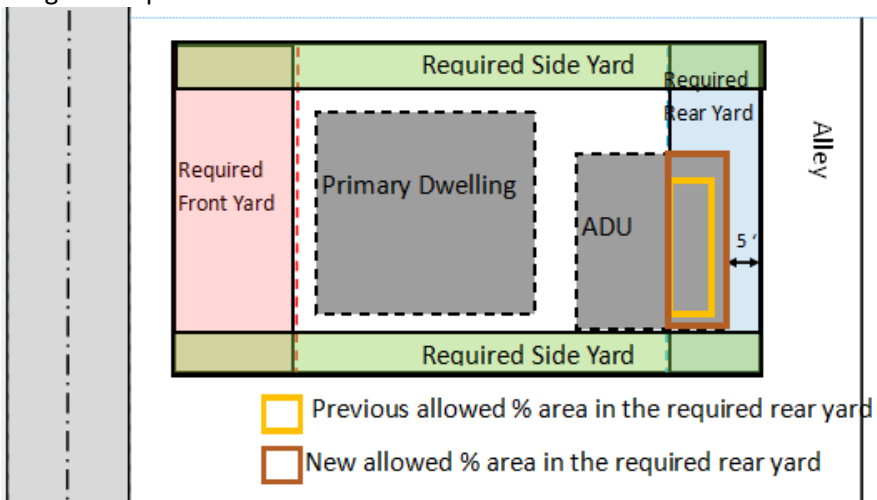


Image 3. Proposed amendment



## PRESERVATION OF EXISTING STRUCTURES

Many structures within Glenwood Springs, both Primary and Accessory, are considered legal non-conforming. This means that the structure lawfully established prior to the effective date of this Code, but that no longer conform to the requirements of the current Code. A legal non-conforming structure is allowed to continue but, in most cases, cannot be altered in a way that increases the nonconformity which can include increasing the intensity of the use such as converting a garage to a dwelling unit.

Frequently staff is faced with an applicant that desires to turn a former garage or accessory structure into an Accessory Dwelling Unit however is unable to do so because the structure is nonconforming most often in regard to setbacks. This new provision would allow existing structures with nonconforming setbacks to be converted to an ADU as long as the specific nonconformity is not increased. The included language is as follows:

Conversion of an existing legal non-conforming structure to an accessory dwelling unit is allowed, provided that the conversion does not increase the non-conformity.

## ELIMINATION OF CONFLICTING CODE LANGUAGE

During the process of reviewing Accessory Dwelling Unit standards, staff found a conflicting section of code in Section 070.040.080 - Residential Site and Building Design. The applicability section includes language stating that this section of code shall not apply to Accessory Dwelling Units. However, later in the Residential Site Design standards for lot coverage there is a section titled "*Lot Coverage Bonus for Accessory Dwelling Unit.*" The section allows Accessory Dwelling Units to exceed lot coverage standards by an additional ten percent over standard residential development. Staff is proposing to remove this language from code. Staff is not proposing to replace this with any lot coverage standard for Accessory Dwelling Units. By removing this language, Accessory Dwelling Units will not be held to any lot coverage standards. If Planning and Zoning Commission prefers to apply lot coverage standards to ADU's, staff recommends including it in Section 070.030.030 under *Additional Standards for Accessory Dwelling Units*.

## ACTION ALTERNATIVES

Regarding the amendments, the Planning and Zoning Commission may take one of the following actions:

1. Recommend approval of some or all of the amendments;
2. Recommend denial of some or all of the amendments; or,
3. Continue the hearing with a requirement that staff submit changes or provide additional information regarding some or all the amendments.

### **Action 1:**

Consideration of a code text amendments to Municipal Code Title 070 to amend the standards for Accessory Dwelling Units.

Staff recommends approval of amendments as listed on page 2-8 of this report.



SECTION 070.030.040 - Accessory Uses and Structures is hereby amended as follows with double underlined text added and ~~strike-through language deleted~~.

- (a) *Purpose.* The purpose of this Section is to establish minimum standards for accessory uses that are incidental and customarily subordinate to principal uses. These standards are established to minimize adverse impacts on surrounding properties and the community.
- (b) *Accessory Uses and Structures Allowed.* All principal uses allowed in a zoning district per Table 030.1: Table of Allowed Uses, shall be deemed to include those accessory uses, structures, and activities typically associated with that use, unless specifically prohibited in this Section. Typical accessory uses and structures are identified in Section 070.070.020, Definitions of Use Categories and Specific Use Types. Accessory uses are subject to the standards in this Section and any applicable use-specific standards for the associated principal use in Section 070.030.030.
- (c) *General Standards for Accessory Uses and Structures.*
  - (1) *Compliance with this Code.* Accessory uses and structures are subject to the dimensional standards in Article 070.020: Zoning Districts, and the development standards in Article 070.040, unless otherwise stated in this Section.
  - (2) *Ownership.* Accessory structures and uses shall be under the same ownership as the principal structure and use. The property shall use the same utility meter with the exception of an accessory dwelling unit.
  - (3) *Relationship to Principal Uses and Structures.*
    - a. Any accessory use or structure shall be conducted and located on the same lot as the principal use and structure.
    - b. Unless otherwise allowed by this Code, an accessory use or structure shall not be established prior to the establishment of the principal use or structure.
    - c. No accessory use or structure shall be allowed unless the primary structure or use is being used.
  - (4) *Size of Accessory Structures.* Unless otherwise stated in this Code, the maximum size for an accessory structure shall be one thousand (1,000) square feet. The maximum total for all accessory structures, not including Accessory Dwelling Units, on a lot shall be one thousand (1,000) square feet.
  - (5) *Dimensional Standards for Accessory Structures.*
    - a. Accessory structures shall not be located in a required front yard.
    - b. Accessory structures may be located in a required rear yard provided that not more than forty (40) percent of the required rear yard is covered. The required rear yard area shall be calculated by taking the full width of the lot by the minimum rear setback distance based on the applicable zoning district and are set forth in Article 070.020: Zoning Districts, measured horizontally from the rear lot line.
    - c. Accessory structures shall observe a ten-foot setback from the rear lot line when such line abuts an alley, or a seven-and-one-half-foot setback where there is no alley.
    - d. Accessory structures shall observe a five-foot setback from side lot lines.

- e. Accessory structures shall not be located over a recorded easement or over any known utility.
- (6) *Outdoor Storage.* Outdoor storage associated with any accessory use or structure is prohibited.
- (d) *Additional Standards for Specific Accessory Uses and Structures.*
  - (1) *Accessory Dwelling Units.*
    - a. *Purpose and Intent.* The intent of this Subsection is to promote small rental housing units in the form of accessory dwelling units on lots with detached single-family dwellings, to increase the stock of attainable rental housing in the community, use available land more efficiently, and minimize the additional infrastructure that must be provided to support such rental units. These standards are established to minimize impacts to the surrounding residential neighborhoods and the community.
    - b. *Applicability.* These standards apply to all accessory dwelling units. Private covenants, conditions, or restrictions on any development, subdivision, or use of land do not preclude compliance with this Section.
    - c. *Ownership.* An accessory dwelling unit shall not be sold independently of the principal dwelling on the parcel.
    - d. *Where Permitted.*
      - 1. Accessory dwelling units are allowed in zoning districts according to Table 030.1, Table of Allowed Uses.
      - 2. Accessory dwelling units are allowed within a planned unit development unless specifically identified as a prohibited use by the planned unit development.
      - 3. Accessory dwelling units are allowed by right within a historic district only when they are internal to an existing residential dwelling or existing accessory structure.
      - 4. Accessory dwelling units shall only be permitted on a lot where a detached single-family dwelling exists or will be constructed concurrently with the accessory dwelling unit.
    - e. *Compatibility.* Colors, materials, and design of the accessory dwelling unit shall be substantially the same as the principal dwelling. ~~If applicable, construction of accessory dwelling units shall be required to comply with the building design standards in Section 070.040.080, Residential Site and Building Design.~~
    - f. *Number and Size of Accessory Dwelling Units.* Accessory dwelling units shall comply with all of the following:
      - 1. Only one (1) accessory dwelling unit shall be permitted per parcel.
      - 2. The gross floor area of an accessory dwelling unit shall be no less than three hundred (300) square feet of living area and no more than ~~eight hundred fifty (850)~~ one thousand (1000) square feet living area. For purposes of this standard, "living area" shall be calculated by excluding the following areas from the overall gross building area:
        - i. The thickness of the exterior walls;

- ii. Garage areas;
  - iii. Basement areas where the ceiling height measured from the floor is less than six (6) feet; and
  - iv. Any other building areas where the floor to ceiling height is either less than five (5) feet or area is not accessible by a stairway.
3. The area of an accessory dwelling unit shall not exceed ~~forty-nine (49)~~ fifty-five (55) percent of the area of the principal dwelling. The percentage used to demonstrate compliance with this requirement shall be determined by dividing the proposed building area of the accessory dwelling unit measured in square feet by the proposed building area of the principal dwelling measured in square feet. Where a portion of the principal dwelling is to be converted to an accessory dwelling unit, the size of the principal dwelling used in the calculation shall be its square footage after subtracting the building area of the accessory dwelling unit.
4. Unit Size Exception. The limitations of f.3 above shall not apply to Accessory Dwelling Units located within the footprint of an existing home as long as the Accessory Dwelling Unit is not larger than 50% of the existing structure, including the basement, up to the maximum allowed gross floor area in f.2. For example, if a home has a 1,000 square foot basement, an Accessory Dwelling Unit could be established in this space if the principal dwelling also contains at least 1,000 square feet.
- g. *Dimensional Standards.*
- 1. The accessory dwelling unit shall comply with the applicable zoning district requirements unless otherwise noted in 070.030.040(c)(5)c.
  - 2. A detached accessory dwelling unit shall be located in the rear yard or side yard of the principal building.
  - 3. Front yard exception. A detached accessory dwelling unit may be located in the front yard under the following conditions:
    - i. All other code requirements are met; and
    - ii. The existing primary structure is located within fifteen feet of the rear lot line; or
    - iii. An accessory dwelling unit is proposed within or on top of a legally conforming garage that exists in the front yard where the ADU will not increase the building footprint.
  - 4. Accessory dwelling units may be located in the required rear yard provided that not more than sixty (60) percent of the required rear yard is covered.
  - 5. Accessory dwelling units may observe a minimum five-foot setback from the rear lot line with the following conditions:



- i. Five-foot rear yard setbacks shall receive approval from the Electrical Superintendent and Public Works Director for overhead and underground utility clearance; and
  - ii. Roof eaves or other incidental architectural features may not encroach into the five foot setback.
  - iii. Administrative adjustments to reduce the setback further are not allowed.
- 6. The height of a detached accessory dwelling unit shall not exceed twenty-seven (27) feet.
- h. Preservation of Existing Structures  
Conversion of an existing legal non-conforming structure to an accessory dwelling unit is allowed, provided that the conversion does not increase the non-conformity.
- i. *Utilities and Dedications.* Any costs associated with any utility service or line extension upgrade shall be borne by the developer. An accessory dwelling unit may be metered independently from the primary dwelling. If an unmetered property requests a meter for an accessory dwelling unit, the entire property shall become metered. System improvement fees shall be charged as required by Subsection 070.040.030(g), Dedications and Impact Fees, or as established by City Council. Also see 080.060, System Improvement Fees.

SECTION 070.040.080 - Residential Site and Building Design, is hereby amended as follows with double underlined text added and ~~strike-through language deleted~~.

(a) *Purpose.* This Section is intended to:

- (1) Promote high-quality residential development and construction;
- (2) Protect the character of Glenwood Springs' established residential neighborhoods;
- (3) Promote new residential developments that are distinctive, have character, and relate and connect to established neighborhoods;
- (4) Encourage a variety of housing choices for Glenwood Springs residents;
- (5) Provide variety and visual interest in the exterior design of residential buildings;
- (6) Protect and enhance property values; and
- (7) Enhance the residential streetscape and diminish the prominence of garages and parking areas.

(b) *Applicability.*

(1) *General.*

a. This Section shall apply to:

1. Development of any structure that will contain only residential uses, including single-family detached dwellings, two-family dwellings, single-family townhouse dwellings, and multi-family dwellings;
2. An addition or renovation to an existing structure that will contain a residential use where the total gross floor area of the proposed addition is fifty (50) percent or more than that of the total gross floor area of the existing structure before addition or renovation; and
3. Structures that are exclusively residential and are included as part of a multi-building mixed-use development.

b. In cases where building modifications are subject to these standards, only the modification shall be subject to compliance with this Section. For purposes of this standard, "modifications" shall not include routine maintenance and repair of a building, changes to signage, or general repairs to a surface parking area, changes to landscaping, or other features on the parcel. The Director shall determine if a modification shall be subject to these standards.

c. All standards in this Section 070.040.080 that apply to "multi-family" shall apply to multi-family dwellings and single-family townhouse dwellings.

(2) *Exceptions.* This Section shall not apply to the following:

- a. Development of any structure that will contain a mix of nonresidential and residential uses (which are subject instead to Section 070.040.090, Nonresidential and Mixed-Use Site and Building Design), including live-work dwellings;
- b. An addition or renovation project where the total gross floor area of the proposed addition is less than fifty (50) percent of the total gross floor area of the existing structure before addition or renovation;
- c. Properties subject to the Hillside Development standards;
- d. Subdivision or condominiumization of existing structures;
- e. Properties subject to the Glenwood Meadows Annexation and Development Agreement; or
- f. Accessory dwelling units (which are subject to the standards in Subsection 070.030.040(d)(1), Accessory Dwelling Units).

(3) *Planned Unit Developments.*

- a. Development of a residential structure within any new Planned Unit Development established after the effective date of this Code shall be subject to this Section 070.040.080, unless alternative residential site and building design standards are adopted as part of the PUD approval that, in the determination of the Director, are at least equal to the standards set forth in this Section.
- b. Development of a residential structure within an existing Planned Unit Development established prior to the effective date of this Code is exempt from this Section 070.040.080.

(c) *Administration.*

(1) *Alternative Equivalent Compliance.*

- a. *Purpose and Scope.* To encourage creative and unique design, "alternative equivalent compliance" allows development to occur in a manner that meets the intent of this Section, yet through an alternative design that does not strictly adhere to the Section's standards. This is not a general waiver of regulations. Rather, this authorizes a site-specific plan that is equal to or better than the strict application of the standard.
- b. *Applicability.* The alternative equivalent compliance procedure is available only for the standards in Subsection 070.040.080(e), Residential Building Design and Character, and Subsection 070.040.080(e)(10), Supplemental Architectural Design Standards: Downtown Core.
- c. *Alternative Equivalent Compliance Meeting Required.* An applicant proposing alternative equivalent compliance shall request and attend an alternative equivalent compliance meeting prior to submitting application materials for the applicable permit(s), to determine the preliminary response from the Director. Based on the response, the application shall include sufficient explanation and justification, in both written and graphic form, for the requested alternative compliance. The Director may require that the applicant provide additional drawings and/or material samples in order to better understand the need for the proposed alternative.
- d. *Decision-Making Responsibility.* Final approval of any proposed alternative compliance shall be the responsibility of the decision-making body responsible for deciding upon the



application. Administratively approved projects proposing alternative compliance shall receive written approval of the alternative compliance from the Director.

- e. *Criteria.* Alternative equivalent compliance may be approved if the applicant demonstrates that following criteria have been met by the proposed alternative:
  - 1. Achieves the intent of the subject standard to the same or better degree than the subject standard;
  - 2. Advances the goals and policies of this Code to the same or better degree than the subject standard;
  - 3. Results in benefits to the community that are equivalent to or exceed benefits associated with the subject standard; and
  - 4. Imposes no greater impacts on adjacent properties than would occur through compliance with the specific requirements of this Code.
- f. *Effect of Approval.* Alternative equivalent compliance shall apply only to the specific site for which it is requested and shall not establish a precedent for approval of other requests.

(2) *Site/Architectural Plan Review Process.*

- a. Review for compliance with these standards shall occur at the time of site/architectural plan review. Where site/architectural plan review is not required, review for compliance with these standards shall occur prior to issuance of a building permit.
- b. Interpretations as to applicability or design requirements contained within this Section shall be the responsibility of the Director. Appeals of the Director's interpretations shall be heard according to the process set forth in Subsection 070.060.070(c), Appeal of Administrative Decision.

(d) *Residential Site Design Standards.*

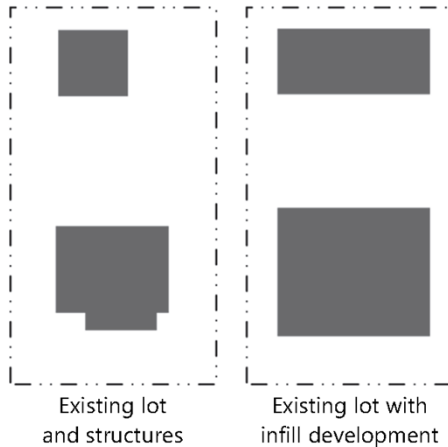
(1) *General Intent.* These residential site design standards are generally intended to:

- a. Encourage the use of creative site planning and design techniques that complement Glenwood Springs' unique topographic features;
- b. Protect the established character of the City's residential neighborhoods while allowing for the natural evolution of the City's neighborhoods through renovations, infill, and redevelopment;
- c. Reinforce and continue to allow the variation in streetscape character found in Glenwood Springs' neighborhoods;
- d. Protect the privacy and solar access of neighboring residents in areas where infill and redevelopment and higher-density development are likely to occur over time;
- e. Promote a more compact and pedestrian-friendly pattern of residential development, especially in mixed-use areas and along travel corridors that have traditionally been occupied by auto-oriented commercial development; and
- f. Reduce the visual impacts of surface parking on the City's street frontages.

(2) *Dimensional Standards.*

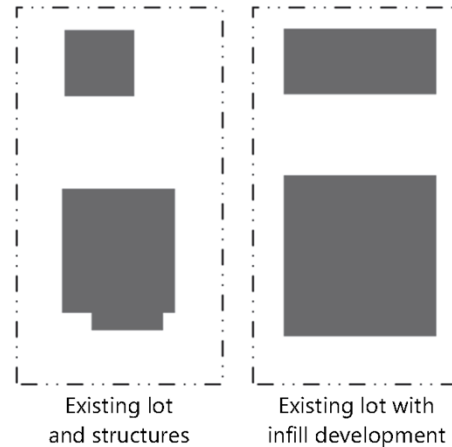
- a. **Front Yard Setbacks.** For all residential development, front yard setbacks are based on the applicable zoning district and are set forth in Article 070.020: Zoning Districts.
- b. **Side Yard Setbacks.**
  1. For all residential development, side yard setbacks for primary structures are based on the applicable zoning district and are set forth in Article 070.020: Zoning Districts.
  2. Side yard setbacks for garages and other buildings accessory to residential uses shall be a minimum of five (5) feet, provided the garage does not exceed one (1) story in height. A zero-foot side setback may be used to accommodate a common garage that is shared across a side lot line. Garages that exceed one (1) story in height shall comply with the setback applicable to primary structures.
- c. **Rear Yard Setbacks.**
  1. For all residential development, rear yard setbacks are based on the applicable zoning district and are set forth in Article 070.020: Zoning Districts.
  2. An accessory structure that does not include a living unit may be located in a rear yard, provided that not more than forty (40) percent of the rear yard is covered. Such building shall observe a ten-foot setback from the rear lot line when such line abuts an alley, or a seven-and-one-half-foot setback where there is no alley.
- d. **Lot Coverage.**
  1. **Maximum Lot Coverage.** For infill residential development, maximum lot coverage shall be fifty (50) percent of the total lot area, or twenty-five (25) percent above the existing lot coverage, whichever is less. (Figure 040-12: Maximum Lot Coverage Example Calculations)

#### Example A



Lot size: 6,000 sf  
 Existing lot coverage:  $(1,250/6,000) = 21\%$   
 Allowable lot coverage:  $21\% + 25\% = 46\%$   
 Allowable lot coverage in square feet:  
 $46\% \times 6,000\text{sf} = 2,800\text{ sf}$

#### Example B



Lot size: 6,000 sf  
 Existing lot coverage:  $(1,850/6,000) = 30\%$   
 Allowable lot coverage: 50%  
 Allowable lot coverage in square feet:  
 $50\% \times 6,000\text{sf} = 3,000\text{sf}$

Figure 040-12: Maximum Lot Coverage Example Calculations

2. *Lot Coverage in Sensitive Areas.* In areas subject to Section 070.040.020, Sensitive Area Protection, lot coverage may be further limited by the establishment of limits of disturbance as required by Subsection 070.040.020(a)(4), Limits of Disturbance.
3. ~~*Lot Coverage Bonus for Accessory Dwelling Unit.* When an accessory dwelling unit exists and is preserved, or is to be provided in conjunction with an addition to or development of a new single-family residential structure, maximum lot coverage shall be either the sum of the percentage of existing lot coverage on the site plus an additional thirty five (35) percent of the total lot area, or sixty (60) percent of the total lot area, whichever is less. These lot coverages shall also apply when a new accessory dwelling unit is developed for an existing single-family dwelling. Refer to Subsection 070.030.040(d)(1), Accessory Dwelling Units, for additional accessory dwelling unit requirements.~~

SECTION 070.070.030 - All Other Terms Defined is hereby amended as follows with double underlined text added and strike-through language deleted.

*Required rear yard.* A yard extending the full width of the lot, the depth of which is measured in the horizontal setback distance, based on the applicable zoning district and are set forth in Article 070.020: Zoning Districts, from the rear lot line.





## Planning & Zoning Commission Staff Report

Date: February 25, 2020

To: Planning & Zoning Commission  
From: Gretchen Ricehill, Asst. Director Community Development Dept.  
Subject: #49-19- Location & Extent Review – City of Glenwood Springs –  
2222 Devereux Road

|                              |                                                                                                                                                                                                                                              |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>REQUEST</b>               | Consideration of a Location & Extent Review application for construction of a 2,250 sf garage/shop building; a 3,150 sf storage building; 1,440 wash bay; fuel station with above ground storage tanks; and, a 6 foot tall chain link fence. |
| <b>APPLICANT</b>             | City of Glenwood Springs, Public Works Department                                                                                                                                                                                            |
| <b>OWNER</b>                 | City of Glenwood Springs                                                                                                                                                                                                                     |
| <b>ZONE</b>                  | I2-River Industrial                                                                                                                                                                                                                          |
| <b>LOCATION:</b>             | 2222 Devereux Road                                                                                                                                                                                                                           |
| <b>SURROUNDING LAND USES</b> | North: Colorado River; Interstate<br>South: Railroad; Commercial<br>East: Commercial/Industrial<br>West: Commercial/Industrial                                                                                                               |
| <b>LOT SIZE</b>              | 80,281 square feet or 1.84 acres                                                                                                                                                                                                             |

### ACTION ITEM SUMMARY

**Action 1:** Consideration of a Location & Extent Review application for construction of a 2,250 sf garage/shop building; a 3,150 sf storage building; 1,440 wash bay; fuel station with above ground storage tanks; and a 6 foot tall chain link fence.

**Staff Recommendation:** Staff recommends that the Planning and Zoning Commission approve the Location & Extent Review application with findings and conditions on page 5 of this report.

### PROJECT SUMMARY

Due to structural issues at the Municipal Operations Center (MOC), the City of Glenwood Springs is in the process of permanently relocating all of its operations housed there which includes Fleet, Parks Operations, Electric, Streets, and the Special Work Action Team (SWAT). The City recently purchased the McCandless Trucking services building at 2222 Devereux Road for the Fleet, SWAT and Streets Departments.

The existing building is a brown, one-story metal structure of roughly 10,810 square feet. It includes a small office and four large service bays facing north to Devereux Road. The building and site do not entirely meet the City's needs for these department operations. Namely, it lacks:

- interior heated space to house street sweepers and a water truck, equipment that carries water and is susceptible to overnight freezing;
- wash bay;
- fueling station with fuel storage; and

- covered storage.

Therefore, the City proposes improvements which include:

1. Constructing a second 30 x 75' (2,250 sf) garage building at the far southeastern end of the property. This will be a heated, one-story metal building with a gable roof and five overhead doors facing west towards the interior of the property.
2. Constructing a 35'x90' (3,150 sf) one-story metal covered storage structure along the north side of the property. There will be 6 open bays that face the interior of the property. The bays will house a variety of loose material such as road base, gravel, ice slicer, cold mix and asphalt.
3. Constructing a one-story 24'x60' (1,440 sf) metal wash bay on the east side but detached from the existing garage building.
4. Adding a fueling station and above ground, 3,000-gallon capacity fuel storage.
5. Installing a 6-foot tall black, chain link security fence and gate along the north property line.

The portion of the property proposed for development sits from 8 to 15-feet higher than Devereux Road. Additionally, there are a number of existing trees & shrubs on the berm paralleling Devereux Road. Both will limit views into the property, especially from the east (refer to project narrative for photos of the site as viewed from Devereux Road). The City therefore requests to limit design treatments to north-facing building frontages; specifically adding engineered stone wainscoting along the north elevations of each of the new garage, covered storage and wash bay facilities.

#### **Review Process & Approval Criteria:**

The Planning and Zoning Commission considers Location and Extent Review applications for all public and quasi-public special districts based on whether the application is consistent with applicable Comprehensive Plan goals and policies, consistency with the general purpose and intent of the Municipal Code and how well the application minimizes adverse impacts to health, safety and welfare of inhabitants of surrounding areas and the city. Below in bold font are the criteria and staff analysis of the proposed improvements.

#### **i. Is consistent with the Comprehensive Plan and other City plans and policies.**

The applicant's narrative provided a detailed discussion of how this project conformed to goals of the Comprehensive Plan. Included were the goals:

*Direct Development to Locations and Forms that are Cost-effective to Serve*

*Direct growth to areas where utilities and services can be provided efficiently*

*Direct growth Inward*

- The applicant noted the following in conformance with the stated goal:
- The City's Streets and SWAT departments will be operating from this site and another at the south end of the city. The dual locations allow both departments to cover the entire city in a more timely, effective manner than being in one central location.
- The existing infrastructure and capacity of the site meet the City's needs. Proposed improvements fit within the site and do not affect existing utility capacity.

*Address Transportation Needs and Provide Multiple Convenient Travel Choices by locating development in ways to reduce traffic congestion, assure safe and efficient movement of people and goods, and provide equal access to community facilities.*

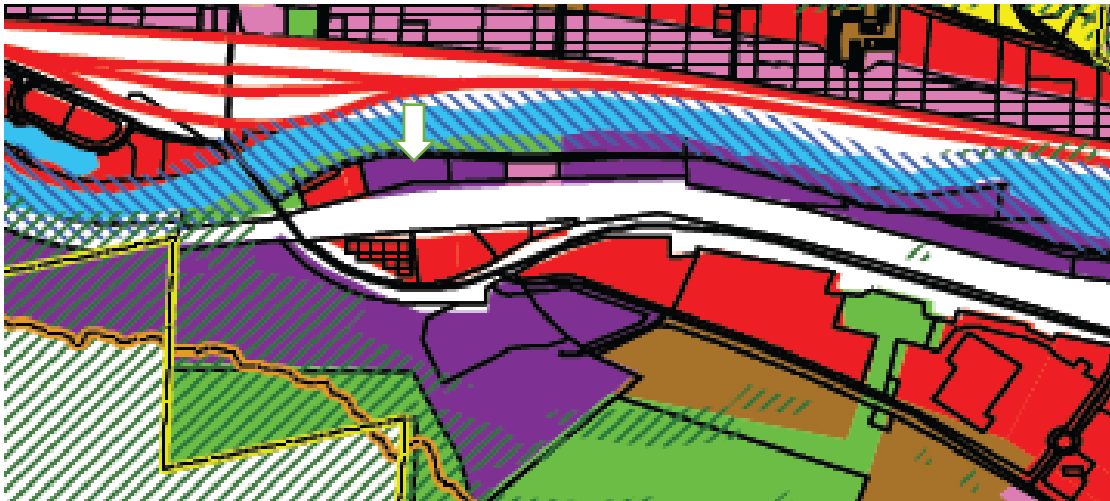
- The applicant noted that similar to the existing MOC facility, this site is in proximity to the water treatment plant, wastewater plant, new Parks Department operations building, and Interstate

70 making it convenient to receive shipment of goods and materials without impacting the majority of the community with delivery truck traffic.

*Values and Vision for Public Utilities and Services - Providing efficient public utilities and services is essential to quality of life, livability and to cost-effective growth.*

- The applicant notes that the Fleet Department provides vital services to all city departments in that it maintains all the city's vehicles and equipment. Additionally, the Streets Department provides necessary maintenance services for the city. Locating the two on one site not only benefits both departments but it also benefits the community in general.

Staff adds that the proposed improvements also conform to the Comprehensive Plan's future land use map shown below. The property is classified as industrial (purple) which accommodates heavy commercial, light industrial, and industrial uses such as manufacturing, warehousing and distributing, and indoor/outdoor storage.



**ii. Is consistent with the general purpose and intent of this Code.**

The proposed improvements comply with the Title 070.020 zoning district standards for setback, building height; and with 070.030 for allowed land uses allowed in the I/2-River Industrial zone. Regarding landscaping, the Code required that properties in the I/2 zone provide 20% of the site as landscaping. In this case, 16,056 square feet of landscaped area is required. Much of the site will be used for large truck and vehicle circulation therefore only the berms adjacent to Devereux Road and the rear of the property will remain landscaped in native vegetation. According to the site plan, the native areas amount to about 17,500 square feet.

However, Staff found that the proposed project does not meet the non-residential design standards, section 070.040.090. Namely, building elevations that exceed 30 feet in length are required to provide three design treatments that are selected from a list. Acceptable design treatments include building articulation (24-inch minimum wall plane difference); window/door glazing (30% of elevation, minimum) change in material texture; awnings/canopies; and change in building height. The City proposes including an engineered stacked stone wainscoting as the only design treatment on the north elevation



of each of the three buildings. To improve views into the site from Devereux Road, staff recommends the following design additions:

- include the stacked stone wainscoting on the west elevation of the Covered Storage (Material storage) structure;
- include the stacked stone wainscoting on the east elevation of the Wash Bay;
- add at least one panel of windows in the overhead wash bay door on the north elevation to match design of existing building.

The proposed project also does not meet section 070.040.050, fencing requirements. The proposal includes the installation of a 6-foot tall, black chain link security fence surrounding the property. Section 070.040.050 of the Code allows coated chain link when located in rear and side yards but, chain link is not allowed in a front yard. The City proposes adding black chain link fencing at the top of the berm along its Devereux Road frontage. Staff estimates that about two thirds or less of the length of fencing will be visible from Devereux Road, roughly from the new covered storage building to the west property line. The eastern third will be behind existing vegetation.

Finally, the project is not proposing to add a sidewalk along Devereux Road per the requirements of 070.040.070(f)(1). The Code requires an 8-foot wide sidewalk in non-residential zoning districts. It is important to note that there is a dedicated, paved trail that is approximately 10 feet wide along the north side of Devereux Road. Over the years, as Devereux Road properties have redeveloped, the City has granted a number of variances from this sidewalk requirement. Of note is a variance granted to the neighboring Osiris facility in 2015.

Although not in strict compliance with all aspects of the Development Code as noted above, the project is found to be consistent with the Code's general purpose and intent provisions namely, it protects the public health, safety, and welfare of the city and implements the policies, goals and strategies adopted by the City including those set forth in the Comprehensive Plan.

**iii. Minimizes adverse impacts to the health, safety, and welfare of the inhabitants of the surrounding areas and the city.**

The proposed project does not negatively impact surrounding properties or the health, safety and welfare of the city's inhabitants.

**REVIEWING AGENCY COMMENTS**

Although no formal, written comments were received, this project has been developed with regular input from all applicable City Departments.

**REQUIRED ACTIONS**

**Action 1:** Consideration of a Location & Extent Review application for construction of a 2,250 sf garage/shop building; a 3,150 sf storage building; 1,440 wash bay; fuel station with above ground storage tanks; and, a 6 foot tall chain link fence.

**Action Alternatives**

The Planning and Zoning Commission may approve, approve with conditions, deny or continue this application to a future hearing with a request for additional specific information which it finds necessary to determine compliance with the Municipal Code and city goals and policies.

**Staff Recommendation:** Staff recommends that the Planning and Zoning Commission approve the Location & Extent Review application with findings and conditions on page 5 of this report.

**Suggested Findings:**

1. The proposal is consistent with the Comprehensive Plan and other City plans and policies;
2. The proposal is consistent with the general purpose and intent of this Code; and
3. The proposal minimizes adverse impacts to the health, safety, and welfare of the inhabitants of the surrounding areas and the city.

**Suggested Conditions:**

1. The applicant/owner shall comply with all verbal representations made in the public hearings, as outlined in all application materials, and/or as revised per conditions herein and approved by the Community Development Director.
2. Prior to construction, applicant/owner shall submit building and/or grading permit. The application shall include a soils/geotechnical report.
3. Prior to submission of the building and/or grading permit application, revise the design plans as follows:
  - a. Include the stacked stone wainscoting on the west elevation of the Covered Storage (Material storage) structure;
  - b. Include the stacked stone wainscoting on the east elevation of the Wash Bay;
  - c. Add at least one panel of windows in the overhead wash bay door on the north elevation to match design of existing building.
4. Provide exterior building color samples for Community Development Director review and approval. The proposed colors shall be earth-tone and shall match or be compatible with the existing building color.
5. Any future physical changes to or improvements on the property are subject to the review and approval of the Community Development Director for compliance with applicable requirements of the Glenwood Springs Municipal Code.

## Site Photographs



Existing MOC showing Fleet and Streets department service bays.





Existing MOC gasoline pumps and above ground fuel storage.



Existing MOC covered storage.





**2222 Devereux Road showing existing building.**



**View to site from Devereux looking southeast**



**View to site from Devereux Road looking southwest.**





## LAND USE APPLICATION

City of Glenwood Springs  
Economic and Community Development Dept.  
101 West 8<sup>th</sup> Street  
Glenwood Springs, CO 81601  
970-384-6411

| Ordinance Amendments                       |                          | Development Permits                      |                                     |
|--------------------------------------------|--------------------------|------------------------------------------|-------------------------------------|
| Rezoning                                   | <input type="checkbox"/> | Site/Architectural Plan Review           | <input type="checkbox"/>            |
| Rezoning to Planned Unit Development (PUD) | <input type="checkbox"/> | Administrative                           | <input type="checkbox"/>            |
| Annexation                                 | <input type="checkbox"/> | Minor                                    | <input type="checkbox"/>            |
| Condominiumization                         | <input type="checkbox"/> | Major                                    | <input type="checkbox"/>            |
| Annexation                                 | <input type="checkbox"/> | Master Plan                              | <input type="checkbox"/>            |
| Street Vacation                            | <input type="checkbox"/> | Construction Plans                       | <input type="checkbox"/>            |
|                                            | <input type="checkbox"/> | Location & Extent                        | <input checked="" type="checkbox"/> |
| <b>Subdivisions</b>                        |                          | Right of Way Encroachment License        | <input type="checkbox"/>            |
| Minor Subdivision                          | <input type="checkbox"/> | Floodplain Development Permit            | <input type="checkbox"/>            |
| Preliminary Plat                           | <input type="checkbox"/> |                                          | <input type="checkbox"/>            |
| Final Plat                                 | <input type="checkbox"/> | <b>Flexibility and Relief Procedures</b> | <input type="checkbox"/>            |
| Vacation of Right-of-Way                   | <input type="checkbox"/> | Variance                                 | <input type="checkbox"/>            |
|                                            | <input type="checkbox"/> | Administrative Adjustment                | <input type="checkbox"/>            |
|                                            | <input type="checkbox"/> | Appeal                                   | <input type="checkbox"/>            |

| Applicant/Property Owner Information: |                                         |                          |                                         |
|---------------------------------------|-----------------------------------------|--------------------------|-----------------------------------------|
| Applicant                             |                                         | Owner                    |                                         |
| City of Glenwood Springs Public Works |                                         | City of Glenwood Springs |                                         |
| Relationship to Owner                 |                                         | Owner                    |                                         |
| Department                            |                                         |                          |                                         |
| Applicant Address                     |                                         | Owner Address            |                                         |
| 101 W. 8th Street                     |                                         | 101 W. 8th Street        |                                         |
| Phone 970-384-6400                    | Email Address matthew.langhorst@cogs.us | Phone 970-384-6400       | Email Address matthew.langhorst@cogs.us |

| Property Information:                        |                                          |
|----------------------------------------------|------------------------------------------|
| Address                                      | Parcel Number                            |
| 2222 Devereux Road                           | 2185-064-10-013                          |
| Subdivision                                  | Lot and Block Number                     |
| Colorado River Industrial Park Resubdivision | Lot 3                                    |
| Zone District Light Industrial               | Existing Land Use Fleet Maintenance Shop |

| General Project Description:                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Repair of existing building, installation of 6' tall security fencing, construction of 5 bay garage/shop building, vehicle storage, material storage facility, fuel/gas facility and wash bay facility. |

| Signatures:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |           |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
| <p>The owner or applicant must be present at the hearing. All public hearings must be properly noticed according to G.S.M.C. Section 070.010.030. Signatures of all owners of the property must appear before the application is accepted. Partnerships or corporations may have the authorized general partner or corporate officer sign the application. (Attach additional incorporation documents if necessary.) I declare under the penalty of perjury that the above information is true and correct to the best of my knowledge.</p> | Applicant | Date      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Owner     | 2/10/2020 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |           | Date      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Owner     | Date      |



## Location & Extent Review Application Checklist

*For office use:*

Pre-application Meeting Date: \_\_\_\_\_

Planning File #: \_\_\_\_\_

Applicant: \_\_\_\_\_

Lead Planner: \_\_\_\_\_

This checklist notes the materials that the City will need to process your location & extent application. This information constitutes your application. Failure to provide the required materials on or before the application deadline will delay your application.

| Materials to be Provided by Applicant |                                                                                                                                                                  |                                |         |         |     |       |                         |                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------|---------|-----|-------|-------------------------|----------------------------|
| Submittal Requirements                |                                                                                                                                                                  | Paper Copy – number and format |         |         | PDF | Notes | Required Submission (✓) | Submitted by Applicant (✓) |
|                                       |                                                                                                                                                                  | 8 ½ x11                        | 11 x 17 | 24 x 36 |     |       |                         |                            |
| 1                                     | <b>Planning Application</b> – completed in full and signed by applicant and all property owners of record                                                        | ✓<br><br><b>X</b>              |         |         | ✓   |       |                         |                            |
| 2                                     | <b>Ownership</b> - provide proof of ownership such as Deed of Trust, Warranty Deed or Quit Claim Deed. Title commitment will not suffice                         | ✓                              |         |         | ✓   |       |                         |                            |
| 3                                     | <b>Public Noticing</b> – signed and notarized affidavit proof of public notice including mineral estate owner notification                                       | ✓                              |         |         |     |       |                         |                            |
| 5                                     | <b>Project Description</b> – narrative describing the project and addressing how the application meets the Location & Extent approval criteria in 070.060.050(d) | ✓<br><br><b>X</b>              |         |         | ✓   |       |                         |                            |
| 6                                     | <b>Site Improvement Survey</b>                                                                                                                                   | ✓<br><br><b>X</b>              |         | ✓       | ✓   |       |                         |                            |

| Materials to be Provided by Applicant |                                                                                                                                                                  |                                |         |         |     |                                                                           |                         |                            |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------|---------|-----|---------------------------------------------------------------------------|-------------------------|----------------------------|
| Submittal Requirements                |                                                                                                                                                                  | Paper Copy – number and format |         |         | PDF | Notes                                                                     | Required Submission (√) | Submitted by Applicant (√) |
|                                       |                                                                                                                                                                  | 8 ½ x11                        | 11 x 17 | 24 x 36 |     |                                                                           |                         |                            |
| 7                                     | <b>Utility Can &amp; Will Serve Letters</b> – provide letters submitted from public and/or private utility companies that will serve the proposed development.   | √<br><br>NA                    |         |         | √   |                                                                           |                         |                            |
| 8                                     | <b>Complete Plan Set including:</b>                                                                                                                              | 0                              | 1       | 1       | √   |                                                                           |                         |                            |
|                                       | Cover Sheet                                                                                                                                                      |                                |         |         |     |                                                                           |                         |                            |
|                                       | Site Plan                                                                                                                                                        | X                              |         |         |     |                                                                           |                         |                            |
|                                       | Preliminary Grading Plan                                                                                                                                         |                                |         |         |     |                                                                           |                         |                            |
|                                       | Conceptual Architectural Plans                                                                                                                                   | X                              |         |         |     |                                                                           |                         |                            |
|                                       | Preliminary Landscape Plan                                                                                                                                       |                                |         |         |     |                                                                           |                         |                            |
|                                       | Sample materials board                                                                                                                                           |                                |         |         |     |                                                                           |                         |                            |
|                                       | Lighting Plan                                                                                                                                                    |                                |         |         |     |                                                                           |                         |                            |
| 9                                     | <b>Engineering Reports including:</b>                                                                                                                            | 2                              | 0       | 0       | √   |                                                                           |                         |                            |
|                                       | Preliminary Traffic Impact Analysis or Letter – the level of documentation required depends on the location of the property and the type of development proposed | NA                             |         |         |     |                                                                           |                         |                            |
|                                       | Preliminary Soils & Geotechnical Report                                                                                                                          | NA                             |         |         |     |                                                                           |                         |                            |
|                                       | Drainage Letter or Study – level of information required depends on the project location, size and type of development. Refer to Engineering Standards           | NA                             |         |         |     |                                                                           |                         |                            |
| 10                                    | <b>Fee</b>                                                                                                                                                       | \$ _____                       |         |         |     | Cash, check or credit card. Check payable to the City of Glenwood Springs |                         |                            |



| Materials to be Provided by Applicant |                                                                     |                                |         |         |     |       |                         |                            |
|---------------------------------------|---------------------------------------------------------------------|--------------------------------|---------|---------|-----|-------|-------------------------|----------------------------|
| Submittal Requirements                |                                                                     | Paper Copy – number and format |         |         | PDF | Notes | Required Submission (√) | Submitted by Applicant (√) |
|                                       |                                                                     | 8 ½ x11                        | 11 x 17 | 24 x 36 |     |       |                         |                            |
| 11                                    | <b>Other Materials</b> (list other materials that will be required) |                                |         |         |     |       |                         |                            |
|                                       |                                                                     |                                |         |         |     |       |                         |                            |
|                                       |                                                                     |                                |         |         |     |       |                         |                            |
|                                       |                                                                     |                                |         |         |     |       |                         |                            |
|                                       |                                                                     |                                |         |         |     |       |                         |                            |

### Location and Extent Review Application Narrative

The City of Glenwood Springs is moving its Parks, Fleet, Electric, SWAT and Streets Departments out of their current location at 2301 Wulfsohn Road, known as the MOC, due to structural issues at the facility. The new location that has been purchased for Fleet, Streets and SWAT is a 3.68 acre parcel located at 2222 Devereux Road, Glenwood Springs. This facility was previously Hansen and McCandless Trucking services, which makes it a perfect candidate location for Fleet, SWAT and Streets to relocate to with an existing steel structure shop facility with four work bays accessed by large overhead garage doors. The existing shop building is comprised of an office/bathroom/breakroom area at the front of the building covering approximately 1,525 SF of area. The rear of the building is made up of two areas with storage at 2,085SF and shop/work area covering approximately 7,200SF. Total building floor area is approximately 10,810 SF.

The breakout use of the building will mainly be for Fleet and SWAT. The eastern portion of the building has an interior wall breaking that bay area into its own work area. This area will be housing the SWAT department and all of its metal and wood fabrication tools for the time being. The remainder of the shop/storage area will be for Fleet daily operational use. The office at the front of the building will be for Fleet, Streets and SWAT. There will be three work stations set up for employee computer usage along with a large employee training room, which will have WIFI internet, computer and TV capabilities. The new existing facility is for Fleet operations and Streets/SWAT staging, it does not have enough interior heated space to accommodate the needs of three departments. The City is proposing to build a second steel structure on the east side of the site. The new building will feature five heated bays, three of those bays will house the Streets Department's two street sweepers and their water truck. These pieces of equipment are utilized as early in the spring and as late into the fall as possible and since they always carry water, they need a heated facility, so they do not freeze overnight. The second two bays being proposed will be utilized for SWAT's permanent fabrication work space. Their current location within the existing building will be returned to Fleet use.

Other site improvements being proposed are a fueling station with a double-sided pump head with 3,000 gallons of above ground storage tanks, a covered material storage area for Streets to keep asphalt, ice slicer, cold mix, road base, etc type materials onsite for use on projects, a standalone wash bay adjacent to the existing building location and a relocated waste oil tank/outdoor tire storage shed that will both be located on the backside of the building.

Most of the City is aware of the reason that these departments have looked for new homes. The current Municipal Operations Center (MOC) is settling at a destabilizing rate and the cost of repairs to the building are beyond the cost of moving departments to other locations and settling back down at these new and geologically stable locations. The "new" building at 2222 Devereux Road was built in 1981 and is a steel structure with a concrete floor slab/foundation structure. The City had a structural engineer review this 38-year-old building prior to purchasing it and the building was given an all-clear on its stability and longevity. This location is close to the river and to the river rock layer below. This location also gives the City the ability to start separating some of its Departments into two locations in town. This may seem counterproductive, but with Streets and SWAT being located not only at 2222 Devereux Road, but also partially at the Boneyard location at the south end of the airport gives us the ability to react to situations quicker with materials, equipment and staff on both ends of the City. If we located the entirety of the Streets/SWAT Departments at the Airport location and an issue came up along Midland Avenue between 27<sup>th</sup> Street and 4 Mile, our crews would have a 32-mile trip to get to work without South Bridge being constructed as of yet. With two locations, we can react to situations quicker and even set up plowing operations faster in the wintertime. This is a win for the City, but it comes at a cost that was not anticipated in 2019 or 2020.

The site planning includes an existing steel building that is not being changed in its use or nature, so it is being looked at as an existing condition. The site planning for new facilities include a 6' tall, black chain link security fence to keep the equipment, vehicles and city facilities under a safe lock and key. Staff is requesting that the new and existing facility changes/updates not be held to the City esthetic code, but be allowed to be as cost effective as constructed as possible, while still melding a blend of structure/design that complement the existing site plan. There are four new structures being proposed on the site. A wash bay adjacent to the existing 10,000 Fleet building, a covered storage area to the middle and north side of the property, a heated storage structure on the east side of the property shifted to the southern portion of the property and a new fueling station in the middle/south side of the property. Due to the existing vegetation and the grade differential of the roadway being below the new structure locations, very little of the structures will be visible from the roadway. Esthetic wainscoting has been added to the designs of the covered storage, heated storage and will be added to the wash bay design once it has been completed.

#### How this site planning meets the Comprehensive Plan for the City

The City was in need for a facility that met the requirements of a Fleet and Streets Department, which includes the need for a large garage type facility with adequately sized doors, power supply meeting equipment needs large lot for storage of materials and vehicles and localized location for all departments to be able to access the site conveniently. The 2222 Devereux site meets all of these requirements without much change to the existing building. The Comprehensive plan defines what the City is looking for in development of sites within the City, and list below are notable points on how the 2222 Devereux Site meets the direction the plan wants development to unfold.

- The comprehensive plan calls out to “Direct Development to Locations and Forms that are Cost-effective to Serve” which is what this site does for the City. The infrastructure and capacities of the site meet the needs of the City well, and the changes that would need to be constructed fit within the site acreage and do not affect the utility capacities within the site.
- The comprehensive plan call out to “Address Transportation Needs and Provide Multiple Convenient Travel Choices” by locating development in ways to reduce traffic congestion, assure safe and efficient movement of people and goods, and provide equal access to community facilities. The existing site accomplishes this in several ways. The site is centrally located near to the water treatment plant, waste water treatment plant, new parks building just north in West Glenwood Springs, and just off the main interstate corridor making it convenient to receive shipments without bring truck traffic into the City. This site is quite similar in nature to the current MOC location that also meets many of these needs.
- The Comprehensive plan calls out “Values and Vision for Public Utilities and Services”, by providing efficient public utilities and services essential to quality of life, livability and to cost-effective growth. The Fleet Department is a vital cog in the workings of all city departments by helping maintain their vehicles and equipment. The 2222 Devereux Road location makes the Fleet department readily available to all departments for quick repairs for regular and emergency service repairs as they are needed. Without the Fleet Department the Utility and Street Departments would not be able to function efficiently on a daily basis. Case in point, the Streets Department and Fleet Department worked hand in hand in early October 2019 to outfit all of the Streets trucks with plowing and sanding equipment in an emergency situation with an unusual snow storm heading our way. With great success, the two departments got enough equipment up and running that the snow storm, and second following storm event did not affect the functioning of the City or its residents travel. This facility will allow the two departments to come together as needed in situation like this, in a convenient location, and keep our City up and running and safe for all. Attached below are photos showing the elevation change from Devereux Road to the site. On The west end of the property Devereux Road is 8 feet lower than the paved parking area adjacent to the



existing building. At the proposed storage and heated garage location Devereux Road is 10 feet lower than the site grade.

*Photo taken at the entrance to the property looking east. Heavy vegetation is present to screen the proposed storage building and heated garage.*



*Photo take 25' east of entrance depicting the 10-foot grade differential.*



*Photo take at east end of property back to west showing grade differential to roadway and screening*





*Photo taken at entrance to show location of wash bay adjacent to existing building from road*



*Photo taken at entrance looking west to depict the 8-foot grade differential*





## Exhibits:

Exhibit A: Existing Site Survey of Property

Exhibit B: Proposed Site Planning

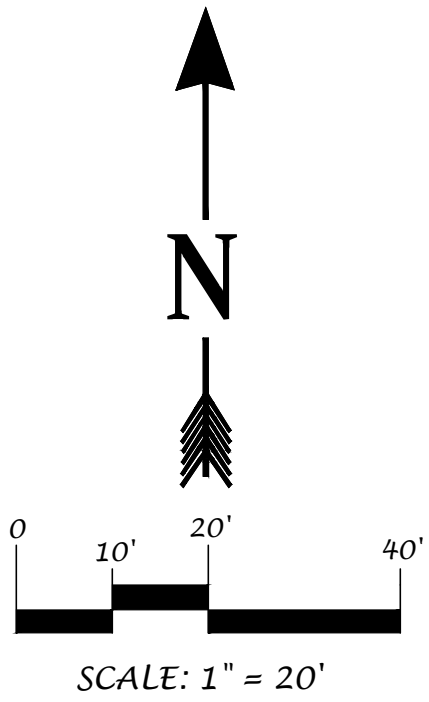
Exhibit C: Existing Structure Floor Plan and Elevations

Exhibit D: Proposed Garage Floor Plan and Elevations

Exhibit E: Proposed Material Storage Structure

**EXHIBIT A:**  
**EXISTING SITE SURVEY OF**  
**PROPERTY**

SECTION 6, TOWNSHIP 6 SOUTH, RANGE 89 WEST OF THE 6TH PM  
CITY OF GLENWOOD SPRINGS, COUNTY OF GARFIELD, STATE OF COLORADO



|                      |          |                 |
|----------------------|----------|-----------------|
| PROJECT NO: 2019-239 | DRAWN    | SHEET<br>1 OF 1 |
|                      | RPK      |                 |
| DATE: JULY 29, 2019  | SURVEYED |                 |
|                      | DR       |                 |

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF CERTIFICATION SHOWN HEREON.



# EXHIBIT B:

## PROPOSED SITE PLANNING





DEVEREUX RD

GATE

FENCE

FENCE

PARKING

COVERED STORAGE  
(35'X90')

PARKING

5 BAY HEATED  
GARAGE/SWAT WORK  
AREA (30'X75')

STREETS  
DEPARTMENT

TRASH

FUEL STORAGE &  
PUMP STATION

PARKING

GATE

FENCE

FLEET DEPARTMENT BUILDING

WASH BAY  
(24'X60')

TIRE STORAGE

WASTE OIL

FENCE

FENCE

PARKING

**City of Glenwood Springs, Colorado**  
**Fleet/Street Department & Storage**

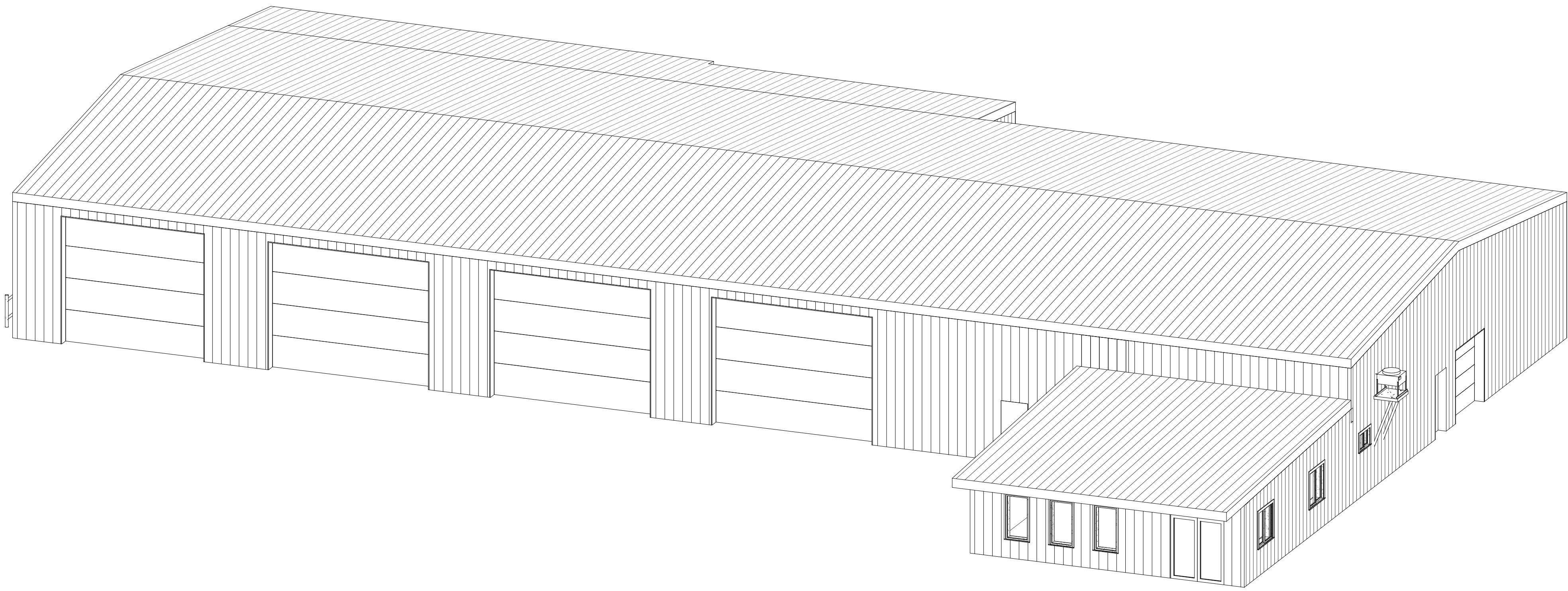
Updated November 8, 2019 by The Land Studio, Inc.



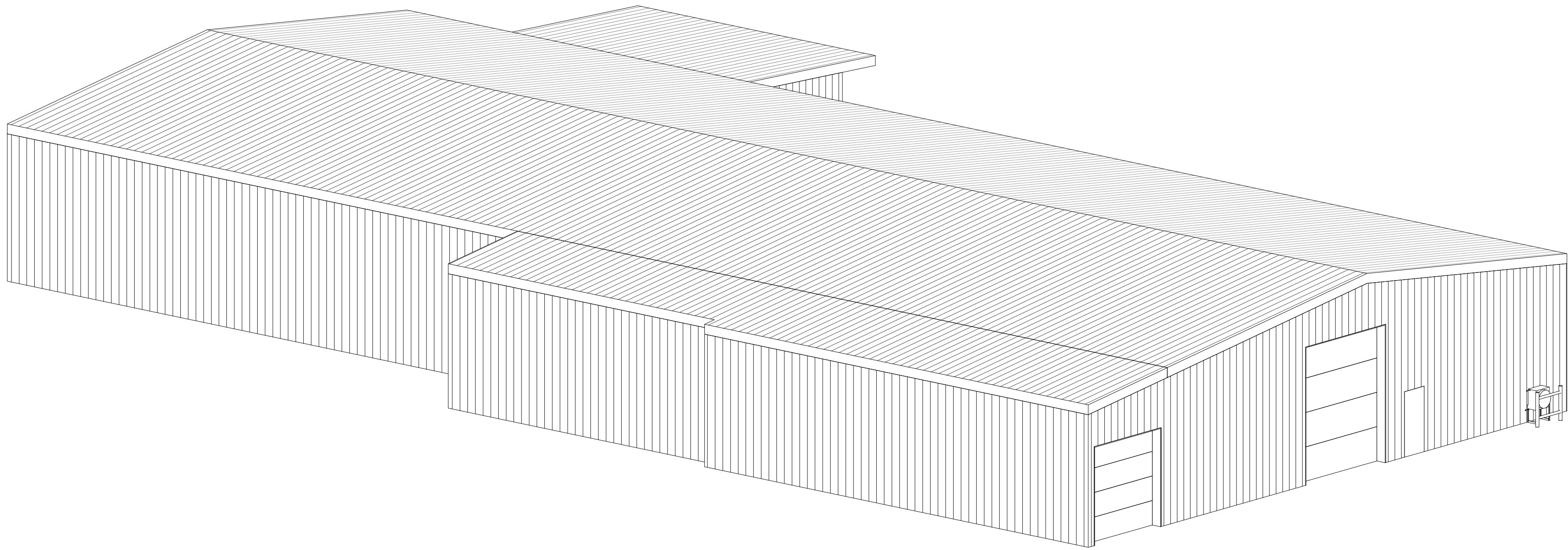


**EXHIBIT C:**  
**EXISTING STRUCTURE FLOOR PLAN**  
**AND ELEVATIONS**

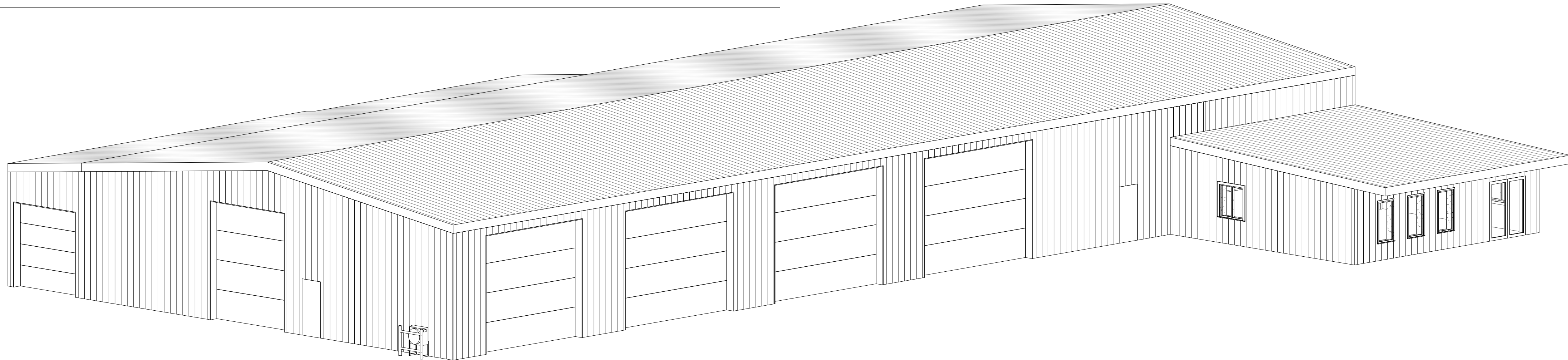




③ 3D 3 - Existing



② 3D 2 - Existing



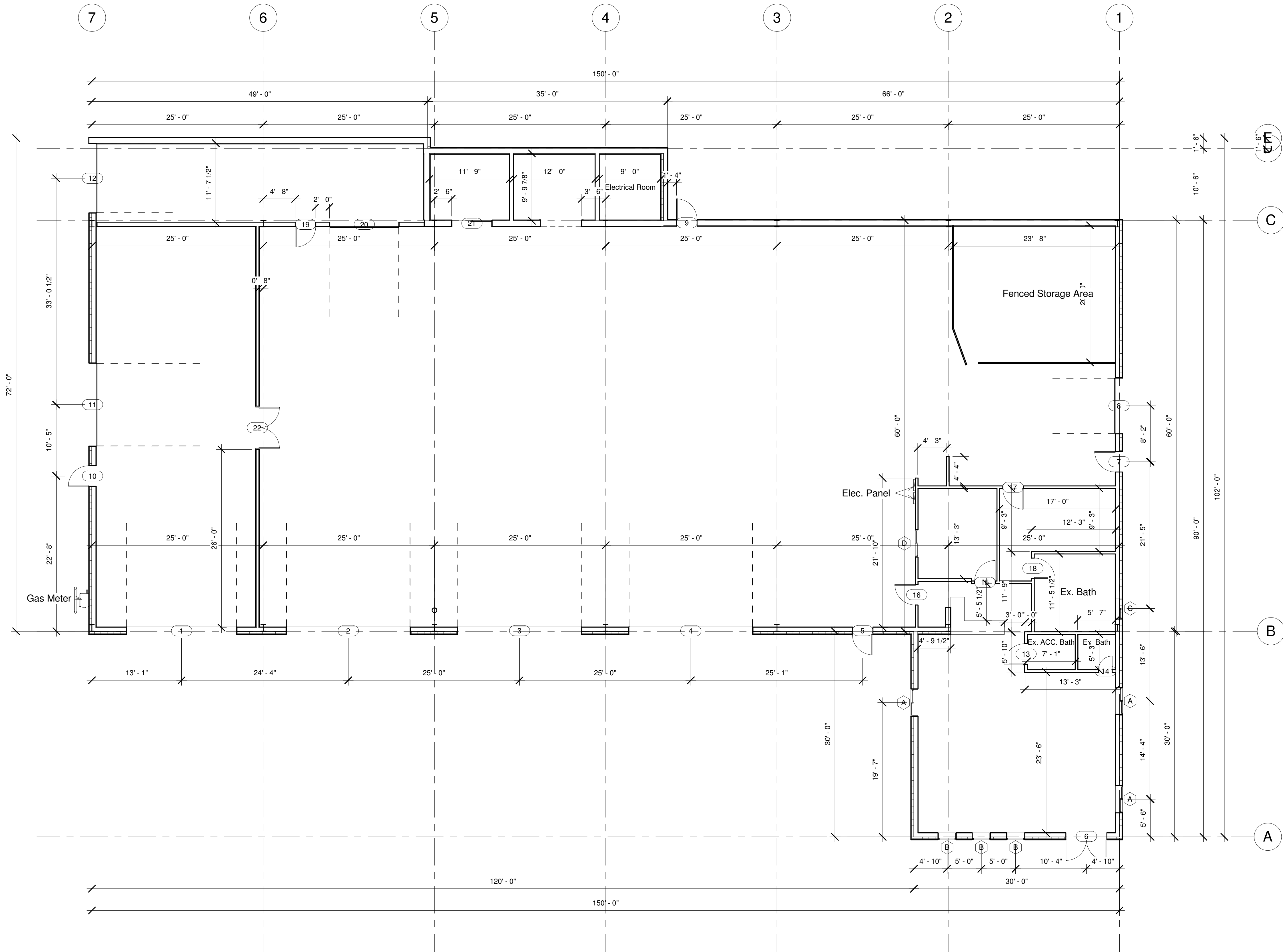
① 3D 1- Existing



GENERAL NOTES:  
- FIELD VERIFY ALL DIMENSIONS, WALL LOCATIONS, WALL & ROOF/CEILING ASSEMBLIES, OCCUPANCIES, ROOF HEIGHTS, ROOF SLOPES, ETC. PRIOR TO DESIGNING REMODELS AND ADDITIONS, AND PRIOR TO ANY CONSTRUCTION. VERIFY REQUIREMENTS FOR CONSTRUCTION PRIOR TO DESIGNING REMODELS AND ADDITIONS, AND PRIOR TO ANY CONSTRUCTION, WITH THE CITY OF GLENWOOD SPRINGS BUILDING, PLANNING, ENGINEERING, FIRE AND ANY OTHER APPLICABLE CITY OF GLENWOOD SPRINGS DEPARTMENT(S) OR OTHER GOVERNMENTAL AGENCY REQUIRED TO REVIEW THE PROPOSED PROJECT  
- TYPE OF CONSTRUCTION : IIB, NON-SPRINKLERED  
- OCCUPANCY CLASSIFICATION : NON SEPARATED  
S-2 STORAGE & REPAIR GARAGE  
S-1 STORAGE  
B - OFFICE  
  
- SQ. FT. BUILDING - 10,400. FT.  
- FIRE RESISTANCE EXTERIOR WALLS - NON RATED  
OPENINGS IN EXTERIOR WALLS: NON-RATED  
- PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY FIRE DEPARTMENT  
- MECHANICAL VENTILATION OF VEHICLE EXHAUST SHALL BE PROVIDED PER IBC SEC. 406.4.2, 405.8.2 DESIGN TO BE PROVIDED BY PROJECT MECHANICAL ENGINEER AS REQUIRED BY OWNER AND BUILDING DEPARTMENT.

Notes  
1/4" = 1'-0"

Level 1  
1/8" = 1'-0"



**CADFISH LLC**  
CAD Drafting, Design, Planning, Construction Management  
80 Sawwood Court, Basalt, Colorado 81621  
Phone (970) 618-0230

ISSUE DATES  
10/28/19  
As Built

**City of Glenwood Fleet Building - As Built**  
2222 Devereaux Road  
Glenwood Springs CO

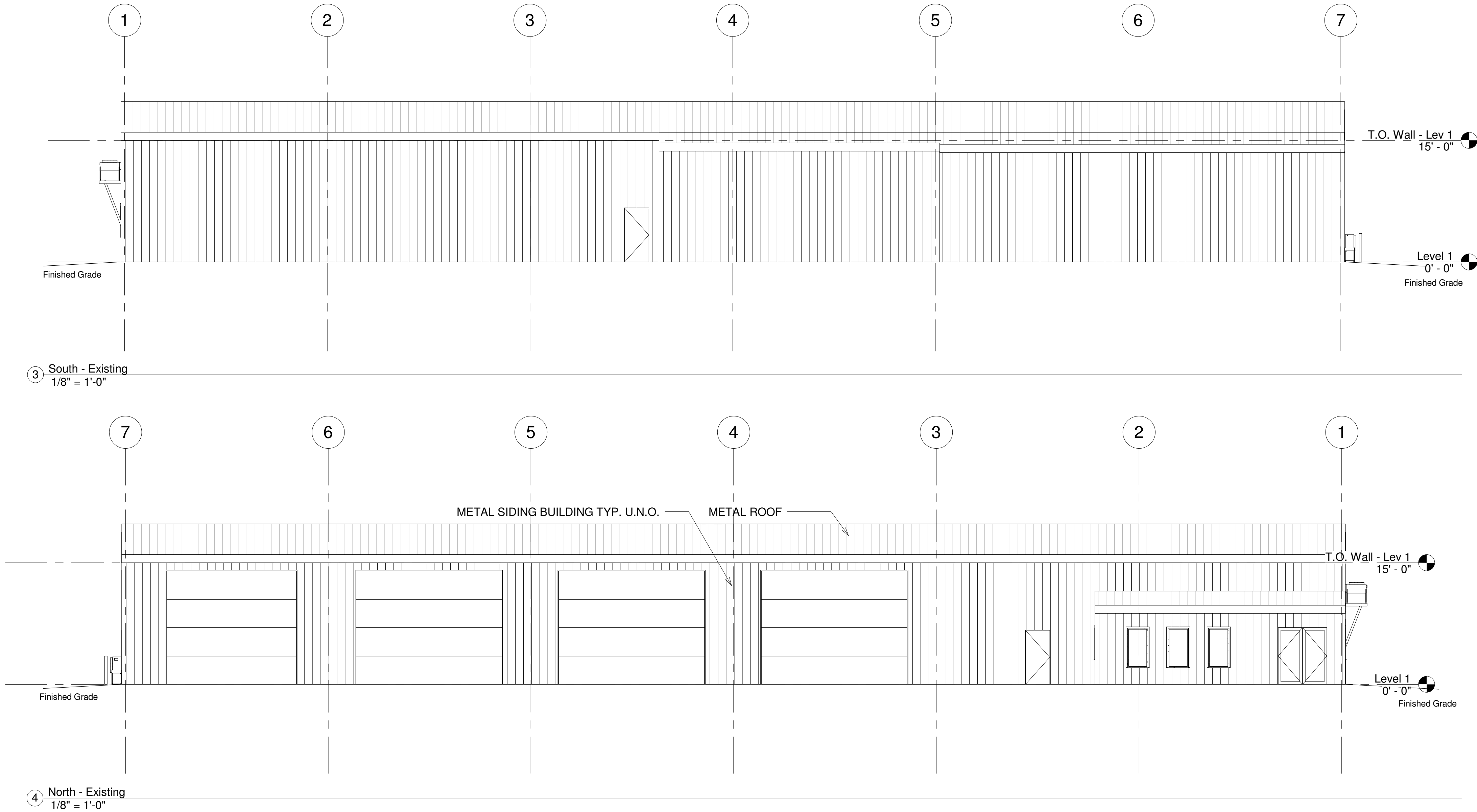
Designed By:  
BLS  
Checked By:  
ML

TITLE  
**Existing Floor Plan -  
Notes**  
SHEET  
**A1**



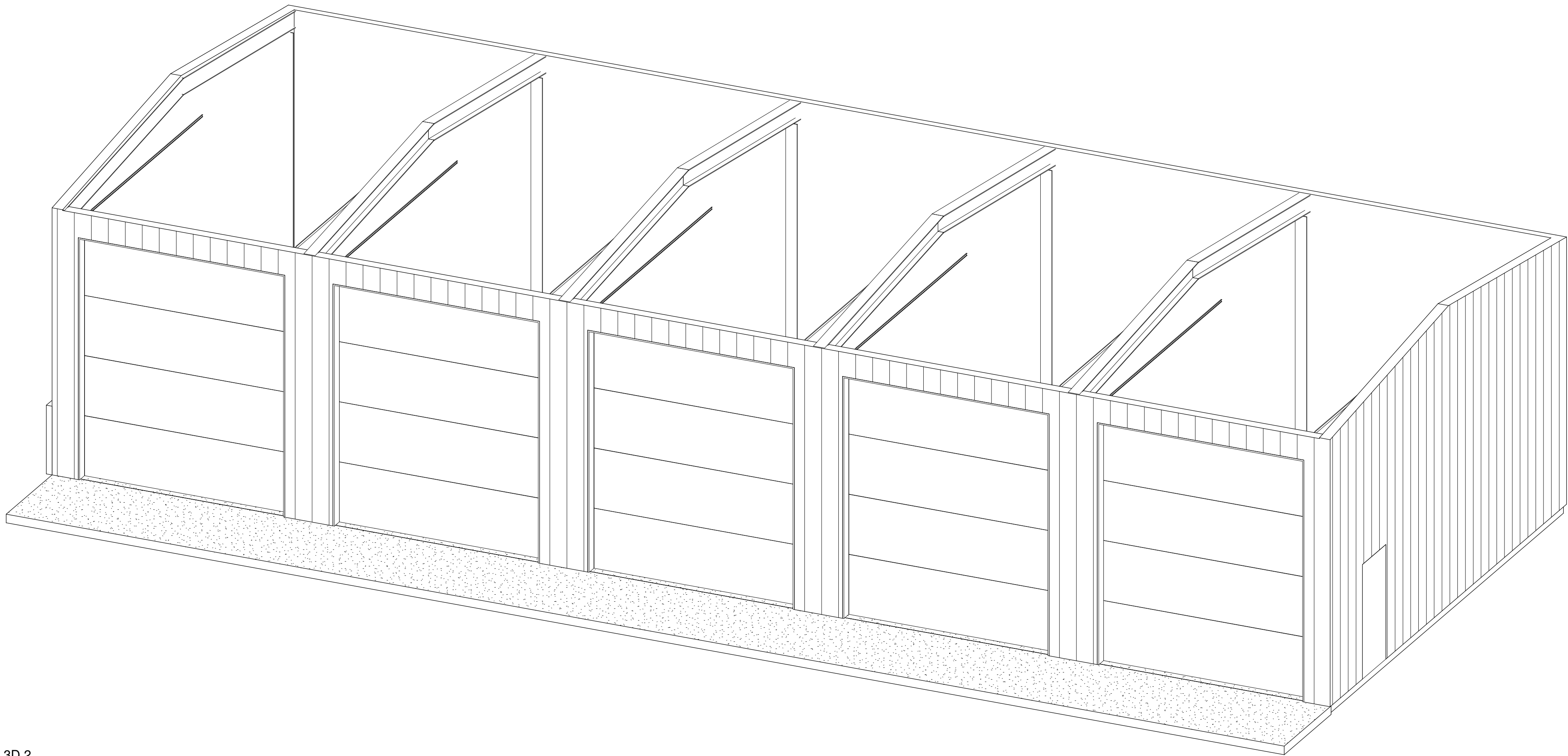
| Window Schedule |       |                  |         |         |             |          |
|-----------------|-------|------------------|---------|---------|-------------|----------|
| Type Mark       | Count | Family           | Width   | Height  | Description | Comments |
| A               | 1     | Slider with Trim | 4' - 0" | 4' - 0" |             |          |
| A               | 1     | Slider with Trim | 4' - 0" | 4' - 0" |             |          |
| A               | 1     | Slider with Trim | 4' - 0" | 4' - 0" |             |          |
| B               | 1     | Fixed with Trim  | 2' - 8" | 5' - 0" |             |          |
| B               | 1     | Fixed with Trim  | 2' - 8" | 5' - 0" |             |          |
| B               | 1     | Fixed with Trim  | 2' - 8" | 5' - 0" |             |          |
| C               | 1     | Slider with Trim | 3' - 0" | 2' - 0" |             |          |
| D               | 1     | Slider with Trim | 4' - 0" | 3' - 0" |             | Interior |
| Grand total: 8  |       |                  |         |         |             |          |

| Door Schedule |       |                                           |          |          |             |          |
|---------------|-------|-------------------------------------------|----------|----------|-------------|----------|
| Mark          | Count | Family                                    | Width    | Height   | Description | Comments |
| 1             | 1     | Door-Garage-Flush_Panel                   | 16' - 0" | 14' - 0" |             |          |
| 2             | 1     | Door-Garage-Flush_Panel                   | 18' - 0" | 14' - 0" |             |          |
| 3             | 1     | Door-Garage-Flush_Panel                   | 18' - 0" | 14' - 0" |             |          |
| 4             | 1     | Door-Garage-Flush_Panel                   | 18' - 0" | 14' - 0" |             |          |
| 5             | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 6             | 1     | Door-Double-Glass                         | 6' - 0"  | 7' - 0"  |             |          |
| 7             | 1     | Door-Single-Panel                         | 3' - 0"  | 7' - 0"  |             |          |
| 8             | 1     | Door-Garage-Flush_Panel                   | 8' - 0"  | 8' - 0"  |             |          |
| 9             | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 10            | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 11            | 1     | Door-Garage-Flush_Panel                   | 12' - 0" | 14' - 0" |             |          |
| 12            | 1     | Door-Garage-Flush_Panel                   | 10' - 0" | 10' - 0" |             |          |
| 13            | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 14            | 1     | Single-Flush                              | 2' - 0"  | 6' - 8"  |             |          |
| 15            | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 16            | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 17            | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 18            | 1     | Door-Single-Panel                         | 3' - 0"  | 6' - 8"  |             |          |
| 19            | 1     | Door-Single-Panel                         | 3' - 0"  | 7' - 0"  |             |          |
| 20            | 1     | Door-Garage-Flush_Panel                   | 10' - 0" | 12' - 0" |             |          |
| 21            | 1     | Door-Interior-Double-Sliding-2_Panel-Wood | 5' - 9"  | 10' - 4" |             |          |
| 22            | 1     | Door-Exterior-Double                      | 6' - 0"  | 7' - 0"  |             |          |

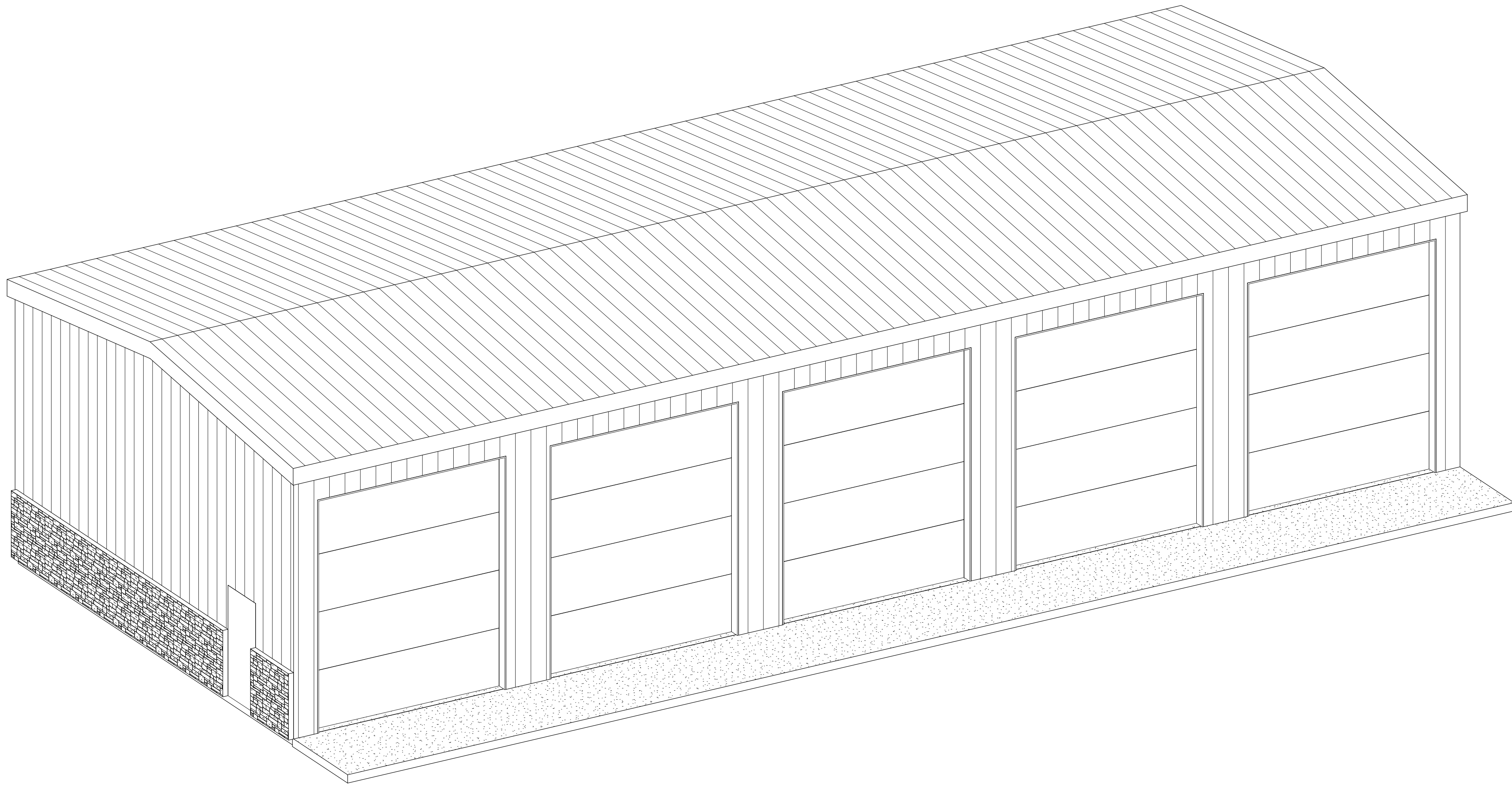




**EXHIBIT D:**  
**PROPOSED GARAGE FLOOR PLAN**  
**AND ELEVATIONS**



② 3D 2



① 3D 1

TITLE  
3D  
SHEET  
A0

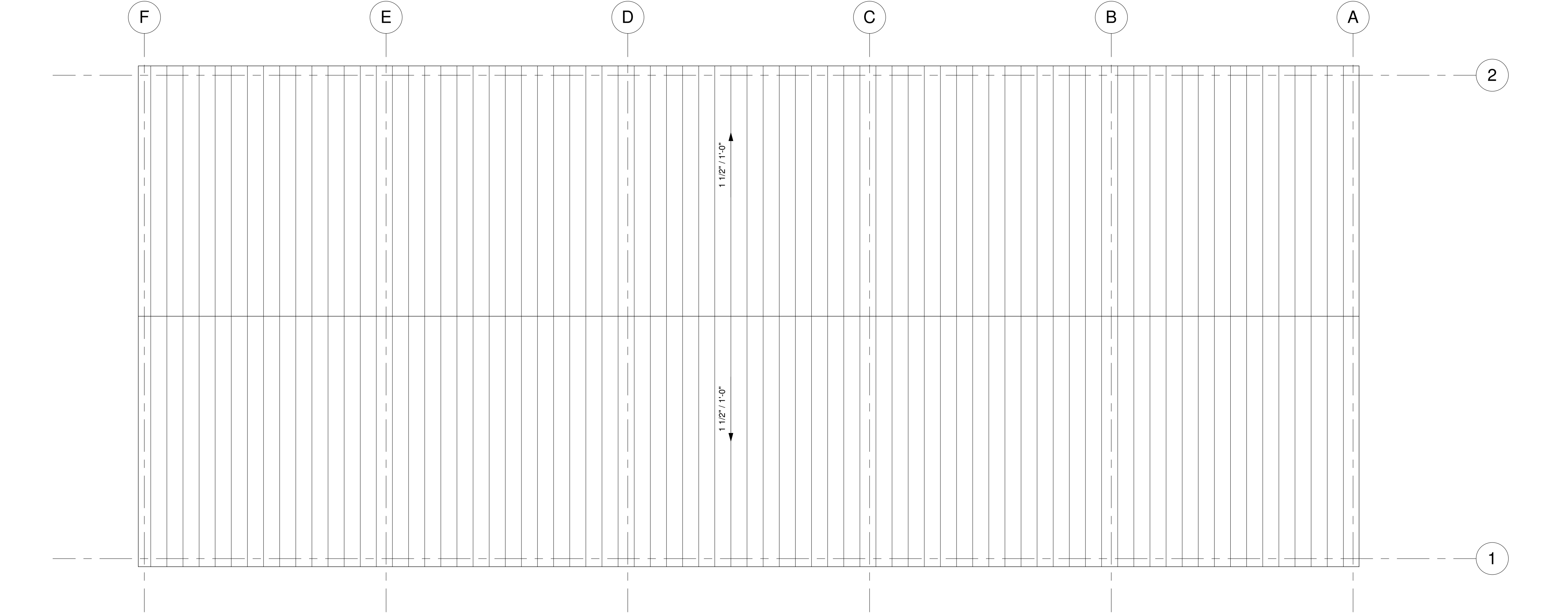
|                     |                   |
|---------------------|-------------------|
| Designed By:<br>BLS | Checked By:<br>ML |
|---------------------|-------------------|

**City of Glenwood Springs Covered Storage**  
2222 Devereaux Road  
Glenwood Springs CO

|                       |             |
|-----------------------|-------------|
| ISSUE DATES<br>1/8/20 | Preliminary |
|-----------------------|-------------|

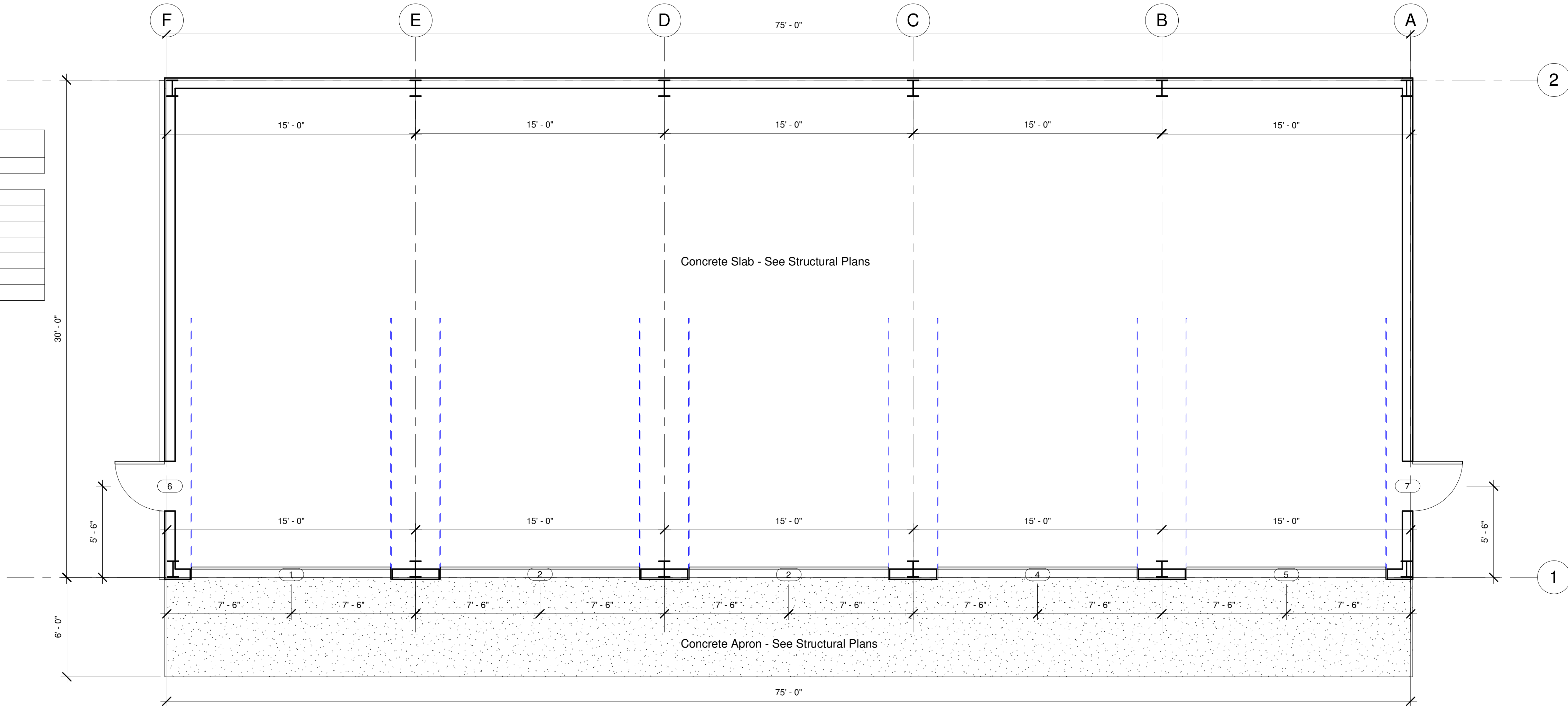
**CADFISH LLC**  
CAD Drafting, Design, Planning, Construction Management  
80 Sageswood Court, Basalt, Colorado 81621  
Phone (970) 618-0230





3 Roof Plan  
1/4" = 1'-0"

| Door Schedule |       |                         |          |          |             |          |
|---------------|-------|-------------------------|----------|----------|-------------|----------|
| Mark          | Count | Family                  | Width    | Height   | Description | Comments |
| 1             | 1     | Door-Garage-Flush_Panel | 12' - 0" | 14' - 0" |             |          |
| 2             | 1     | Door-Garage-Flush_Panel | 12' - 0" | 14' - 0" |             |          |
| 2             | 1     | Door-Garage-Flush_Panel | 12' - 0" | 14' - 0" |             |          |
| 4             | 1     | Door-Garage-Flush_Panel | 12' - 0" | 14' - 0" |             |          |
| 5             | 1     | Door-Garage-Flush_Panel | 12' - 0" | 14' - 0" |             |          |
| 6             | 1     | Door-Single-Panel       | 3' - 0"  | 6' - 8"  |             |          |
| 7             | 1     | Door-Single-Panel       | 3' - 0"  | 6' - 8"  |             |          |

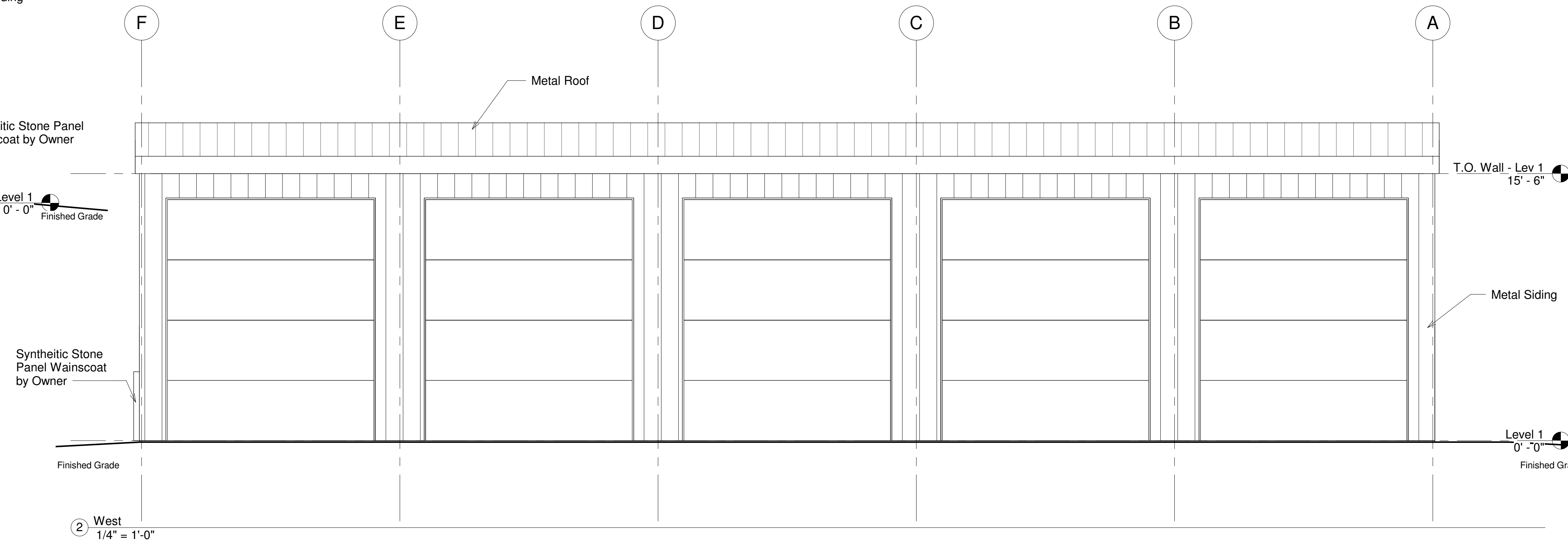
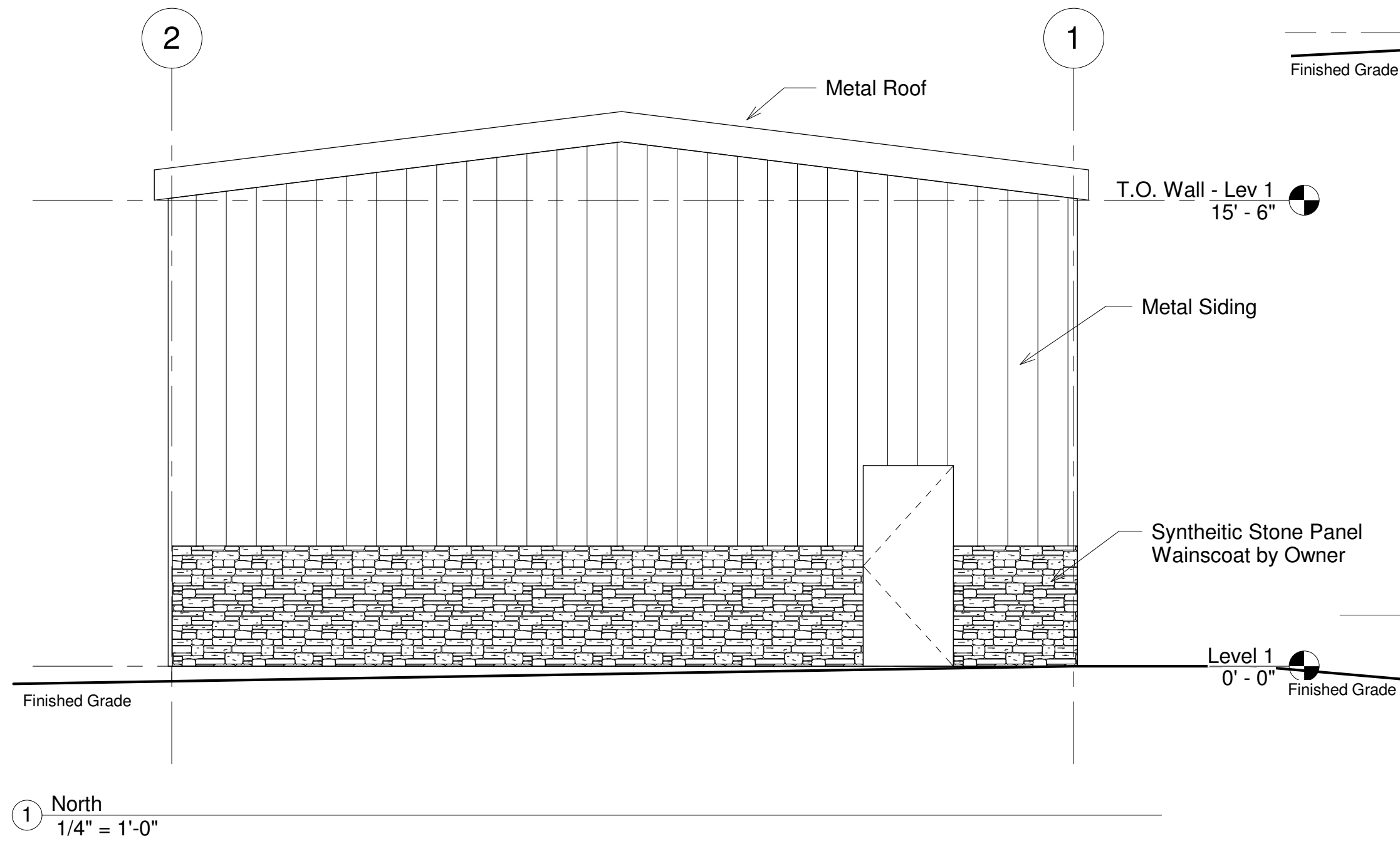
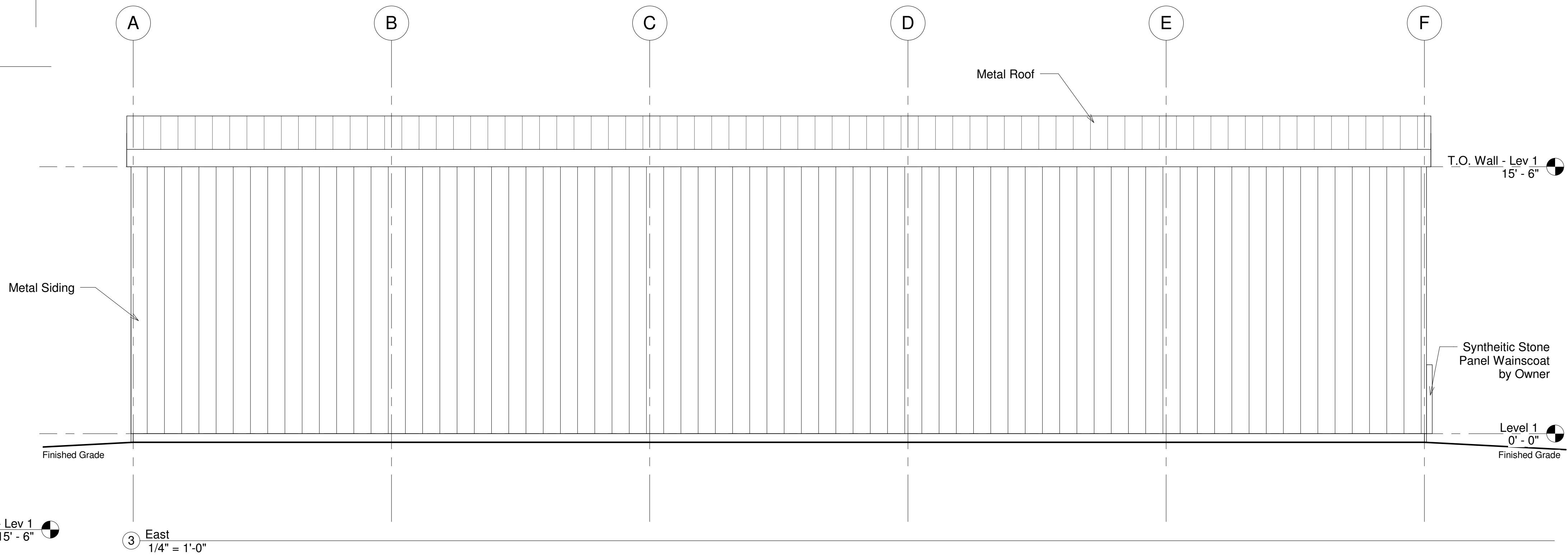
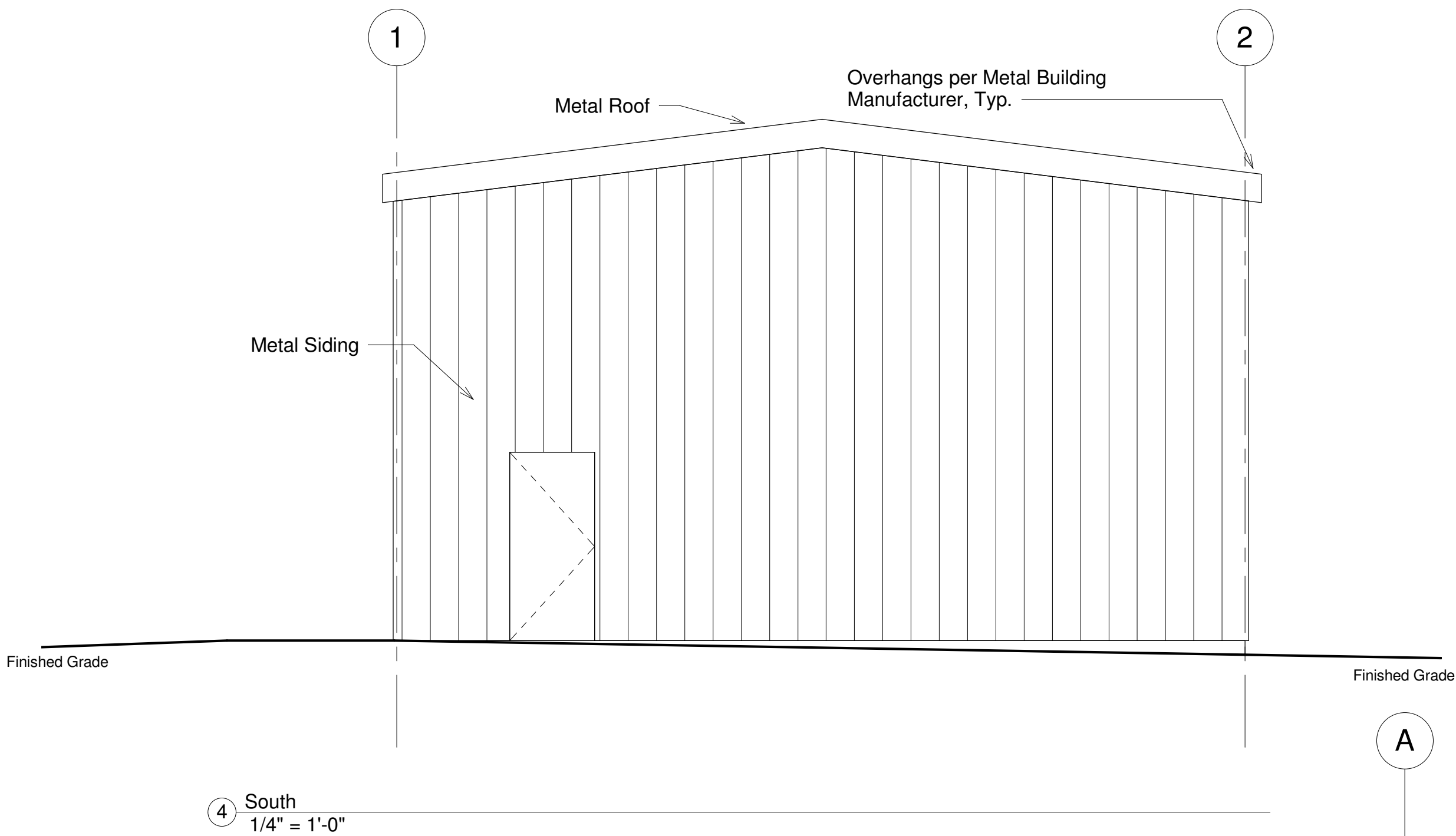


1 Level 1  
1/4" = 1'-0"

GENERAL NOTES:  
- FLOOR DESIGN LOAD - 125 PSF LIVE LOAD  
- WIND DESIGN LOAD - 110 MPH EXPOSURE B  
- TRUSS/ROOF DESIGN LOAD - 50 PSF GROUND SNOW LOAD, MIN.  
- ALL CONSTRUCTION SHALL COMPLY WITH THE IBC, IPC, IMC, IFGC, IFG 2015 & THE IECC 2009 AS ADOPTED & AMENDED BY THE CITY OF GLENWOOD SPRINGS, AND, THE NEC AS ADOPTED & AMENDED BY THE CITY OF GLENWOOD SPRINGS  
- VERIFY REQUIREMENTS FOR FIRE SUPPRESSION & ALARM SYSTEMS WITH THE GLENWOOD SPRINGS FIRE DEPARTMENT & PROVIDE PLANS AS REQUIRED BY THE FIRE DEPARTMENT AS A DEFERRED SUBMITTAL  
- TYPE OF CONSTRUCTION : IIB, NON-SPRINKLERED  
- OCCUPANCY CLASSIFICATION : S-2 PARKING GARAGE  
- SQ. FT. BUILDING - 2250 SQ. FT.  
- OCCUPANT LOAD - 2250/00 = 11  
- DISTANCE TO PROPERTY LINES: DESIGN ASSUMES MINIMUM 25' FROM PROPERTY LINE OR CENTER OF R.O.W. GARAGE DOORS SIDE MINIMUM 10' DISTANCE FROM PROPERTY LINE OR CENTER OF R.O.W. ON OTHER SIDES  
- FIRE RESISTANCE EXTERIOR WALLS - NON RATED  
- OPENINGS IN EXTERIOR WALLS: NON-RATED  
- BUILDING TO BE HEATED WITH DIRECT VENT OVERHEAD GAS OR ELECTRIC UNIT HEATERS. SEE IECC NOTES, PLANS, AND DETAILS.  
- SEE IECC NOTES, PLANS, AND DETAILS FOR INSULATION, WINDOW AND DOOR SPECIFICATIONS, AND OTHER ENERGY RELATED ITEMS  
- PLUMBING, ELECTRICAL, MECHANICAL, AND HVAC BY OWNER AND PROJECT MEP ENGINEER AS REQUIRED BY OWNER AND BUILDING DEPARTMENT.  
- PROVIDE ILLUMINATED EXIT SIGNS AND EXIT ILLUMINATION AT ALL EXITS AS REQUIRED BY OWNER, IBC 2015, AND FIRE DEPARTMENT  
- PROVIDE FIRE EXTINGUISHERS AS REQUIRED BY FIRE DEPARTMENT  
- GLAZING IN HAZARDOUS LOCATIONS SHALL BE SAFETY GLAZING PER SEC. 2406 IBC 2015.1  
- INTERIOR FINISHES SHALL BE CLASS C OR BETTER AND COMPLY WITH SEC. 803, TABLE 803.11, IBC 2015. REFER TO METAL BUILDING MANUFACTURER PLANS  
- INSULATION SHALL COMPLY WITH SEC. 720, 807 IBC 2015, IECC 2009  
- MECHANICAL VENTILATION OF VEHICLE EXHAUST SHALL BE PROVIDED PER IBC SEC. 406.4.2, 405.8.2 DESIGN TO BE PROVIDED BY PROJECT MECHANICAL ENGINEER AS REQUIRED BY OWNER AND BUILDING DEPARTMENT  
- GUTTERS, DOWN SPOUTS, AND SNOW SLIDES TO BE INSTALLED ON UPPER ROOFS OF FRONT AND REAR ELEVATIONS AS REQUIRED BY OWNER AND / OR ENGINEER. SEE DESIGN BY GUTTER SUPPLIER &/OR GUTTER INSTALLER.  
- PROVIDE SITE DRAINAGE AWAY FROM BUILDING PER SOILS REPORT AND CIVIL ENGINEERING PLANS  
- SLOPE SLAB TO DRAIN TO GARAGE DOORS PER ENGINEER PLANS. VERIFY SLOPE PITCH WITH OWNER.

2 Notes 1  
1/2" = 1'-0"

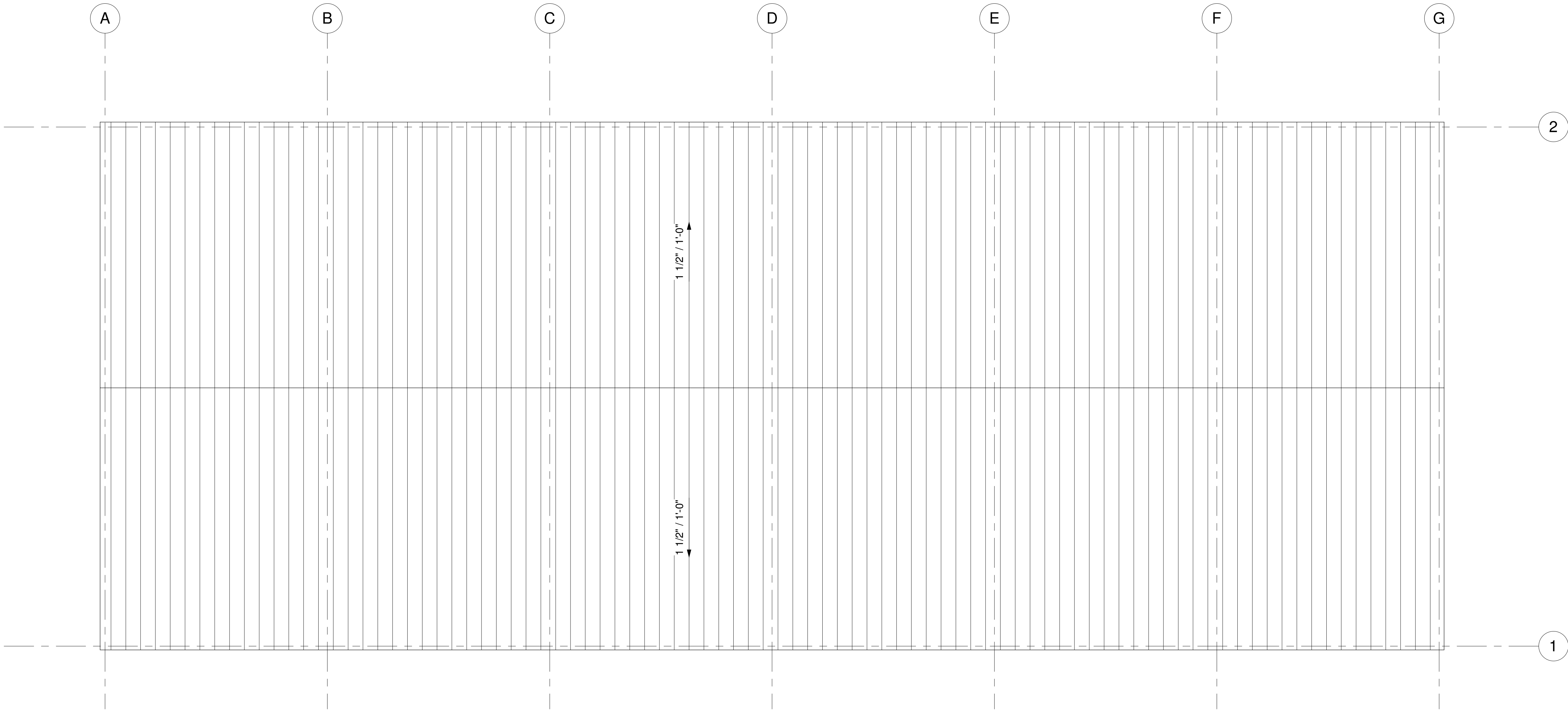




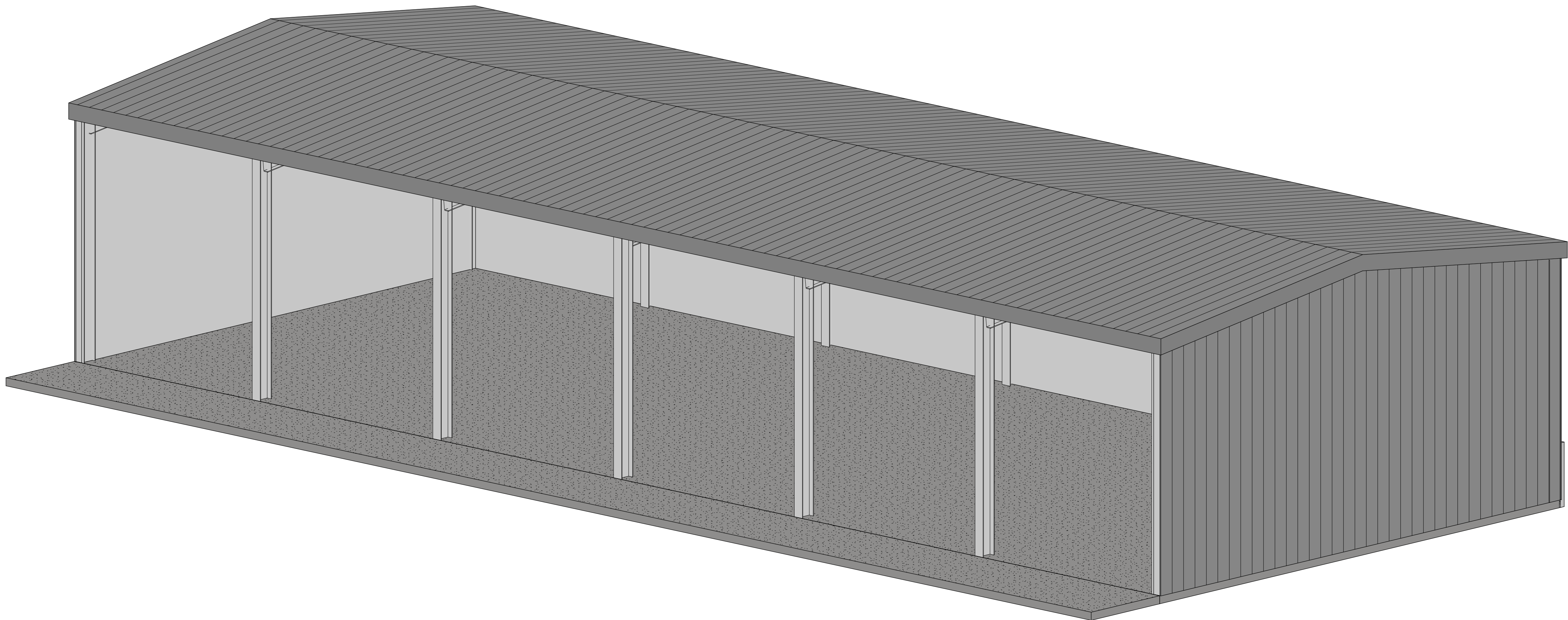
**EXHIBIT E:**  
**PROPOSED MATERIAL STORAGE**  
**STRUCTURE**



2 Roof Plan  
1/4" = 1'-0"



1 3D 1



TITLE

3D - Roof Plan

SHEET

A0

Designed By:  
Designer

Checked By:  
Checker

City of Glenwood Springs Covered Storage

2222 Devereaux Road  
Glenwood Springs CO

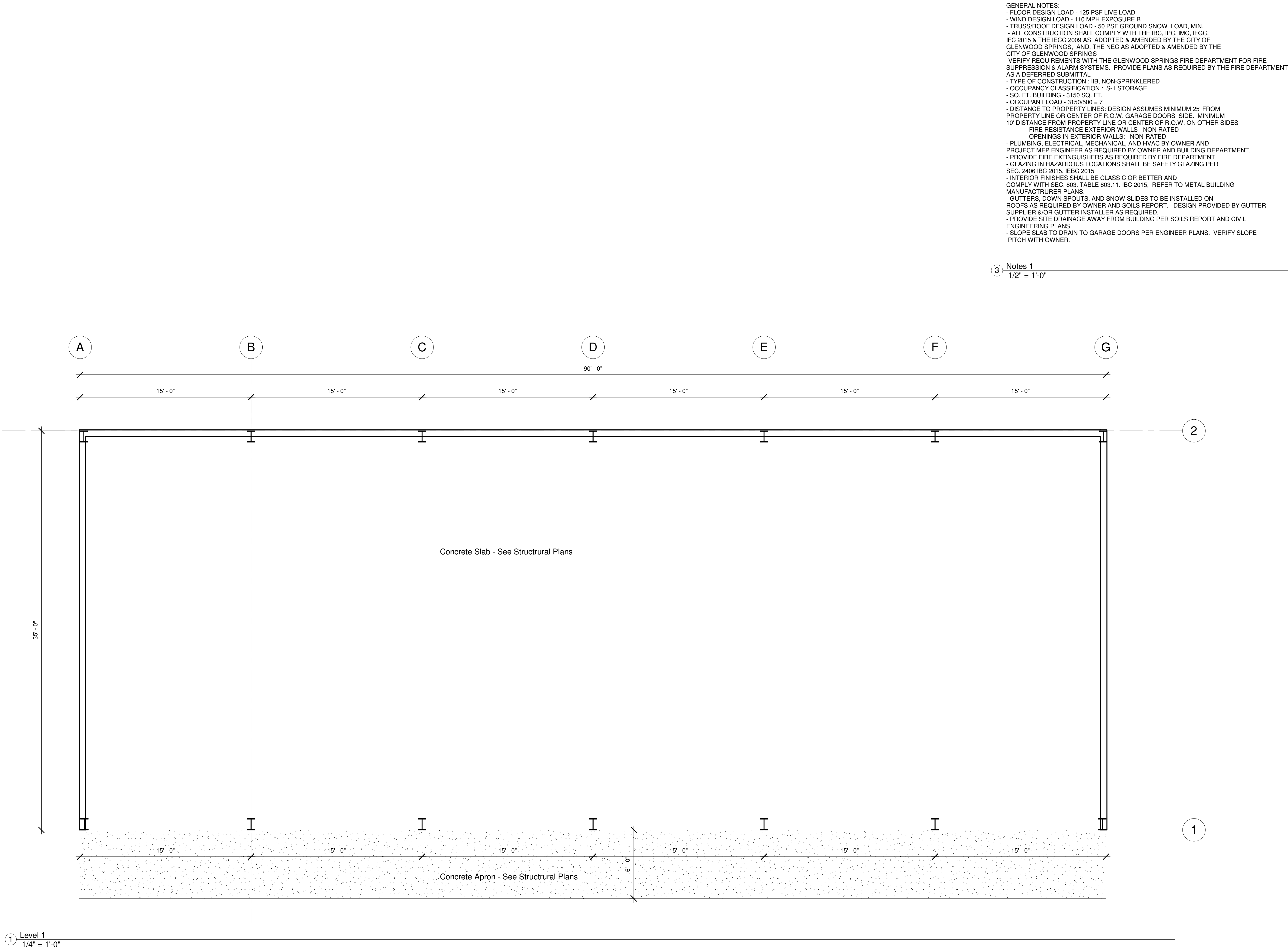
ISSUE DATES

1/7/20  
Preliminary

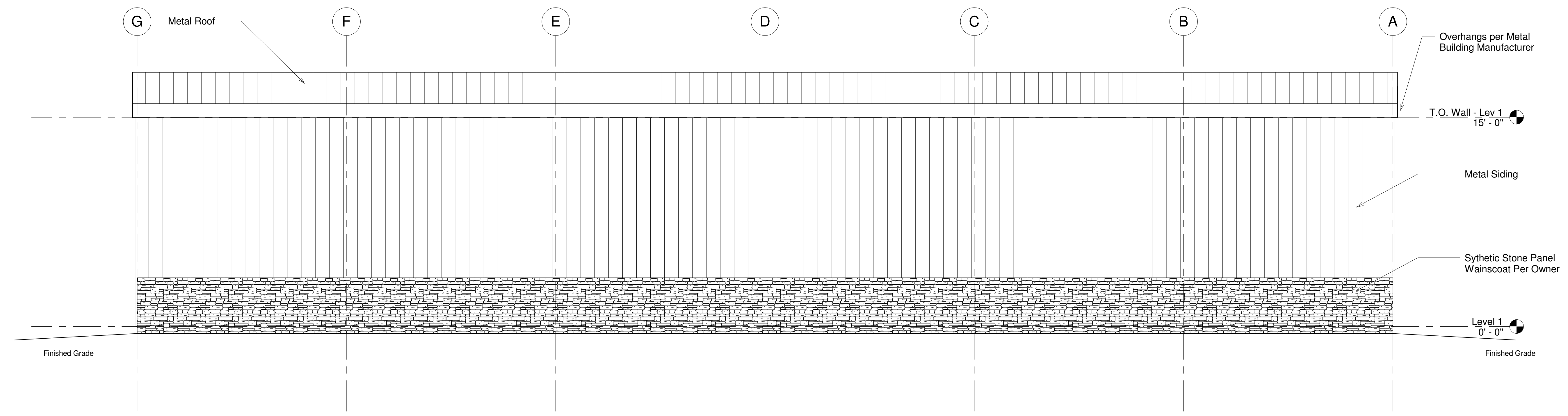
CADFISH LLC

CAD Drafting, Design, Planning, Construction Management  
80 Sageswood Court, Basalt, Colorado 81621  
Phone (970) 618-0230

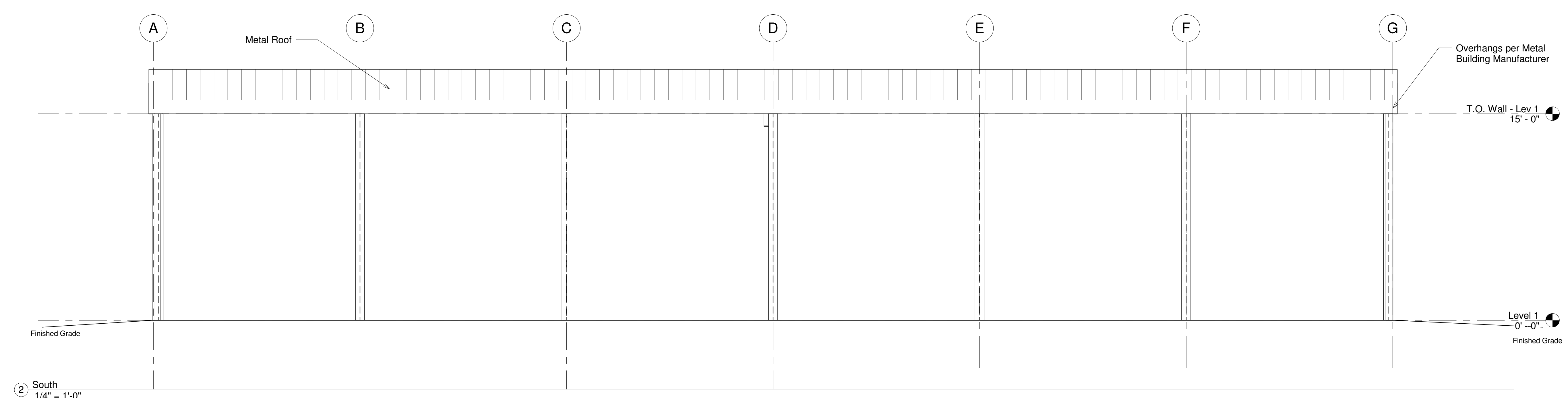






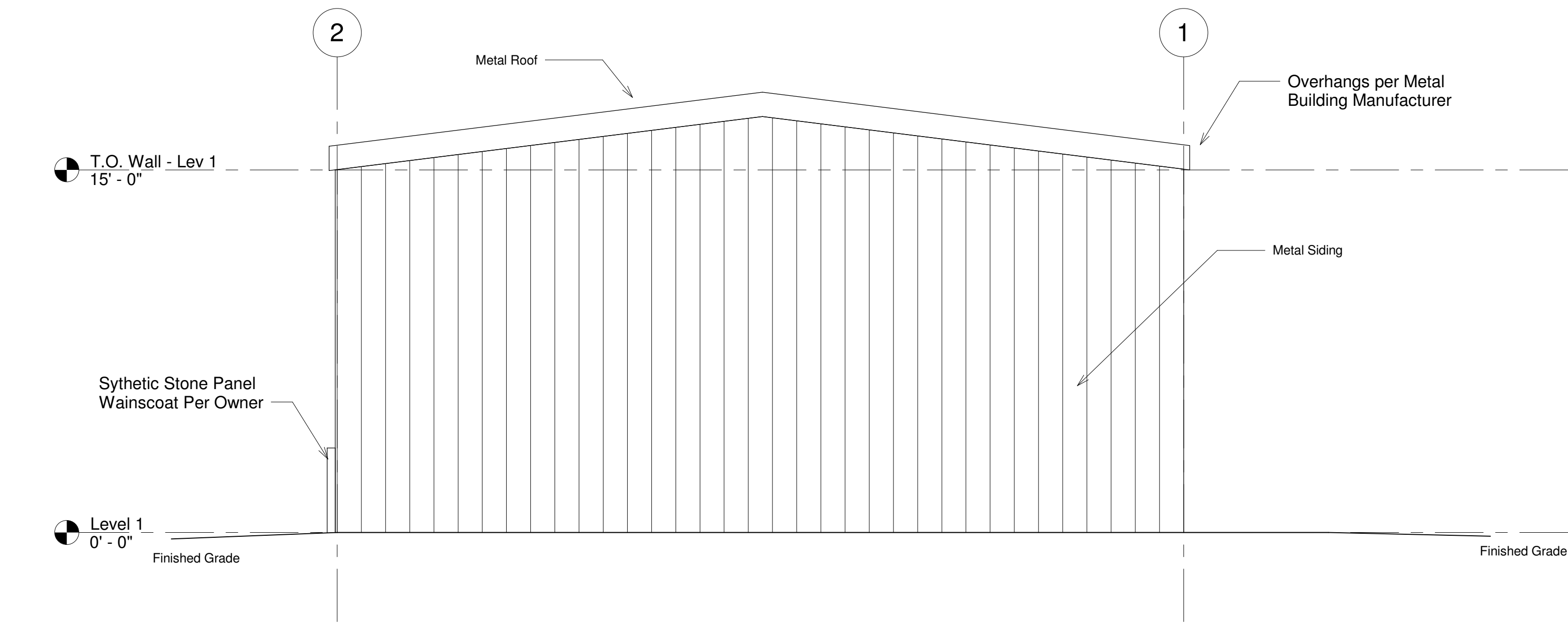


③ North  
1/4" = 1'-0"

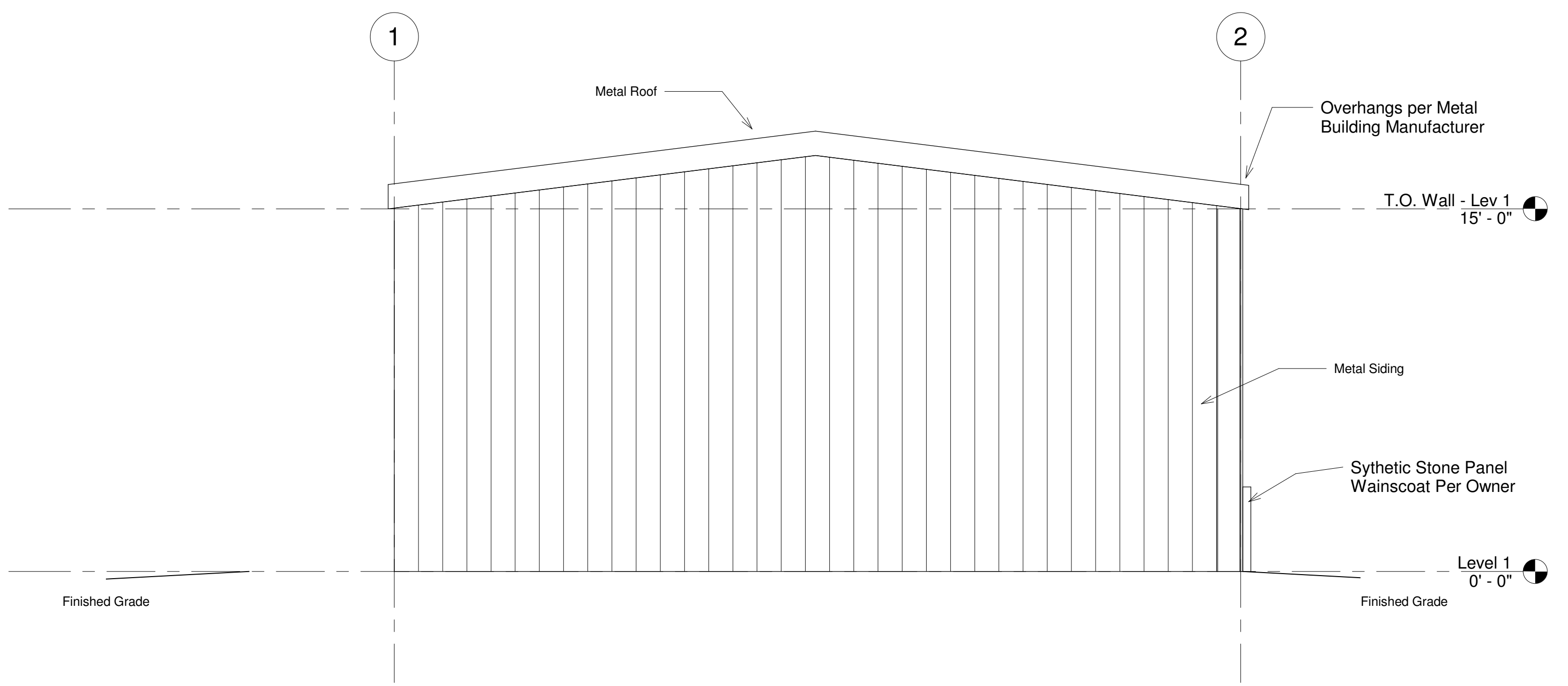


② South  
1/4" = 1'-0"





② West  
1/4" = 1'-0"



① East  
1/4" = 1'-0"



COMMONWEALTH TITLE COMPANY  
OF GARFIELD COUNTY, INC.  
1322 Grand Avenue  
Glenwood Springs, CO 81601  
phone 970-945-4444 / fax 970-945-4449

## **STATEMENT OF SETTLEMENT**

### **Buyer's**

**Property Address:** 2222 Devereux Road Glenwood Springs, CO 81601  
**Seller:** ESM Holdings, LLC, a Colorado limited liability company  
**Purchaser:** City of Glenwood Springs, Colorado,  
**Settlement Date:** July 19, 2019  
**Date of Proration:** July 19, 2019

### **Legal Description:**

Lot 3

First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591

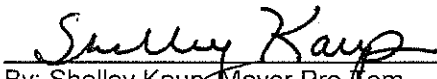
Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603

**File No:** 1907012 ANTIC

| <b>Description</b>                    | <b>Debit</b>        | <b>Credit</b>       |
|---------------------------------------|---------------------|---------------------|
| Contract Sales Price                  | 2,000,000.00        |                     |
| Deposit or earnest money              |                     | 100,000.00          |
| County Taxes 1/1/2019 to 7/19/2019    |                     | 16,827.18           |
| Settlement or Closing Fee             | 250.00              |                     |
| Record Special Warranty Deed          | 28.00               |                     |
| Documentary Fee                       | 200.00              |                     |
| E-Recording/Simplifile                | 5.00                |                     |
| Water transfer fee                    | 15.00               |                     |
| Sewer transfer fee                    | 20.00               |                     |
| Sewer @ \$124.72/qtr. 7/19/19-9/30/19 | 100.32              |                     |
| Sub-Totals                            | 2,000,618.32        | 116,827.18          |
| <b>Balance Due From Buyer</b>         |                     | <b>1,883,791.14</b> |
| <b>TOTALS</b>                         | <b>2,000,618.32</b> | <b>2,000,618.32</b> |

**APPROVED and ACCEPTED**

City of Glenwood Springs, Colorado,

  
By: Shelley Kaup, Mayor Pro Tem



**West Glenwood Springs Sanitation District**

51 Riverine Rd.  
Glenwood Springs, CO 81601  
970.618.5147 Billing | 970.945.6069 Plant  
wgssanitation@gmail.com

24 September 2019

Via Email  
[debra.figueroa@cogs.us](mailto:debra.figueroa@cogs.us)

City of Glenwood Springs  
101 W. 8<sup>th</sup> St.  
Glenwood Springs, CO 81601

Re: Potential Change in Use for 2222 Devereux Rd. and 191 Soccerfield Rd.  
Glenwood Springs, CO

Dear Ms. Figueroa:

It has come to the District's attention that the City of Glenwood Springs has purchased the above two properties and may be in the conceptual phase of remodeling or an expansion of these properties. The District would like to make sure you are aware that sewer EQR values for commercial/governmental properties are based on certain criteria.

Currently 191 Soccerfield Rd. and 2222 Devereux Rd. both have 1 EQR each and pay quarterly sewer service fee and lift station fee based on that number. **Please contact the District Superintendent Josh Hamel at (970) 274-7805 for a review of your project/s and an accurate EQR assessment.** The current sewer tap fee per EQR is \$6,000.

If you have any questions, please feel free to contact me at (970) 618-5147 or [wgssanitation@gmail.com](mailto:wgssanitation@gmail.com). Email is the quickest way to contact me as my office hours are limited and varied.

Regards,

*Kelly Mullane*

Kelly Mullane, District Administrator

Enclosure

cc: Josh Hamel via email [jtwgsd@outlook.com](mailto:jtwgsd@outlook.com)

# COMMONWEALTH TITLE COMPANY OF GARFIELD COUNTY, INC

## CLOSING INSTRUCTIONS

**This is an important legal document. If you don't understand it, you should consult a lawyer or accountant, or obtain other competent advice before you sign it.**

1. ESM Holdings, LLC, a Colorado limited liability company, ("Seller"); and City of Glenwood Springs, Colorado,, ("Purchaser") hereby hire COMMONWEALTH TITLE COMPANY OF GARFIELD COUNTY, INC, ("Closing Agent"). to provide closing and settlement services in connection with the closing of the following described real estate in Garfield County, Colorado:

Lot 3

First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591

Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603

also known as: 2222 Devereux Road, Glenwood Springs CO 81601

under the terms and conditions of a Contract between the Seller and purchaser dated June 27, 2019.

2. Closing Agent is authorized to obtain information and agrees to prepare, obtain, deliver and record all documents necessary to carry out the terms and conditions of the Contract.

3. Documents will be prepared Closing Agent at the expense of the party or parties as set forth in said Contract.

4. Closing Agent will receive a fee for providing these closing and settlement services at the expense of the party or parties as set forth in the Contract.

5. Closing Agent is authorized to receive funds and to disburse funds when all funds received are "Good Funds" as defined by C.R.S. 38-35-135, and shall not release any documents or things of value prior to the receipt and disbursement of Good Funds, except as provided in Paragraphs 12 and 13.

6. Closing Agent shall disburse all funds at closing except those funds separately disclosed in writing to Purchaser, Seller or Purchaser's Lender on or before closing.

7. Seller will receive the net proceeds of closing by either Closing Agent's Trust Account Check, Cashier's Check at Seller's expense, or Funds electronically transferred (wire transfer) to an account specified by the Seller, at Seller's expense.

8. Purchaser and Seller will furnish any additional information and documents required by Closing Agent which will be necessary to complete this transaction, and Purchaser and Seller further agree to sign and complete all and customary required documents at closing to fulfill the Contract.

9. Closing Agent will prepare and deliver an accurate, complete and detailed Closing Statement to Purchaser and Seller at time of closing.

10. The Earnest Money deposited as a part of the contract will be transmitted to the Closing Agent in sufficient time before closing to disburse Good Funds.



11. If closing does not occur, Closing Agent, except as provided herein, is authorized and agrees to return all documents, monies, and things of value to the depositing party and Closing Agent will be relieved from any further duty, responsibility or liability in connection with these instructions. In addition, any Promissory Note, Deed of Trust, or other evidence of indebtedness signed by Purchaser, shall be voided by Closing Agent, with the original(s) returned to Purchaser and copy to Purchaser's Lender.

12. If any conflicting demands are made on the Closing Agent, the Closing Agent may hold any money, documents or things of value received from any party except Purchaser's Lender. The Closing Agent shall retain such items until (a) receipt of mutual written instructions from the Purchaser and Seller; or (b) until a civil action between the Purchaser and Seller has been finally concluded; or (c) the Closing Agent may, at its sole discretion, commence a civil action to interplead, or may interplead in any existing civil action, any documents, money, or things of value received by the Closing Agent. In that case, the Closing Agent shall be relieved of all further liability and responsibility, and shall be entitled to all court costs and reasonable attorney's fees.

13. The Closing Agent may rely upon any representations or statements made to it by the Seller and Purchaser, regarding any matter relating to the closing, and shall not be required to make any independent investigation of any fact or circumstance relating to the closing, except as may be required by the Purchaser's lender.

14. Seller and Purchaser may wish to choose an attorney from the names furnished to them or from the telephone directory. Seller and/or Purchaser should contact the attorney they select and inform the attorney that they are requesting services and that upon request, they will cause to be delivered necessary information to enable the attorney to perform the services they request.

15. Sellers and Purchasers also hereby acknowledge that they have received no Tax or Legal advice from Commonwealth Title Company of Garfield County, Inc., and they will hold Commonwealth Title Company of Garfield County, Inc. harmless from any Liability in connection with any Tax or Legal consequences of this contract or closing.

16. Amendments to these instructions may only be made in writing, and are effective only when signed by all parties to this agreement.

Approved and Accepted on July 19, 2019

Seller:

ESM Holdings, LLC, a Colorado limited liability company

By: Scott McCandless  
Scott McCandless, Manager

Purchaser:

City of Glenwood Springs, Colorado

By: \_\_\_\_\_  
Shelley Kaup, Mayor Pro Tem

Closing Agent: Commonwealth Title Company  
of Garfield County, Inc.

By: Randa Larson

11. If closing does not occur, Closing Agent, except as provided herein, is authorized and agrees to return all documents, monies, and things of value to the depositing party and Closing Agent will be relieved from any further duty, responsibility or liability in connection with these instructions. In addition, any Promissory Note, Deed of Trust, or other evidence of indebtedness signed by Purchaser, shall be voided by Closing Agent, with the original(s) returned to Purchaser and copy to Purchaser's Lender.

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Approved and Accepted on July 19, 2019

Seller:

ESM Holdings, LLC, a Colorado limited liability company

By: \_\_\_\_\_  
Scott McCandless, Manager

Purchaser:

City of Glenwood Springs, Colorado

By: Shelley Kaup  
Shelley Kaup, Mayor Pro Tem

Closing Agent: Commonwealth Title Company  
of Garfield County, Inc.

By: Linda Larson

AFFIDAVIT (ENTITY TRANSFEROR)

TO: City of Glenwood Springs, Colorado, Transferee (Buyer)

Section 1445 of the Internal Revenue Code provides that a transferee (buyer) of a U.S. real property interest must withhold tax if the transferor (seller) is a foreign entity. To inform the transferee (buyer) that withholding of tax is not required upon the disposition of a U.S. real property interest, ESM Holdings, LLC, a Colorado limited liability company, Transferor (seller), hereby certify the following:

- I. I am not a foreign entity (as defined in the Internal Revenue Code and Income Tax Regulations) for purposes of U.S. Income taxation;
- II. My U.S. taxpayer identifying number (E.I.N. number) is as stated on the 1099 Verification;
- III. My address is: 16704 E 32nd Avenue, Aurora, CO 80011

I understand that this certification may be disclosed to the Internal Revenue Service by the transferee and that any false statement I have made here could be punished by fine, imprisonment, or both.

Under penalties of perjury I declare that I have examined this certification and to the best of my knowledge and belief it is true, correct and complete.

Transferor (Seller)

ESM Holdings, LLC, a Colorado limited liability company

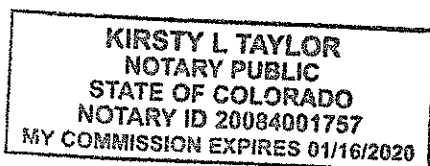
By: Scott McCandless  
Scott McCandless, Manager

Date: 7-18-19

State of Colorado           )  
                                          ) ss.  
County of Adams        )

Sworn to before me on July 18, 2019 by Scott McCandless, Manager of ESM Holdings, LLC, a Colorado limited liability company.

Witness my hand and official seal.



Kirsty L. Taylor  
Notary Public

1907012 ANTIC



TAX AGREEMENT

SELLER: ESM Holdings, LLC, a Colorado limited liability company

BUYER: City of Glenwood Springs, Colorado,

CLOSING DATE: July 19, 2019

PROPERTY DESCRIPTION:

Lot 3

First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591

Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603

Real estate taxes for the State of Colorado are computed each year on an assessment of the property as of March 1st. However, the actual tax valuation is not available to the general public until later in the year. For this reason, an estimate of taxes is most often the basis for prorating taxes between buyers and sellers.

Relative to the sale of the above property, the buyer has received from the seller a Real Estate tax credit of \$16,827.18 for that portion of the year prior to the buyer's ownership, and both buyer and seller specifically agree as shown by (XX) that:

(XX) Taxes have been prorated on the previous year's taxes in the amount of \$30,863.92.

(XX) PRORATION IS TO BE CONSIDERED FINAL SETTLEMENT.

APPROVED AND ACCEPTED:

BUYER:

City of Glenwood Springs, Colorado,

By: \_\_\_\_\_  
Shelley Kaup, Mayor Pro Tem

SELLER:

ESM Holdings, LLC, a Colorado limited liability company

By: Scott McCandless  
Scott McCandless, Manager

## TAX AGREEMENT

SELLER: ESM Holdings, LLC, a Colorado limited liability company

BUYER: City of Glenwood Springs, Colorado,

CLOSING DATE: July 19, 2019

### PROPERTY DESCRIPTION:

Lot 3

First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591

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Relative to the sale of the above property, the buyer has received from the seller a Real Estate tax credit of \$16,827.18 for that portion of the year prior to the buyer's ownership, and both buyer and seller specifically agree as shown by (XX) that:

( XX ) Taxes have been prorated on the previous year's taxes in the amount of \$30,863.92.

( XX ) PRORATION IS TO BE CONSIDERED FINAL SETTLEMENT.

### APPROVED AND ACCEPTED:

BUYER:

City of Glenwood Springs, Colorado,

By: Shelley Kaup  
Shelley Kaup, Mayor Pro Tem

SELLER:

ESM Holdings, LLC, a Colorado limited liability company

By: \_\_\_\_\_  
Scott McCandless, Manager

FINAL AFFIDAVIT AND AGREEMENT

RE: Real Estate and improvements located at 2222 Devereux Road Glenwood Springs in the County of Garfield, State of Colorado, and more particularly described as follows, to wit (Legal Description):

Lot 3

First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591

Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603

SELLER AND/OR GENERAL CONTRACTOR PORTION

The undersigned, ESM Holdings, LLC, a Colorado limited liability company as the General Contractor for and/ or as Seller of the improvements on the herein described property, being first duly sworn on oath, for the purpose of inducing COMMONWEALTH LAND TITLE INSURANCE COMPANY to issue its Mortgagee's and/or Owner's Policy of Title Insurance, in connection with the property described in said Commitment, without exception as to mechanics' or other statutory liens, or any rights thereto, where no notice of such liens or rights appear of record, does hereby make the following representations to COMMONWEALTH LAND TITLE INSURANCE COMPANY with full knowledge and intent that said company shall rely thereon:

1. That all persons, firms and corporations, including the General Contractor and all subcontractors who have furnished services, labor or materials contracted for by Seller and used in connection with the construction of improvements on the real estate herein described, have been paid in full.
2. That no claims have been made to the undersigned, nor is any suit now pending on behalf of any contractor, subcontractor, laborer or materialman, and that no chattel mortgages, conditional bills of sale, security agreements or financing statements have been made, or are now outstanding as to any materials, appliances, fixtures, or furnishings placed upon or installed in said premises.
3. That all of the improvements constructed on the real estate herein described were completed on or before 7/19/19.

The undersigned further does hereby agree to protect, defend and save harmless the mortgagee and COMMONWEALTH LAND TITLE INSURANCE COMPANY against any and all liability, loss, damage, costs and attorneys fees by reason of any claim or liens for services, labor, or materials used in connection with the construction of said improvements.

ESM Holdings, LLC, a Colorado limited liability company

By: Scott McCandless  
Scott McCandless, Manager

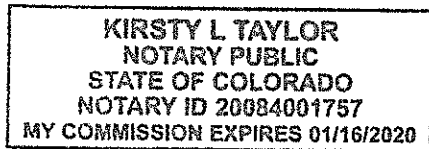
STATE OF Colorado                    )  
                                                  ) ss.  
COUNTY OF Adams                    )

The foregoing instrument was acknowledged, subscribed and sworn before me on July 18<sup>TH</sup>, 2019 by Scott McCandless, Manager of ESM Holdings, LLC, a Colorado limited liability company, as Seller and as General Contractor.

WITNESS my hand and official seal.

My Commission expires: 1/16/2020

Form 3227



Kirsty L. Taylor  
Notary Public



## FINAL AFFIDAVIT AND AGREEMENT

RE: Real Estate and improvements located at **2222 Devereux Road Glenwood Springs** in the County of Garfield, State of Colorado, and more particularly described as follows, to wit (Legal Description):

**Lot 3**

**First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591**

Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603

## PURCHASER PORTION

The undersigned, **City of Glenwood Springs, Colorado,** Purchasers of the herein described property, to induce COMMONWEALTH LAND TITLE INSURANCE COMPANY to issue its Mortgagee's and / or Owner's Policy of Title Insurance, in connection with the property described in said Commitment, without including therein an exception as to mechanics' or other statutory liens, or any rights thereto, where no notice of such liens or rights appear of record, does hereby make the following representations to COMMONWEALTH LAND TITLE INSURANCE COMPANY with full knowledge and intent that said company shall rely thereon:

1. That the improvements on the real estate herein described have been fully completed by the General Contractor and have been accepted by the undersigned as completed and as satisfactory.
2. That the full purchase price has been paid by said Purchasers to said contractor and/or Seller.
3. That said premises (were) (will be) occupied by said Purchaser on or about 7/19/19.
4. That the undersigned are not aware of any bills for services, labor or materials used in connection with the construction of said improvements which have not been paid.
5. The undersigned have not caused or agreed to or contracted for any materials to be furnished or work to be done on said improvements which materials or labor have not been paid for in full or which materials or labor could give rise to mechanic's or other statutory liens, and have not executed any security agreements or financing statements for materials, appliances, fixtures or furnishings placed upon or installed in said premises.

Purchasers will indemnify, protect, defend and save harmless the mortgagee and COMMONWEALTH LAND TITLE INSURANCE COMPANY against any and all liability, loss, damage, costs, and attorneys' fees by reason of any mechanics' or materialmen's liens or claims of liens asserted with respect to the representations described in this Purchasers Portion.

City of Glenwood Springs, Colorado,

By: Shelley Kaup  
Shelley Kaup, Mayor Pro Tem

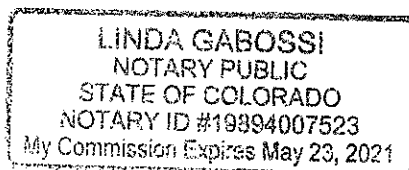
By: \_\_\_\_\_

STATE OF Colorado                         )  
                                                             ) ss.  
COUNTY OF Garfield                     )

The foregoing instrument was acknowledged, subscribed and sworn before me on July 19, 2019 by Shelley Kaup, Mayor Pro Tem of City of Glenwood Springs, Colorado, as purchaser.

WITNESS my hand and official seal.

My Commission expires:



Bundee Jaxon  
Notary Public

TD-1000  
Confidential Document

This form provides essential market information to the county assessor to help ensure accurate, fair and uniform assessments for all property. **This document is not recorded, is kept confidential, and is not available for public inspection.**

**This declaration must be completed and signed by either the grantor (seller) or grantee (buyer).** Questions 1,2,3, and 4 may be completed (prefilled) by a third party, such as a title company or closing agent, familiar with the details of the transaction. The signatory should confirm accuracy before signing.

This form is required when conveyance documents are presented for recording. If this form is not completed and submitted, the county assessor may send notice. If the completed and signed form is not returned to the assessor within 30 days of notice, the assessor may impose a penalty of \$25.00 or 0.025% (0.00025) of the sale price, whichever is greater.

Additional information as to the purpose, requirements, and level of confidentiality regarding this form are outlined in Colorado Revised Statutes, sections 39-14-102, 39-5-121.5, and 39-13-102.

1. Physical Address or Legal description of real property sold: Please do not use P.O. Box numbers.

**Lot 3**

**First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591  
Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603**

2. Type of property purchased: ☐ Single Family Residential ☐ Townhome ☐ Condominium  
☐ Multi-Use Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Mixed Use ☐ Vacant Land  
☐ Other \_\_\_\_\_

3. Date of Closing: **July 19, 2019** Date of Contract: **June 27, 2019**

4. Total sale price including all real and personal property: **\$2,000,000.00**  
Contracted price (if different from final sale price): \$

5. List any personal property included in the transaction that materially impacts the total sale price.  
Personal property may include, but is not limited to: machinery or equipment, vehicles, exceptional appliances, electronic devices, furniture, or anything that would not typically transfer with the real property (attach additional pages if necessary).  
Approximate value \$ \_\_\_\_\_ Describe \_\_\_\_\_  
If no personal property is listed, the entire purchase price will be assumed to be for the real property.

6. Did the total sales price include a trade or exchange of additional real or personal property? ☐ Yes ☒ No  
If yes, give the approximate value of the goods or services as of the date of closing. \$ \_\_\_\_\_  
If yes, does this transaction involve a trade under IRS Code Section 1031? ☐ Yes ☒ No

7. Was 100% interest in the real property purchased? ☒ Yes ☐ No  
Mark "No" if only a partial interest is being purchased. If no, interest purchased \_\_\_\_\_ %

8. Is this a transaction among related parties? This includes persons connected by blood or marriage, or business affiliates, or those acquainted prior to the transaction. ☐ Yes ☒ No

9. Please mark type of sale: ☐ Builder (new Construction) ☐ Public (MLS or Broker Representation)  
☐ Private (For Sale by Owner) ☒ Other (describe) \_\_\_\_\_

10. Check any of the following that apply to the condition of the improvements at the time of purchase.  
☐ New ☐ Excellent ☒ Good ☐ Average ☐ Fair ☐ Poor ☐ Salvage

11. Type of financing: (check all that apply)  
☒ None (all cash or cash equivalent)  
☐ New/Mortgage Lender (government-backed or conventional bank loan)  
☐ New/Private Third Party (non-conventional lender; e.g. relative, friend, or acquaintance)  
☐ Seller (buyer obtained a mortgage directly from the seller)  
☐ Assumed (buyer assumed an existing mortgage)  
☐ Combination; Explain \_\_\_\_\_
12. Total amount financed \$ \_\_\_\_\_
13. Terms:  
☐ Variable; Starting interest rate  
☐ Fixed; Interest Rate  
Length of time \_\_\_\_\_ years  
Balloon payment ☐ Yes ☐ No. If yes, amount \_\_\_\_\_ Due date \_\_\_\_\_
14. Mark any that apply: ☐ Seller assisted down payments ☐ Seller concessions ☐ Special terms or financing  
If marked, please specify terms; \_\_\_\_\_
15. Was an independent appraisal obtained in conjunction with this transaction? ☐ No ☐ Yes
- For properties OTHER than residential (Residential is defined as: single family detached, townhomes, apartments and condominiums) please complete questions 16-18 if applicable.**
16. Did the purchase price include a franchise or license fee?  
☐ Yes ☐ No  
If yes, franchise or license fee value \$ \_\_\_\_\_
17. Did the purchase price involve an installment land contract?  
☐ Yes ☐ No  
If yes, date of contract \_\_\_\_\_
18. If this was a vacant land sale, was an on-site inspection of the property conducted by the buyer prior to closing?  
☐ Yes ☐ No

Remarks: Please include any additional information concerning the sale you may feel is important.

City of Glenwood Springs, Colorado

GRANTEE

Shelley Kaup  
Shelley Kaup, Mayor Pro Tem

July 19, 2019

Buyer Mailing Address: Future correspondence (tax bills, property valuations, etc.) regarding this property should be mailed to:

City of Glenwood Springs, Colorado,  
101 8th Street, Glenwood Springs CO 81601

Daytime Phone: 970 948 9018

E-mail address Shelley.Kaup@cogs.us

Contact information is kept confidential, for County Assessor and Treasurer use only, to contact buyer with questions regarding this form, property valuation, or property tax information.

Commonwealth Title File No. 1907012 ANTIC



**SPECIAL WARRANTY DEED**

THE STATE OF COLORADO       §  
                                          §       KNOW ALL MEN BY THESE PRESENTS:  
COUNTY OF GARFIELD       §

ESM HOLDINGS, LLC, a Colorado limited liability company (“Grantor”), whose street address is 16704 E. 32nd Avenue, City or Town of Aurora, County of Adams and State of Colorado, for the consideration of Ten Dollars (\$10.00), in hand paid, hereby sells and conveys to CITY OF GLENWOOD SPRINGS, COLORADO, whose street address is 101 West 8<sup>th</sup> Street, City of Glenwood Springs 81601, County of Garfield and State of Colorado, the following real property in the County of Garfield and State of Colorado, to wit: the real property described in **Exhibit A** attached hereto, with all its appurtenances, and warrants the title against all persons claiming under Grantor, subject to those certain matters set forth in **Exhibit B** attached hereto.

Signed this 18<sup>th</sup> day of July, 2019.

[Signature Page Follows]

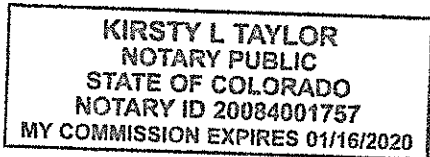
EXECUTED to be effective the 18<sup>TH</sup> day of July, 2019.

**ESM HOLDINGS, LLC**  
a Colorado limited liability company

By: Scott McCandless  
Name: Scott McCandless  
Title: Manager

STATE OF COLORADO     )  
                                          )  
COUNTY OF Adams     )

This instrument was acknowledged before me on the 18 day of July, 2019, by **Scott McCandless**, Manager of **ESM HOLDINGS, LLC**, a Colorado limited liability company, on behalf of said limited liability company.



Kirsty L Taylor  
Notary Public, State of Colorado

**After recording, return to:**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Exhibit A  
Legal Description

Lot 3, First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591, Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603

Address: 2222 Devereux Road, Glenwood Springs, CO  
Assessor ID No.: 218506410013

Exhibit B

1. Discrepancies, conflicts in boundary lines, shortage in area, encroachments, and any facts, which a correct survey and inspection of the premises would disclose, and which are not shown by the public records.
2. Any liens for real property taxes for 2019 and the following years not yet due and payable.
3. Any and all water rights, claims, or title to water, whether or not the matters excepted are shown by the public record
4. Right of the proprietor of a vein or lode to extract and remove his ore therefrom, should the same be found to penetrate or intersect the premises hereby granted and a right of way for ditches or canals as constructed by the authority of the United States, as reserved in United States Patent recorded February 26, 1894 in Book 12 at Page 298.
5. Terms and conditions, easements and all matters set forth and described in instrument (Addendum to Glenwood Springs – Hoopes Agreement and the incorporated Glenwood Springs - Hoopes Agreement) recorded July 23, 1981 in Book 577 at Page 408.
6. Easements, rights of way, and all matters as shown on the First Amended Plat of Resubdivision of Colorado River Industrial Park recorded February 17, 1995 as Reception No. 474591.
7. Covenants, conditions, restrictions and all matters set forth in the Declaration of Protective Covenants of Colorado River Industrial Park Lots 1, 2, 4, 5, 6, and 7 recorded July 24, 1984 in Book 653 at Page 429.
8. Terms, conditions and all matters set forth in City of Glenwood Springs, Colorado Ordinance No. 2 Series of 1997 recorded December 10, 1998 in Book 1103 at Page 531.
9. Terms and conditions of West Glenwood Springs Sanitation District Pre-Inclusion Agreement recorded February 13, 1997 in Book 1009 at Page 139.



## LEASE TERMINATION AGREEMENT

THIS LEASE TERMINATION AGREEMENT (this “**Agreement**”) is made as of July 19, 2019 (the “**Effective Date**”), between ESM HOLDINGS, LLC, a Colorado limited liability company (“**Landlord**”), and MCCANDLESS TRUCK CENTER, LLC, a Colorado limited liability company (“**Tenant**”).

### RECITALS

A. Landlord and Tenant are parties to that certain lease agreement dated as of November 01, 2014 (the “**Lease**”), by which Landlord demised to Tenant for a term of years, all or a portion of the premises described on **Exhibit A** hereto (the “**Property**”).

B. Simultaneously herewith, Landlord and Tenant intend to terminate and cancel the Lease as of the Effective Date above in accordance with the terms hereof.

NOW THEREFORE, in consideration of the mutual covenants contained in this Agreement, the parties agree as follows:

1. The Lease shall be and is hereby terminated and canceled and its terms are brought to an end effective as of the Effective Date, with the same force and effect as if the terms of the Lease had expired as of such date.

2. All of the terms and conditions of this Agreement shall be binding on and inure to the benefit of the parties, and the respective heirs, legatees, devisees, administrators, executors, successors, and assigns. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument.

[SIGNATURES APPEAR ON NEXT PAGE]

IN WITNESS WHEREOF, each party to this Agreement has caused it to be executed as of the date written above.

**Landlord:**

ESM HOLDINGS, LLC,  
a Colorado limited liability company

By: Scott McCandless  
Name: Scott McCandless  
Title: Manager

**Tenant:**

MCCANDLESS TRUCK CENTER, LLC,  
a Colorado limited liability company

By: Scott McCandless  
Name: Scott McCandless  
Title: Manager

**Exhibit A to Lease Termination Agreement**

**Address**

2222 Devereux Road, Glenwood Springs, Colorado

**Legal Description**

Lot 3, First Amended Plat of Resubdivision of Colorado River Industrial Park, City of Glenwood Springs, according to the Plat thereof recorded February 17, 1995 as Reception No. 474591, Excepting therefrom a parcel of land conveyed to the City of Glenwood Springs in Quit Claim Deed Recorded February 3, 1989 in Book 748 at Page 603