



**ALTA PLANNING COMMISSION**  
**MONDAY OCTOBER 2, 2017**  
**ALTA LIBRARY/COMMUNITY CENTER**  
**10361 East Highway 210**  
**(across the street, north of the rustler lodge)**  
**Field Trip of Various Locations in Town**  
**3:00PM**  
**801.363.5105**

- 1) Introduction and welcome from the Chair.
- 2) Approval of minutes from the August 7, 2017, Planning Commission meeting.
- 3) The Planning Commission will then embark on a field tour of the Town from the western edge of town, Sugar Plum Superior Point, to the Albion Basin.
- 4) Date of next meeting.
- 5) Motion to adjourn.

Alta Town Council members are invited to the meeting; as such there may be a quorum of the Town Council. Reasonable accommodations (including auxiliary communicative aids and services) for individuals with disabilities may be provided upon receipt of a request with three (3) working days' notice. For assistance please call the Alta Town Office at 801.363.5105

## Existing Non-Conforming Structures

### Based on 50' waterway setback

#### Albion Basin Subdivision

0

#### Albion Alps Subdivision

1

#### Cecret Lake Area

1

#### Alf's, ok under 50' setback

#### Upper Parking Lot

Albion Day Lodge & Albion Ticket

#### Alta Ski Area Base

Wildcat Ticket Building (culverted)

#### Peruvian Lodge is Compliant

#### Peruvian Estates

0 (map shows 1, but not correct)

#### The Falls Subdivision

0

#### Superior Point (sp phase iv, lot 3)

0

#### Sugarplum Condos (sp phase 1, lot 2)

0

#### The Meadows (sp phase 5, lot 1)

0

#### Powder Ridge

0

### Based on 100' Waterway setback

#### Albion Basin Subdivision

0

(but does affect vacant property more)

#### Albion Alps Subdivision

same ( plus property affect)

#### Cecret Lake Area

2 additional (plus property affect)

#### Alf's non-conforming with 100' setback

#### Upper Parking Lot

Same

#### Alta Ski Area Base

New Skier Services Building added

Peruvian Lodge becomes non-conforming, plus additional vacant land is affected.

#### Peruvian Estates

five (5) homes are added

#### The Falls Subdivision

three (3) homes are added

#### Superior Point

two (2) multi-unit buildings added

#### Sugarplum Condos

one (1) multi-unit building added

#### The Meadows

four (4) homes added

#### Powder Ridge

two (2) homes added  
Plus one building pad

## **Waterway Definitions**

Note, none of these are in the definitions section of the ordinance, they came from Webster's. Erosion channels are defined in the ordinance as shown below.

**Stream**, body of running water flowing on the earth

**Creek**, a natural stream of water normally smaller than and often tributary to a river

**Gully**, a trench which was originally worn in the earth by running water and through which water often runs after rain

**Wash**, a piece of ground washed by the sea or river, a shallow creek, the dry bed of a stream

**Rivulet**, a small stream

**EROSION CHANNELS**: Channels which have been created by erosion but which do not normally contain or convey water, except during local rainstorm, or snowmelt, or runoff events, and which do not support riparian vegetation or habitat, as evidenced by the presence of hydrophilic plants or other evidence. For purposes of this Title, Erosion Channels are not Waterways.

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## Title 10: LAND USE REGULATIONS

### Chapter 6: ZONING DISTRICTS

#### Article E: ALBION BASIN PROTECTION OVERLAY ZONE

##### 10-6E-1: OVERLAY ZONE MAP:

The Albion Basin Protection Overlay Zone applies to those certain parcels within the town of Alta shown on the Albion Basin Protection Overlay Zone Map on file in the town of Alta.

##### 10-6E-2: PURPOSE:

The Albion Basin is a unique, beautiful, and fragile alpine ecosystem that includes the headwaters of the Little Cottonwood Canyon watershed. The purpose of the Albion Basin Protection Overlay Zone is to preserve and protect the scenic beauty and sensitive natural environment of the Albion Basin, as well as the quality of the Little Cottonwood Canyon watershed.



## **Title 10: LAND USE REGULATIONS**

### **Chapter 8: NONCONFORMING ~~BUILDINGS~~ STRUCTURES AND USES**

#### **10-8-1: PURPOSE:**

This chapter regulates the continued existence of nonconforming uses and nonconforming structures. This chapter is intended to balance the public interests of (1) limiting enlargement, alteration, restoration, and replacement of nonconforming uses and nonconforming structures which would increase the discrepancy between existing conditions and the development standards prescribed by Alta Town Code; (2) preserving and protecting the scenic beauty and sensitive natural environment of the Albion Basin, as well as the quality of the Little Cottonwood Canyon watershed; (3) promoting economic and community development within the Town by supporting the ski resort-based economy and facilitating year-round residency.

#### **10-8-~~21~~: CONTINUATION MAINTENANCE PERMITTED:**

A nonconforming use may continue subject to the standards and limitations of this chapter. A nonconforming structure may continue to be used and occupied subject to the standards and limitations of this chapter. A nonconforming building or structure may be maintained if such use was lawfully existing at the time of the effective date hereof. (Ord., 6-8-1989)

#### **10-8-3: BURDEN OF PROOF:**

The property owner shall have the burden of establishing the legal existence of a nonconforming use or nonconforming structure. Any party claiming that a nonconforming use or nonconforming structure has been abandoned or otherwise terminated shall have the burden of establishing the abandonment or termination.

#### **10-8-~~42~~: REPAIRS, ~~AND~~ ALTERATIONS, DETERIORATION, AND DEMOLITION:**

(A) Inside the Albion Basin Protection Overlay Zone:

(1) Repairs and alterations may be made to a nonconforming structure or to a structure housing a nonconforming use so long as such repairs or alterations do not:

- (a) enlarge the nonconforming structure; or
- (b) change or increase the intensity of the nonconforming use.

(2) Restoration or reconstruction of a nonconforming structure is prohibited, and the nonconforming use of a structure is terminated, if:

- (a) the structure is allowed to deteriorate to a condition that the structure is rendered uninhabitable and is not repaired or restored within one year after written notice to the property owner that the structure is uninhabitable; or



(b) the property owner has voluntarily demolished, over time and in total, more than 50% of the nonconforming structure or the structure that houses the nonconforming use.

(B) Outside the Albion Basin Protection Overlay Zone:

(1) Repairs and alterations to a nonconforming structure or to a structure housing a nonconforming use may be made, may enlarge the nonconforming structure, and may change or increase the intensity of the nonconforming use, so long as such repairs or alterations do not change the existing footprint of the structure.

(2) If repairs or alterations to a nonconforming structure or to a structure housing a nonconforming use will expand or move the footprint of the structure beyond the existing footprint, the structure and the use must comply with current Town ordinances following the repairs or alterations,

(3) Restoration or reconstruction of a nonconforming structure is prohibited, and the nonconforming use of a structure is terminated, if the structure is allowed to deteriorate to a condition that the structure is rendered uninhabitable and is not repaired or restored within one year after written notice to the property owner that the structure is uninhabitable.

(4) If a property owner voluntarily demolishes, over time and in total, more than 50% of a noncomplying structure or a structure housing a nonconforming use, the property owner may restore or reconstruct the structure within its existing footprint, and the nonconforming use of the structure will not be terminated.

~~Repairs and structural alterations may be made to a nonconforming building or to a building housing a nonconforming use so long as such repairs or alterations do not change or enlarge the nonconforming use. A nonconforming building or a building housing a nonconforming use may be enlarged with the approval of the appeal authority after recommendation of the building official to accommodate satisfaction of building code requirements and/or life safety improvements. (Ord. 1992-Z-1, 6-11-1992; amd. 2010 Code)~~

**10-8-53: ALTERATION WHERE PARKING INSUFFICIENT:**

~~A building or structure lacking sufficient automobile parking space in connection therewith as required by this title may be altered, provided additional automobile parking space is provided to meet the requirements of this title for such alteration. (Ord., 6-8-1989)~~

**10-8-64: RESTORATION IN RESPONSE TO CALAMITY OF DAMAGED BUILDINGS:**

~~A If a nonconforming building or structure or a building or structure occupied by a nonconforming use which is involuntarily destroyed in whole or in part damaged or destroyed by fire, flood, wind, earthquake, avalanche, or other calamity or act of God, or the public enemy, and the nonconforming structure or nonconforming use has not been abandoned, the nonconforming structure may be restored and the nonconforming use may be resumed, may be restored and the occupancy or use of such building, structure, or part thereof, which existed at the time of such damage or destruction, may be continued or resumed; provided that such~~

restoration is started within a period of one year and is diligently prosecuted to completion, and that the intensity of the use is not increased. (~~Ord., 6-8-1989~~)

**10-8-75: ABANDONMENT BY ONE YEAR DISCONTINUATION OR VACANCY:**

A ~~building or~~ structure, or portion thereof, occupied by a nonconforming use, which is, or hereafter becomes, vacant and remains unoccupied by ~~a the~~ nonconforming use for a continuous period of one year, except for dwellings, shall not thereafter be occupied except by a use which conforms to the use regulations of the zone in which it is located. (~~Ord., 6-8-1989~~)

**10-8-86: OCCUPATION WITHIN ONE YEAR:**

A vacant ~~building or~~ structure may be occupied by a use for which the ~~building or~~ structure was designed or intended if so occupied within a period of one year after the use became nonconforming. (~~Ord., 6-8-1989~~)

**10-8-97: CHANGE OF USE:**

The nonconforming use of a ~~building or~~ structure may not be changed except to a conforming use; but where such change is made, the use shall not thereafter be changed back to a nonconforming use. (~~Ord., 6-8-1989~~)

**10-8-108: EXTENSION OF USE PERMITTED:**

A nonconforming use may be extended to include the entire floor area of the existing ~~building structure~~ in which it was conducted at the time the use became nonconforming. (~~Ord., 6-8-1989~~)

**10-8-119: NONCONFORMING USE OF LAND:**

The nonconforming use of land, existing at the time this title became effective, may be continued; provided, that no such nonconforming use of land shall in any way be expanded or extended either on the same or adjoining property; and provided, that if such nonconforming use of land, or portion thereof, is abandoned or changed for a period of one year or more, the future use of such land shall be in conformity with the provisions of this title. (~~Ord., 6-8-1989~~)

**10-8-1210: NONCONFORMING RESTAURANTS AND PRIVATE LOCKER CLUBS:**

Existing restaurants or nonprofit locker clubs which were nonconforming as of July 1, 1969, may, upon application, be granted a conditional use permit for a state store, subject to this code. (~~Ord., 6-8-1989~~)



## ORDINANCE REVISIONS RELATED TO WATERWAYS

### OPTION A

#### Step 1: Revise the definitions in 10-1-6 as follows:

##### **10-1-6 DEFINITIONS:**

~~NATURAL~~ WATERWAYS: Those areas varying in width along streams, creeks, gullies, ~~or washes, rivulets, or culverts, whether constructed, altered, or naturally occurring,~~ which normally contain or convey water ~~either throughout or during only~~ at least part of the year, ~~including during runoff events,~~ which are ~~natural drainage~~ channels as determined by the building official, and in which areas no buildings shall be constructed.

~~EROSION CHANNELS:~~ Channels which have been created by erosion but which do not normally contain or convey water, except during local rainstorm, ~~or~~ snowmelt, or runoff events, and which do not support riparian vegetation or habitat, as evidenced by the presence of hydrophilic plants or other evidence. For purposes of this Title, Erosion Channels are not Waterways.

NET DEVELOPABLE ACREAGE: The area of ground within a lot that satisfies all of the following conditions:

- A. Slope less than thirty percent (30%); and
- B. Soils of a suitable depth and type based on soil exploration and percolation tests in accordance with the regulations of the Utah department of health to ensure against detriment to surface and groundwater quality; and
- C. Minimum distance from the high water line of any ~~natural~~ waterway of fifty feet (50'); and
- D. Free from unreasonable risk of harm to the property and the general public from natural hazards such as flood, landslide, avalanche, a high water table, or inordinate soil erosion after full compliance with applicable provisions of the building code governing topographic, structural and general design standards necessary to meet the maximum foreseeable risk of such hazards, and in discharge of the obligation imposed upon any person so developing and/or improving property subject to such natural hazards imposed by subsection 10-6A-8A of this title.



**Step 2: Revise the “Stream Regulations” in 10-6A-8, 10-6C-9, and 10-6D-14 as follows:**

G. Stream Regulations: No ~~portion of any building~~, structure, improvement or appurtenance ~~shall~~ may be constructed, raised, or established, ~~the nearest point of which is (1) closer less than fifty feet (50') from outside the nearest~~ high water line of any ~~Natural~~ Waterway, as determined by the Building Official, ~~as defined in section 10-1-6 of this title; or (2) , nor less than twenty feet (20') outside the top of the waterway~~ embankment slope of any Waterway, as determined by the Building Official. The approved site plan shall also indicate the extent and specific design of the proposed method of control of erosion during and after construction activities. The complete, approved erosion control system shall be installed and approved by the building official prior to commencement of any construction activities on any site.

## ORDINANCE REVISIONS RELATED TO WATERWAYS

### OPTION B

#### Step 1: Revise the definitions in 10-1-6 as follows:

##### 10-1-6: DEFINITIONS:

NATURAL WATERWAYS: Those areas varying in width along streams, creeks, gullies, or washes, rivulets, or culverts, whether constructed, altered or naturally occurring, which normally contain or convey water either throughout or during only at least part of the year, including during runoff events, which are natural drainage water channels as determined by the building official, and in which areas no buildings shall be constructed.

PERENNIAL WATERWAYS: Waterways which usually contain or convey water during the majority of the year, except for infrequent periods of drought. Any Waterway supporting riparian vegetation or habitat, as evidenced by the presence of hydrophilic plants or other evidence, shall for the purposes of this ordinance be defined and regulated as a Perennial Waterway.

INTERMITTENT WATERWAYS: Waterways which usually contain or convey water for less than the majority of the year, such as seasonal streams, particularly following local rainstorm or snowmelt events, and do not support riparian vegetation or habitat, as evidenced by the presence of hydrophilic plants or other evidence.

EROSION CHANNELS: Channels which have been created by erosion but which do not normally contain or convey water except during local rainstorm or snowmelt events, and which do not support riparian vegetation or habitat, as evidenced by the presence of hydrophilic plants or other evidence. For purposes of this Title, Erosion Channels are not Waterways.

**NET DEVELOPABLE ACREAGE:** The area of ground within a lot that satisfies all of the following conditions:

A. Slope less than thirty percent (30%); and

B. Soils of a suitable depth and type based on soil exploration and percolation tests in accordance with the regulations of the Utah department of health to ensure against detriment to surface and groundwater quality; and

C. Minimum distance from the high water line of any ~~Natural~~ Perennial Waterway of fifty feet (50'); and

D. Minimum distance from the high water line of any Intermittent Waterway of thirty-five feet (35'); and

E. Free from unreasonable risk of harm to the property and the general public from natural hazards such as flood, landslide, avalanche, a high water table, or inordinate soil erosion after full compliance with applicable provisions of the building code governing topographic, structural and general design standards necessary to meet the maximum foreseeable risk of such hazards, and in discharge of the obligation imposed upon any person so developing and/or improving property subject to such natural hazards imposed by subsection 10-6A-8A of this title.

**Step 2: Add the following language to the "Special Regulations" 10-6A-8, 10-6C-9, and 10-6D-14:**

PIPING OR RELOCATION OF EXISTING INTERMITTENT WATERWAYS:

Piping and/or relocation of existing intermittent waterways is permissible subject to the following:

A. A permit is required. Applicant shall provide necessary details to the Building Official to certify that the proposed changes will not adversely impact the capacity or functioning of the waterway, nor hinder the ability to deliver flood waters across and through applicant's property without adverse physical or environmental impact to either the applicant's property, structures (proposed and existing), or any surrounding or downstream properties.

B. Application for permit shall include, as a minimum:

1. Detailed site contour mapping (1 foot contours unless otherwise approved);
2. Detailed hydrologic and hydraulic calculations stamped by a Utah licensed professional engineer based on a 100-year storm or snowmelt event, whichever is the worst case; and
3. Design details of proposed ditch modification and alignment.

C. The permit will be subject to the review and approval of the Building Official and, as appropriate, ~~he city attorney~~

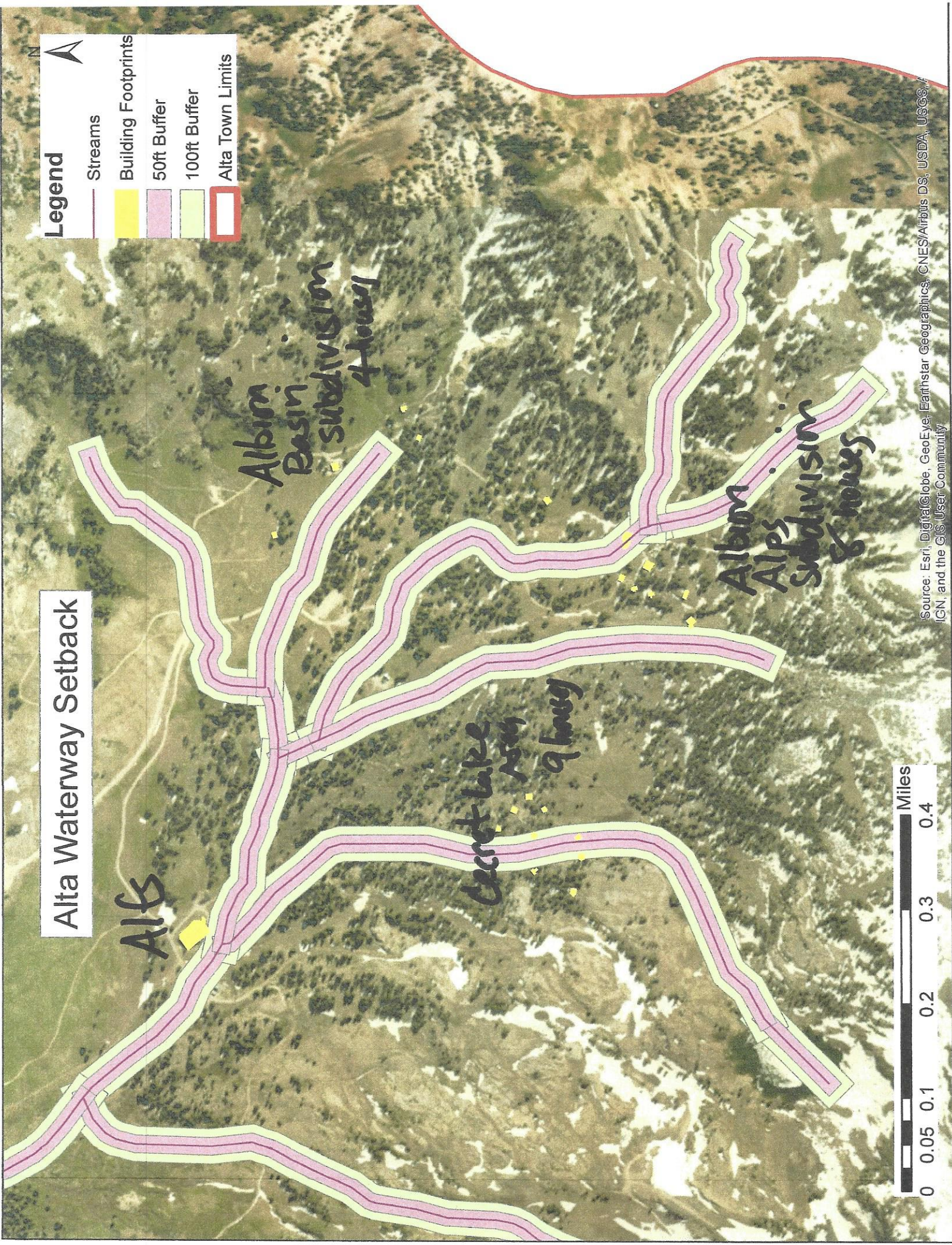


D. Current and future landowner(s) are responsible for the perpetual and continual maintenance and condition of the ditch or piping along and through their property.

**Step 3: Revise the “Stream Regulations” in 10-6A-8, 10-6C-9, and 10-6D-14 as follows:**

G. Stream Regulations: No ~~portion of any building,~~ structure, improvement, or appurtenance ~~may shall~~ be constructed, raised, or established (1) ~~the nearest point of which is closer less~~ than fifty feet (50') ~~from outside~~ the nearest high water line of any ~~“natural waterway”~~ Perennial Waterway, as determined by the Building Official, ~~as defined in section 10-1-6 of this title;~~ (2) ~~nor~~ less than twenty feet (20') outside the ~~waterway top of the embankment slope of any Perennial Waterway, as determined by the Building Official;~~ or (3) ~~nor closer less~~ than thirty-five feet (35') ~~from outside~~ the nearest high water line of any Intermittent Waterway. The approved site plan shall also indicate the extent and specific design of the proposed method of control of erosion during and after construction activities. The complete, approved erosion control system shall be installed and approved by the building official prior to commencement of any construction activities on any site.





Alta Waterway Setback

Alta

Albion Basin Subdivision  
4 houses

Secret Lake Basin  
9 houses

Albion Alps Subdivision  
8 houses

**Legend**

- Streams
- Building Footprints
- 50ft Buffer
- 100ft Buffer
- Alta Town Limits



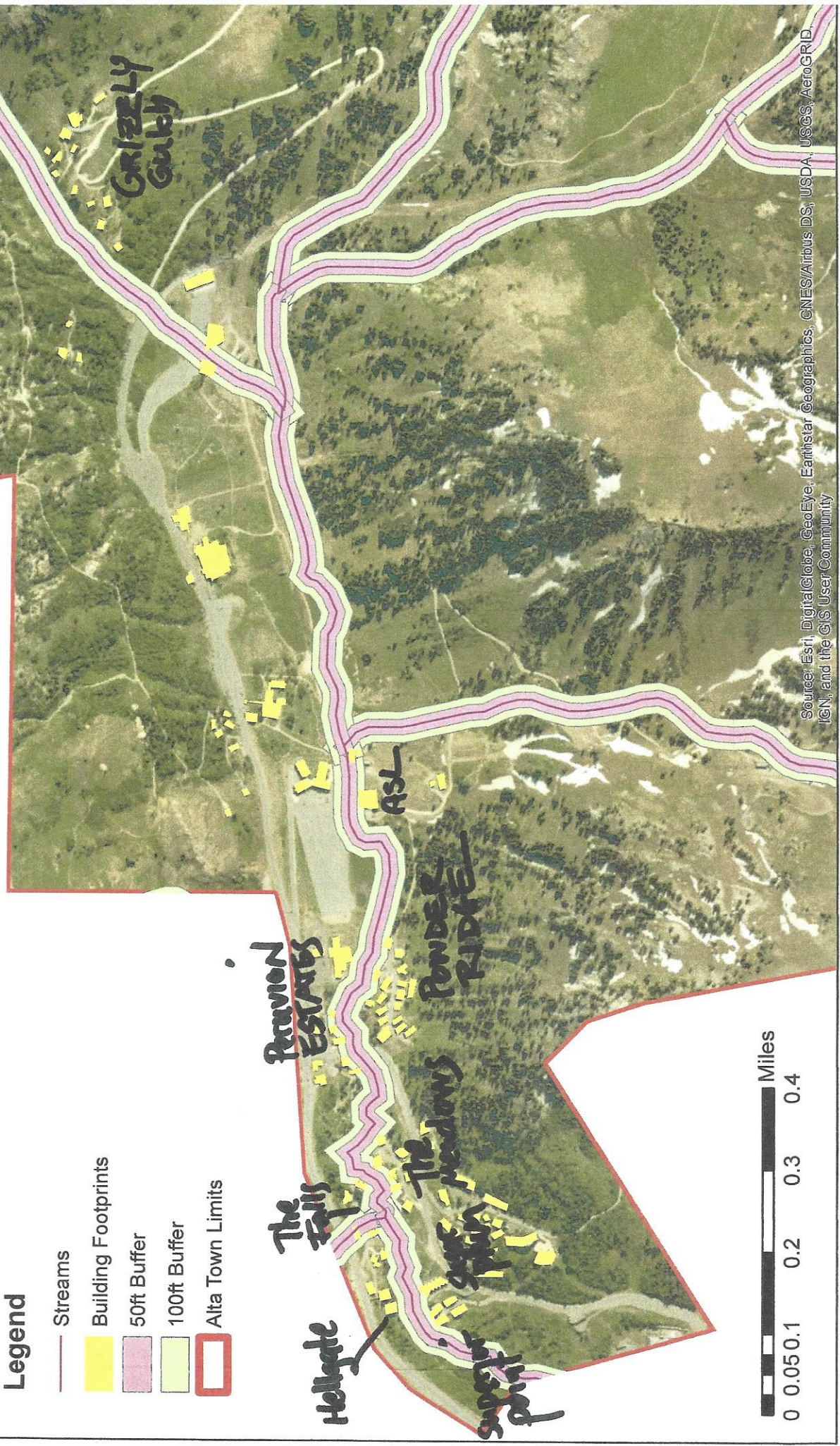
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, IGN, and the GIS User Community



# Alta Waterway Setback

## Legend

- Streams
- Building Footprints
- 50ft Buffer
- 100ft Buffer
- Alta Town Limits



0 0.05 0.1 0.2 0.3 0.4 Miles

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



# Proposed Patsy Marley Hill Subdivision Natural Waterway Delineation

7-1-09

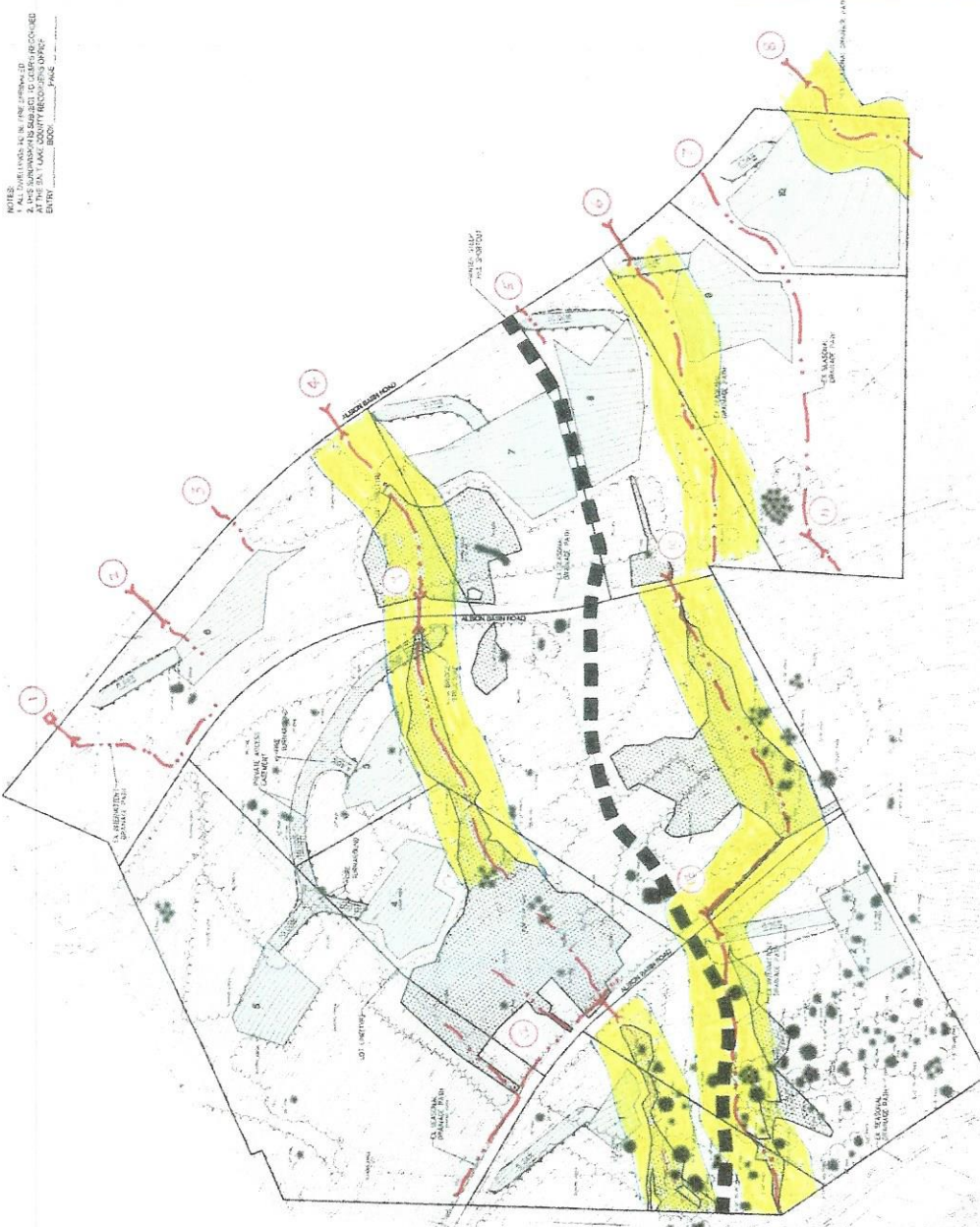


Stantec  
Engineering & Architecture

Project: Patsy Marley Hill Subdivision  
Client: The Estate of Keanne L. Shontz  
Location: Salt Lake City, Utah  
Town of Alta, Utah

Scale: 1" = 100'  
North Arrow

Legend:  
Waterway # (corresponds to memo)  
50' setback delineation for natural waterways



**Legend**

- Waterway # (corresponds to memo)
- 50' setback delineation for natural waterways

**Notes:**  
1. Base mapping provided by Stantec as part of applicant submittal.  
2. Waterway classifications prepared by Forsgren Associates 7-1-09.  
(See memo of same date.)

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# MEMO

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**Date:** 2 July 2009

**To:** Town of Alta  
**Attention:** John Guldner, Town Administrator

**From:** Clarence Kemp, P.E. – Forsgren Associates, Inc.

**Ref:** Proposed Patsey Marley Hill Subdivision – Natural Waterway Investigation

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Dear Mr. Guldner:

As requested, I have investigated the site of the proposed Patsey Marley Hill Subdivision with the purpose of ascertaining existing natural waterways. The site was inspected during a rain event on June 15<sup>th</sup> of this year to better understand the waterways. The site was again inspected during dry conditions on June 29<sup>th</sup>.

Waterways found are shown on the attached schematic drawing. It should be noted that these channels were not surveyed in place. The applicants grading plan was assumed to be accurate for the purposes of schematic mapping. The findings of these investigations, corresponding to the numbering shown on the attached map, are as follows:

**Waterway 1** – This pipe and ditch is directly related to the water tank overflow. It is labeled on the applicant's drawing as an "existing intermittent drainage path." It is not, in our opinion, a natural waterway.

**Waterway 2** – This culvert appears to have been constructed to convey drainage across the road from an existing home uphill of the site. It is not, in our opinion, a natural waterway.

**Waterway 3** – This drainage is reflective of a dip in the existing road. Runoff accumulated in the uphill (north) roadway borrow spills over at this point. The uphill drainage contributory area does not appear to be well defined. This is arguably a man-made condition associated with the roadway and is not, in our opinion, a natural waterway.

**Waterway 4** – The uphill drainage contributory area appears to be well defined. This waterway is further evidenced by the existence of a culvert across the road to handle concentrated flows from storm run-off events. Running water could be seen during both recent site visits. It appears that this waterway feeds into a significant wetlands area as shown on the applicants submitted grading plan. This is, in our opinion, a natural waterway.

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**Waterway 5** – The uphill side of this drainage is defined by a dip in the existing road. Runoff accumulated in the uphill (north) roadway borrow spills over at this point. The uphill drainage



contributory area does not appear to be well defined. This is arguably a man-made condition associated with the roadway and is not, in our opinion, a natural waterway.

**Waterway 6** - The uphill drainage contributory area appears to be relatively well defined. This waterway is further evidenced by the existence of a culvert across the road to handle concentrated flows from storm run-off events. The waterway path is delineated on the applicants submitted grading plan labeled as an "existing seasonal drainage path. This is, in our opinion, a natural waterway.

**Waterway 7** - This drainage is defined by a dip in the existing road. The applicants submitted grading plan shows a drainage path at this location labeled as an "existing seasonal drainage path". The contributory runoff appears to be more related to the roadway construction than a naturally defined waterway per se'. This is not, in our opinion, a natural waterway.

**Waterway 8** - Running water could be seen in this waterway during every site inspection. It appears that this waterway is spring-fed. This is, in our opinion, a natural waterway.

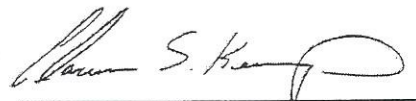
**Waterway 9** - This is essentially a continuation of waterway #4 discussed above. This waterway is further evidenced by the existence of a culvert across the road. Running water was observed during each site inspection. The drainage path is also consistent with wetlands delineation shown on the applicant's submitted drawings. This is, in our opinion, a natural waterway.

**Waterway 10** - This waterway is evidenced by an existing culvert across the road during each site inspection. Water was observed running during the each site visit. The applicant's submitted mapping indicates significant wetlands upstream and downstream of the culvert and along the waterway path. This is, in our opinion, a natural waterway.

**Waterway 11** - This drainage path is essentially a downstream continuation of waterway # 7 discussed above. The waterway is labeled on the applicant's submitted drawings as a "existing seasonal drainage path." As discussed with Waterway #7, the contributory runoff appears to be more related to the roadway construction than a naturally defined waterway per se'. This is not, in our opinion, a natural waterway.

**Waterway 12** - The contributory area feeding this waterway is an extensive wetland / spring-fed area north of the roadway. There is a culvert that feeds the waterway and delineated wetlands to the south. Water was observed running through the culvert across the roadway during each site inspection. This is, in our opinion, a natural waterway.

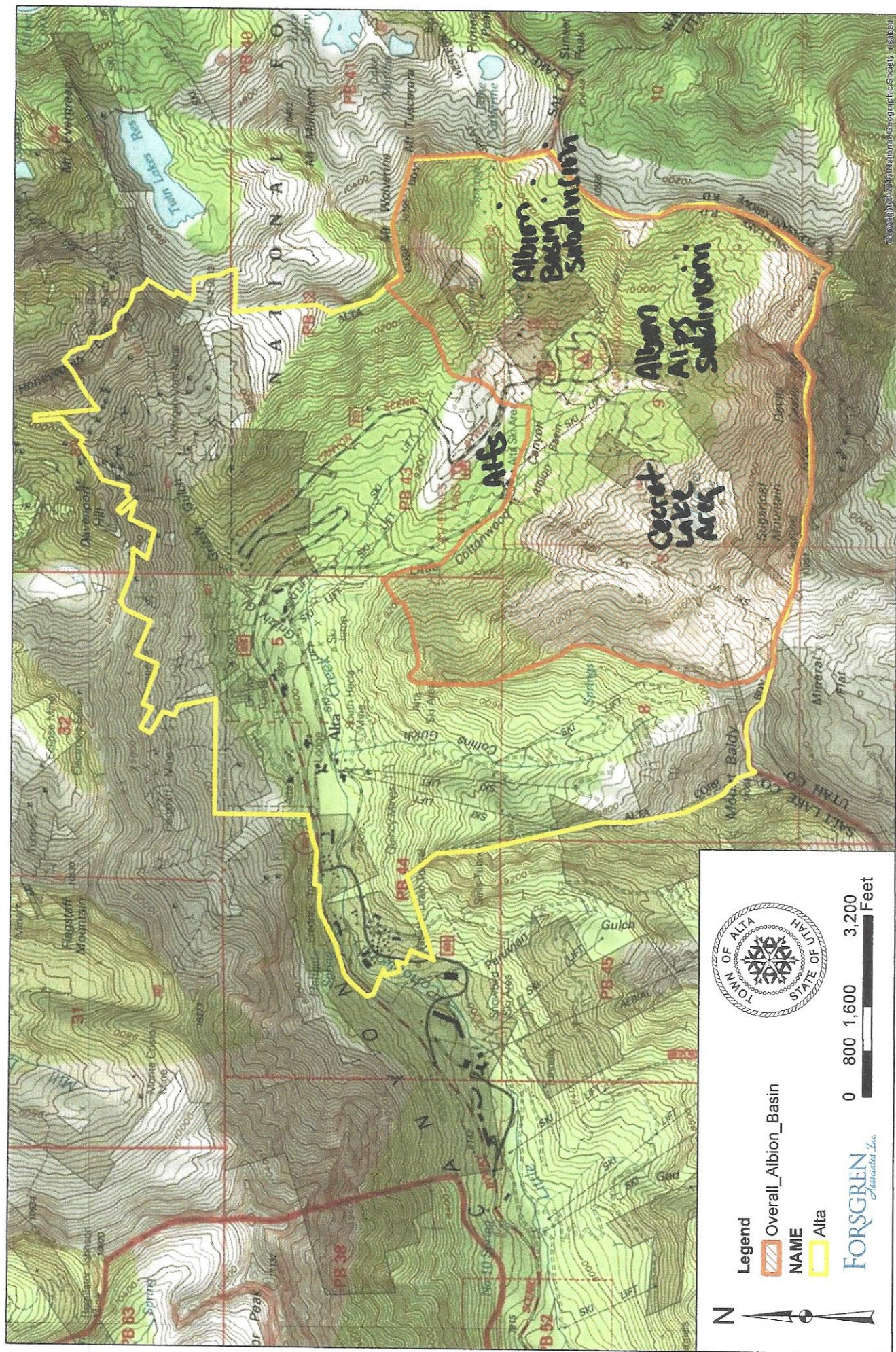
**Waterway 13** - This is essentially a downstream continuation of waterway #10 discussed above. The waterway path is shown and labeled on the applicant's submitted drawing as an "existing intermittent drainage path." Water was observed running during each site inspection. This is, in our opinion, a natural waterway.



Clarence S. Kemp, P.E.

Forsgren Associates, Inc.









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jim.ehleringer@utah.edu

January 30, 2017

Salt Lake County Commission Members  
2001 South State Street N2-200  
Salt Lake City, UT 84114-4575

Dear Salt Lake County Commission Members,

We four faculty are writing to comment on Agenda Item 17 of the upcoming Salt Lake County Meeting Agenda (28983), a discussion of proposed changes to the Foothills and Canyons Overlay Zone, in which Chapters 19.72 and 19.73 will be merged into a single Chapter 19.72. Jim Ehleringer is as an ecologist with 40+ years of ecological and environmental research experience at the University of Utah. Michelle Baker is an aquatic ecologist at Utah State University with 20+ years of aquatic ecology and environmental research experience. Thure Cerling is as a geologist with 35+ years of geological and hydrological research experience at the University of Utah. Paul Brooks is a hydrologist and ecosystem scientist at the University of Utah with 20+ years of hydrology and environmental research experience.

Of immediate concern is that any proposed merging of FCOZ guidelines and regulations to create the new FCOZ Chapter 19.72 should retain the vital 100-foot buffer zone for stream corridor and wetland protection. That is, please maintain the 100-foot buffer between stream and any land development as described in current Sections 19.72.030J and 19.73.080B into any revisions of the new buffer regulations.

There are many scientific reasons for these buffers and for the maintenance of a healthy vegetation buffer between stream and any land development. The issues are, of course, the maintenance of in-stream water quality, a healthy stream ecosystem, and valuable wildlife habitat. These objectives are accomplished by having an adjacent riparian vegetation buffer of sufficient width that it can both trap sediment flows and provide an opportunity for soil microbes to process any upslope nutrients and contaminants moving through shallow and deep groundwater into the stream. And please consider the many dimensions of "beneficial use" beyond traditional engineering and water quality metrics. To our citizens who enjoy the Wasatch Mountains, there is also a most important beneficial desire to maintain a healthy streamside view- and sound-scape, as well as property and quality-of-life values.

The scientific evidence supporting a 100-foot stream buffer and corridor are extensive. A recent 2014 review<sup>1</sup> of many science and engineering studies regarding minimum stream buffer distances concluded that a minimum distance of 30 meters (98 feet) was required for the functions expected of a stream buffer: subsurface nitrate removal, sediment trapping, reduced bank erosion, maintaining stream temperatures, and sustaining fish and macroinvertebrate communities. Fundamentally, this recommendation is driven by the hydrologic connectivity between subsurface water and the stream. Recent advances in this area demonstrate that hydrologic connectivity is related to the flashiness of the hydrology, regional topography, and heterogeneity in local geology. The steep, snowmelt driven, and geologically diverse Wasatch Front has all the characteristics that expand the lateral extent of hydrologic connectivity which is a major control on water quality throughout the region.

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<sup>1</sup> B.W. Sweeney and J.D. Newbold. 2014. Streamside forest buffer width needed to protect stream water quality, habitat, and organisms: a literature review. *Journal of the American Water Resources Association* 50:560-584.

Thank you for the opportunity to provide comments into this important matter for long-term preservation of our valuable Wasatch Mountain resources.

Yours Sincerely,



James Ehleringer  
Distinguished Professor of Biology  
University of Utah  
Member U.S. National Academy of Sciences



Michelle Baker  
Professor of Biology  
Utah State University  
Principal Investigator of the statewide iUTAH Project



Thure Cerling  
Distinguished Professor of Geology & Geophysics  
University of Utah  
Member U.S. National Academy of Sciences



Paul Brooks  
Professor of Geology & Geophysics  
University of Utah