

NOTICE AND AGENDA

ATTENTION

IN-PERSON AUDIENCES AT PLANNING & ZONING COMMISSION MEETINGS HAVE BEEN SUSPENDED UNTIL FURTHER NOTICE

The meetings will continue to be live streamed on the city's website (<https://www.flagstaff.az.gov/1461/Streaming-City-Council-Meetings>)

To participate in the meeting click the following link:

[Join Microsoft Teams Meeting](#)

The public can submit comments that will be read at the dais by a staff member to CDPandZCommission@flagstaffaz.gov.

PLANNING & ZONING COMMISSION
WEDNESDAY
October 12, 2022

COUNCIL CHAMBERS
211 WEST ASPEN AVENUE
4:00 P.M.

1. **Call to Order**

NOTICE OF OPTION TO RECESS INTO EXECUTIVE SESSION

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the Commission and to the general public that, at this regular meeting, the Commission may vote to go into executive session, which will not be open to the public, for legal advice and discussion with the City's attorneys for legal advice on any item listed on the following agenda, pursuant to A.R.S. §38-431.03(A)(3).

2. **Roll Call**

NOTE: One or more Commission Members may be in attendance telephonically or by other technological means.

MARIE JONES, CHAIR
CAROLE MANDINO, VICE CHAIR
DR. RICARDO GUTHRIE
BOB HARRIS, III

MARY NORTON
DR. ALEX MARTINEZ
LLOYD PAUL

3. **Public Comment**

At this time, any member of the public may address the Commission on any subject within their jurisdiction that is not scheduled before the Commission on that day. Due to Open Meeting Laws, the Commission cannot discuss or act on items presented during this portion of the agenda. To address the Commission on an item that is on the agenda, please wait for the Chair to call for Public Comment at the time the item is heard.

4. **APPROVAL OF MINUTES**

Approval of the minutes from the regular meeting on September 28, 2022

5. **PUBLIC HEARING**

- A. **PZ-19-00248:** This request is for a Zoning Code Text Amendment to amend Division 10-50.070 Outdoor Lighting Standards.

STAFF RECOMMENDED ACTION:

Staff recommends the Planning and Zoning Commission, in accordance with the findings presented in this report, make a recommendation to the City Council for approval of the Zoning Code Text Amendment.

B. PZ-21-00021

This request is for a Zoning Code Text Amendment to amend Section 10-90.40.030 of the Zoning Code, the Rural Floodplain Map, to change the map designation of approximately 7.76 acres from Rural Floodplain to Urban Floodplain on eight parcels of land (APNs 101-01-020A, 020B, 101-28-005G, 005H, 005K, 013A, 013B, and 013D) located generally between W Forest Avenue, N San Francisco Street.

STAFF RECOMMENDED ACTION:

Staff recommends the Planning and Zoning Commission, in accordance with the findings presented in this report, make a recommendation to the City Council for approval of the Zoning Code Text Amendment.

6. MISCELLANEOUS ITEMS TO/FROM COMMISSION MEMBERS

7. ADJOURNMENT

CERTIFICATE OF POSTING OF NOTICE

The undersigned hereby certifies that a copy of the foregoing notice was duly posted at Flagstaff City Hall on 10/6/22, at 4:00 p.m. This notice has been posted on the City's website and can be downloaded at www.flagstaff.az.gov.

Dated this 6TH day of October, 2022.

Tammy Bishop, Administrative Specialist



Planning & Zoning Commission

5. A.

Meeting Date: 10/12/2022

From: Tiffany Antol, Senior Planner

Information

TITLE:

PZ-19-00248: This request is for a Zoning Code Text Amendment to amend Division 10-50.070 Outdoor Lighting Standards.

STAFF RECOMMENDED ACTION:

Staff recommends the Planning and Zoning Commission, in accordance with the findings presented in this report, make a recommendation to the City Council for approval of the Zoning Code Text Amendment.

Attachments

Staff Report

Application

Case No. PZ-19-00248

Public Participation Plan

PLANNING AND DEVELOPMENT SERVICES REPORT
Zoning Code Text Amendment

PUBLIC HEARING
PZ-19-00248

DATE: September 28, 2022
MEETING DATE: October 12, 2022
REPORT BY: Tiffany Antol, AICP

REQUEST:

This request is for a Zoning Code Text Amendment to amend Division 10-50.070: Outdoor Lighting Standards.

STAFF RECOMMENDATION:

Staff recommends the Planning and Zoning Commission, in accordance with the findings presented in this report, make a recommendation to the City Council for approval of the Zoning Code Text Amendment.

I. PROJECT INTRODUCTION

A. Background

The purpose of Division 10-50.70: Outdoor Lighting Standards is to help assure that dark skies remain a resource to be enjoyed by the Flagstaff community and its visitors, minimize light pollution and light trespass across property lines, maintain an environment that the City's astronomical industry depends upon, reduce energy consumptions, minimize the potential disruption to nocturnal ecosystems, and to allow safe and efficient outdoor lighting. The City was recognized as the world's first International Dark Sky City on October 24, 2001, for its pioneering development and implementation of lighting codes that balance the need to preserve Flagstaff's dark sky resource with the need for safe outdoor lighting practices.

In 2019, a Joint Land Use Study (JLUS) was completed for Coconino County. The JLUS is a cooperative land use planning effort between local governments and military installations. Its goal is to ensure the lasting compatibility of military installations and their nearby communities. There are two U.S. Naval Observatory Sites in the Flagstaff region which rely on dark sky conditions to conduct their missions. The JLUS contains specific implementation strategies for the City of Flagstaff. These strategies focus on updating the Zoning Code to remove Lighting Zone 3 as well as modernize measurement of absolute lumens to account for the increasing use of Light Emitting Diode (LED) lighting. A working group was formed in late 2019 to begin working on revisions to the Outdoor Lighting Standards as suggested by the JLUS.

B. Proposed Amendment

The proposed amendment (Attachment 1) includes multiple changes to the Zoning Code. New provisions are being added, and several existing regulations are being deleted or modified. The most significant of the modifications include:

- Removing Lighting Zone 3;
- Modifying standards to accommodate LED light sources;
- Adjusting allowed lumens to accommodate LED light sources;
- Modifying the definition for Narrow Spectrum Amber LED (NSLED).

The proposed amendment includes:

Purpose (Section 10-50.70.010):

- The purpose has been updated and shortened to focus on the primary intent of the standards.

Compliance with the Zoning Code and Permit Requirements (Section 10-50.70.020):

- This section has been completely revised to provide detailed language about permitting requirements.

Applicability (10-50.70.030):

- The requirements in this section have been streamlined and reorganized with minimal substantive changes.

Establishment of Lighting Zones (10-50.70.040):

- The primary change is converting three lighting zones to two lighting zones as well as providing written descriptions of the lighting zones instead of relying solely on the Lighting Zone map.

General Requirements – All Lighting Zones (10-50.70.050)

- The requirements in this section have been streamlined and reorganized with minimal substantive changes.
- The Maximum Total Outdoor Light Output Standards has been replaced and updated to include the absolute lumens for LEDs. The previous table included a footnote with a multiplier to be used for LEDs. That footnote is removed, and the total lumens are adjusted based on that multiplier since most lights used today are LED.
- The Shielding Standards table is replaced to reflect current table design in the rest of the code and to remove Lighting Zone 3.
- The remainder of modifications fall under the first bullet.

Special Uses (10-50.70.060)

- Added new provisions for building lights located under canopies, building overhangs, and roof eaves. Includes stricter provisions for non-building mounted lights in Lighting Zone 1.

Exceptions (10-50-70.080)

- Made minor changes to the airport lighting section. Specifically, that this provision does not apply to private helipads or landing strips.
- Clarified holiday lighting.

Residential Exemptions (10-20.60.040)

- This section clarifies that when a legal nonconforming residence is rebuilt it must still comply with these standards.

Definitions “F” (10-80.20.060):

- Correction made to existing definition.

Definitions “L” (10-80.20.120):

- Revises the definition of Narrow Spectrum Amber LED (NSLED) to have a peak wavelength between 589 and 595.

Definitions “O” (10-80.20.150):

- Replaces the definition of Total Outdoor Light Output

II. ZONING CODE TEXT AMENDMENT

An application for a Zoning Text Amendment shall be submitted to the Planning Director and shall be reviewed and a recommendation prepared. The Planning Director’s recommendation shall be transmitted to the Planning and Zoning Commission in the form of a staff report prior to a scheduled public hearing. The recommendation shall include: an evaluation of the consistency and conformance of the proposed amendment with the goals and policies of the General Plan and any applicable specific plans; the grounds for the recommendation based on the standards and purposes of the zones set forth in Section 10-40.20 (Establishment of Zones) of the Zoning Code; and whether the amendment should be granted or denied.

A Zoning Code Text Amendment shall be evaluated based on the following findings:

A. Finding #1:

The proposed amendment is consistent with and conforms to the objectives and policies of the General Plan and any applicable specific plan.

The Regional Plan analysis supports the proposed Zoning Code Text Amendment as part of the required findings. The Regional Plan has 97 goals and over 508 policies, which sometimes conflict or are given different weight in decision making. The applicable policies are analyzed by chapter below. Conflicting goals and policies are found in Chapter VII – Energy, which supports energy efficiency. NSLEDs are less energy efficient than full spectrum LEDs.

Chapter IV - Environmental Planning & Conservation

- Goal E&C.5. Preserve dark skies as an unspoiled natural resource, basis for an important economic sector, and core element of community character.
- Policy E&C.5.1 Evaluate the impacts of the retention of dark skies regarding lighting infrastructure and regulatory changes, land use decisions or changes, and proposed transportation developments within the region.

Chapter VII - Energy

- Goal E.1. Increase energy efficiency.
- Policy E.1.4. Promote cost-effective, energy-efficient technologies and design in all new and retrofit buildings for residential, commercial, and industrial projects.

Chapter XIV - Economic Development

- Policy ED.7.1. Support planning, design, and development that positively, creatively, and flexibly contribute to the community image.

Chapter VIII – Community Character

- Goal CC.1. Reflect and respect the regions’ natural setting and dramatic views in the built environment.
- Policy CC.1.1. Preserve the natural character of the region through planning and design to maintain views of significant landmarks, sloping landforms, rock outcroppings, water courses, floodplains, and meadows and conserve stands of ponderosa pine.

Chapter XIV - Economic Development

- Policy ED.7.1. Support planning, design, and development that positively, creatively, and flexibly contribute to the community image.

There is a very specific portion of the Regional Plan that supports the preservation of dark skies in Flagstaff. Dark skies have been a priority for Flagstaff for over three decades with the adoption of the first Outdoor Lighting Standards in the 1990s. This code amendment reflects recent planning efforts to preserve astronomical facilities in the Flagstaff region. While the preferred light source (NSLEDs) is less energy efficient than the full spectrum LEDs, the environment, social, and economic benefits are so great that in this instance they are supported over the very important goal of energy efficiency.

B. Finding #2

The proposed amendment will not be detrimental to the public interest, health, safety, convenience, or welfare of the City.

The proposed amendment is not anticipated to be detrimental to the public interest, health, safety, convenience, or welfare of the City.

C. Finding #3

The proposed amendment is internally consistent with other applicable provisions of this Zoning Code.

The proposed amendment revises the entire Outdoor Lighting Standards Division of the Zoning Code. In addition, definitions, associated maps, signage, and legal nonconforming standards have been updated to coordinate with the rewrite of this division.

III. CITIZEN PARTICIPATION

Staff completed the following efforts to reach out for public input on the proposed amendment prior to scheduling work sessions or public hearings:

- Direct contact with known electrical and lighting contractors was made via email to solicit feedback on the proposed amendment.
- Notice about the proposed amendment was added to all water bills during the month of July.
- Staff had an article about the proposed amendment published in the Flagstaff Business News, July 2022 edition.
- A direct mailing to all commercial property owners in Lighting Zone 3 (approximately 600 owners) with notice of the proposed amendment and invitation to an Open House to discuss the amendment.
- Staff held an Open House meeting on August 4, 2022, at 5:30 p.m. at the Flagstaff Public Library (Downtown) to discuss the amendment. One member of the public attended the open house.

As of the preparation of this report, staff has not received any comments from the public.

IV. PLANNING AND ZONING COMMISSION WORK SESSION

At the September 28, 2022, Planning and Zoning Commission Work Session, staff reviewed the text amendment applications with the Commission. The Commission had general and informational questions.

V. STAFF RECOMMENDATION:

Staff believes that the findings for this amendment can be met for this request. The proposed amendment conforms to and is in general compliance with the Flagstaff Regional Plan 2020. The proposed amendments should not be detrimental to the public interest, health, safety, convenience, or welfare. Lastly, the proposed amendment is internally consistent with other provisions of the Zoning Code.

Attachments:

1. Application
2. Case No. PZ-19-00248
3. Public Participation Plan



City of Flagstaff

Community Development Division

211 W. Aspen Ave
 Flagstaff, AZ 86001
 www.flagstaff.az.gov

P: (928) 213-2618
 F: (928) 213-2609

Date Received 8/31/22	Application for Zoning Code Text Amendment		File Number P2-19-00248
Applicant(s)/Property Owner(s) City of Flagstaff Planning Director – Michelle McNulty	Title	Phone 928-213-2607	Email Michelle.McNulty@Flagstaffa.gov
Mailing Address 211 West Aspen Avenue		City, State, Zip Flagstaff, AZ 86004	
Representative (If applicable) Tiffany Antol	Title Zoning Code Manager	Phone 928-213-2605	Email tantol@flagstaffaz.gov
Mailing Address Same as above		City, State, Zip	

Property Address N/A	City, State, Zip
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Application Name: Outdoor Lighting
Zoning Code Text Amendment
Chapter Name and Number: Chapter 10.50 Supplemental to Zones
Division Name and Number: Chapter 10-50.70 Outdoor Lighting Standards
Section Name and Number:
Chapter Name and Number:
Division Name and Number:
Section Name and Number:
Chapter Name and Number:
Division Name and Number:
Section Name and Number:

Additional Information:

Owner's Signature (required) <i>Michelle McNulty</i>	Date: 8/31/22	Representative Signature (If applicable) <i>Tiffany Antol</i>	Date: 8-31-22
For City Use			
Date Filed:	File Number(s):	Fee Receipt Number:	
P & Z Hearing Date:	Publication and Posting Date:	Amount:	
Council Hearing Date:	Publication and Posting Date:	Date:	
Received by:	Comments:		

Case No. PZ-21-00066 Outdoor Lighting Standards

Division 10-50.70: Outdoor Lighting Standards

Sections:

10-50.70.010	Purpose
10-50.70.020	Conformance with Applicable Codes Compliance with the Zoning Code and Permit Requirements
10-50.70.030	Applicability
10-50.70.040	Establishment of Lighting Zones
10-50.70.050	General Requirements – All Lighting Zones
10-50.70.060	Special Uses
10-50.70.070	Prohibited Outdoor Lighting
10-50.70.080	Exceptions
10-50.70.090	Nonconforming Outdoor Lighting
10-50.70.100	Violations and Enforcement

10-50.70.010 Purpose

A.—~~The City was recognized as the world's first International Dark Sky City on October 24, 2001, for its pioneering work in the development and implementation of lighting codes that balance the need to preserve Flagstaff's dark sky resource with the need for safe lighting practices. The purpose of this division is to help assure that dark skies remain a resource to be enjoyed by the Flagstaff community and its visitors, and to provide safe and efficient outdoor lighting regulations that protect Flagstaff's dark skies from careless and wasteful lighting practices. Dark starry nights, like natural landscapes, forests, clean water, wildlife, and clear unpolluted air, are valued in many ways by the residents of this community, and they provide the natural resource upon which our world renowned astronomical industry depends.~~

B.—~~The use of outdoor lighting is often necessary for adequate nighttime safety and utility, but common lighting practices can also interfere with other legitimate public concerns. Principal among these concerns is:~~

- ~~1.—The degradation of the nighttime visual environment by production of unsightly and dangerous glare;~~
- ~~2.—Lighting practices that produce excessive glare and brightness that interfere with the health and safety of Flagstaff's citizens and visitors;~~

3.—Unnecessary waste of energy and resources in the production of too much light or wasted light;

4.—Interference in the use or enjoyment of property that is not intended to be illuminated at night by light trespass, and the loss of the scenic view of the night sky due to increased urban sky glow; and

5.—The impact of inappropriately designed outdoor lighting that disrupts nocturnal animal behavior, particularly migrating birds and other species.

C.—The concerns of safety, utility, dark sky protection and aesthetic appearance need not compete. Good modern lighting practices can provide adequate light for safety and utility without excessive glare or light pollution. Careful attention to when, where and how much night time lighting is needed results in better lighting practices, darker skies and reduced energy use and costs.

D.—It is therefore the intent of this division to encourage lighting practices and systems that will:

1.—Minimize light pollution, glare, light trespass;

2.—Conserve energy and resources while maintaining night time safety, utility, security, and productivity; and

3.—Curtail the degradation of the night time visual environment.

E.—It is recognized that since topographic and atmospheric conditions surrounding the City are uniquely suited for astronomical observation and since observatories have been established in the City's vicinity, the City promotes the reduction of light pollution which interferes with the successful operation of these observatories.

F.—The sensitivity of different areas to the different obtrusive impacts of outdoor lighting use depends on many factors, including the dominant use of the area (e.g., residential, industrial, or commercial). Further, the effect of outdoor lighting on light pollution to the observatories is strongly dependent on the distance of those lights from the observatories. Therefore, three lighting zones are established, with varying standards designed to address the principal issues associated with the different areas.

A. The City was recognized as the world's first International Dark Sky City on October 24, 2001, for its pioneering development and implementation of lighting codes that balance the need to preserve Flagstaff's dark sky resource with the need for safe outdoor lighting practices. This division is to help assure that dark skies remain a resource to be enjoyed by the Flagstaff community and its visitors, minimize light pollution and light trespass across property lines, maintain an environment that the

City's astronomical industry depends upon, reduce energy consumptions, minimize the potential disruption to nocturnal ecosystems, and to allow safe and efficient outdoor lighting.

10-50.70.20 Conformance with Applicable Codes

~~All outdoor lighting fixtures shall be installed in conformance with the provisions of this division and the applicable building codes currently in effect in the City under appropriate permit and inspection.~~

10.50.70.020 Compliance with the Zoning Code and Permit Requirements

A. An Outdoor Lighting Permit shall be obtained prior to the installation, modification, or replacement of any Outdoor Light Fixture subject to Section 10-20.40.100.

- 1. Any modification of an existing Outdoor Light Fixture shall comply with this division.**
- 2. All outdoor lighting shall be installed in compliance with the provisions of this Division 10-50.70; Title 4, Building Regulations; and Title 5, Fire Code of the City Code.**

10-50.70.030 Applicability

~~A. **Existing Buildings and Uses.** Any new outdoor lighting installed on a building or parcel shall meet the requirements of this division with regard to shielding and lamp type. The total outdoor light output after the new outdoor lights are installed shall not exceed that legally nonconforming or pre-approved on the site before the modification, or as permitted by this division, whichever is larger.~~

A. New Development and Parking Areas. The provisions of this division shall apply to any new development of a vacant lot or parcel and any installation of outdoor lighting to support that development, including parking areas and areas within an unenclosed parking garage.

~~B. **New Uses, Buildings and Major Additions or Modifications.**~~

- ~~1. The requirements of this division apply to any and all new and major additions to land uses, developments, buildings or structures.~~
- ~~2. If a major addition occurs on a property, the entire property shall comply with the requirements of this code. For purposes of this section, the following are considered to be major additions:
 - ~~a. Additions of 25 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions subsequent to the effective date of this provision; or~~~~

~~b. Single or cumulative modification or replacement of outdoor legally installed lighting fixtures constituting 25 percent or more of the lumens that would be permitted under this division for the property, no matter the actual amount of lighting already on a nonconforming site, constitutes a major addition for purposes of this section.~~

B. Major Additions, Modifications, Replacements, and Change of Use. The provisions of this division shall apply to all major additions, modifications, replacements, or change of use. The entire property shall comply with the requirements of this division when any of the following occur:

1. "Major" shall be defined as an increase of 25 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions after the effective date of this provision; or
2. Single or cumulative modifications or replacements of legally installed Outdoor Light Fixtures after August 5, 1999, constituting 25 percent or more of the Lumens that would be permitted under this division for the property, regardless of the Total Outdoor Light Output currently existing on a site.

~~C. Minor Additions or Modifications.~~ Additions or modifications of less than 25 percent in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces to existing uses shall require the submission of a complete inventory and site plan detailing all existing and any proposed new or modified outdoor lighting. Any new or modified outdoor lighting on the site shall meet the requirements of this division with regard to shielding and lamp type; the total amount of lighting after the modifications are complete shall not exceed that on the site before the modification, or that permitted by this division, whichever is larger.

C. Minor Additions, Modifications, Replacements, and Change of Use. The provisions of this division shall not apply to minor (less than 25% as referenced above) additions, modifications, replacements, or change of use after August 5, 1999, except for the following:

1. All new or modified Outdoor Light Fixtures shall comply with the requirements of this division.
2. The Total Outdoor Light Output shall not exceed the amount allowed by this division, or the total legal non-conforming light output, whichever is greater.

D. Change of Use.

~~1. Except as provided in Section 10-20.60.080, Nonconforming Outdoor Lighting, whenever the use of any existing building, structure or premises is intensified through the incorporation of~~

~~additional dwelling units, gross floor area, seating capacity, or other units of measurement which create a need for an increase in the total number of parking spaces of 25 percent or more either with a single change or cumulative changes subsequent to the effective date of this Zoning Code, then all outdoor lighting shall be reviewed and brought into compliance with the requirements of this division before the use is resumed to the maximum extent feasible as determined by the Director.~~

~~2. For changes of use or intensity which require an increase in parking of less than 25 percent cumulative, the applicant shall only have to meet the requirements of this division for any new outdoor lighting provided.~~

~~E. **Public Rights of Way Exempt.** The provisions of this division shall not apply to street lights installed in public rights of way.~~

~~F. In accordance with A.R.S. § 49-1101, all outdoor light fixtures on property or buildings that are owned and operated by the City of Flagstaff shall be fully shielded.~~

D. All Outdoor Light Fixtures on property or buildings that are owned and operated by the City of Flagstaff shall be fully shielded.

10-50.70.040 Establishment of Lighting Zones

~~A. **Establishment of Lighting Zones.** Three lighting zones are established, with varying development standards specific to their location within the City. Lighting zones are shown in Section 10-90.40.020, Lighting Zone Map.~~

A. Establishment of Lighting Zones. Two lighting zones are established, with varying development standards specific to their location within the City. Lighting zones are shown in Section 10-90.40.020, Lighting Zone Map.

B. Lighting Zone Boundaries. The boundaries of the lighting zones are illustrated in Section 10-90.40.020, Lighting Zone Map.

1. Lighting Zone 1 includes all areas within the City of Flagstaff that are within 2.5 miles of the Kaj Strand telescope at the U.S. Naval Observatory.

2. Lighting Zone 2 includes all areas more than 2.5 miles of the Kaj Strand telescope at the U.S. Naval Observatory.

C. **Split Parcels.** A parcel located in more than one of the described zones shall be considered to be only in the more restrictive lighting zone.

10-50.70.050 General Requirements – All Lighting Zones

~~A. **Preferred Source – Low-Pressure Sodium (LPS) Lamps and Narrow-Spectrum Amber LEDs.** Due to their high energy efficiency, long life, and spectral characteristics, low-pressure sodium (LPS) lamps are the preferred illumination source throughout the City. Their use is encouraged, when not required, for outdoor illumination whenever their use would not be detrimental to the use of the property. In all applications where LPS lighting is required or preferred, an acceptable alternative is narrow-spectrum amber LEDs.~~

~~B. **Lighting Classes.**~~

A. Lighting Classes. The Total Outdoor Light Output for a lot or parcel is cumulative of the light emitted by all lighting classes.

~~1. **Class 1 lighting is lighting used for applications where color rendition is required to preserve the effectiveness of an activity. Recognized Class 1 lighting applications include only the following. Application of Class 1 lighting standards to uses not included in this list requires a finding by the Director of the essential nature of color rendition to preserve the effectiveness of the activity.**~~

1. Class 1 Lighting is lighting used for applications where color rendition is required to preserve the effectiveness of an activity. All Class 1 Lighting shall have a Correlated Color Temperature (CCT) of 2,700 Kelvin (K), or less. Recognized Class 1 lighting applications include only the following examples:

- a. Outdoor sales areas, including service station canopies;
- ~~b. Primary customer building entry/exit areas (does not include service or emergency entry/exits);~~
- b. Primary customer building entry/exit areas of commercial and industrial uses (does not include service or emergency entry/exits);**
- c. Outdoor eating areas at restaurants;
- ~~d. Outdoor assembly or repair areas where assembly or repair work occurs at night on a regularly scheduled basis;~~

d. Outdoor assembly or repair areas where assembly or repair work occurs at night as part of the normal business operations;

e. Outdoor recreational field/track/arena areas; and

f. External and internal lighting for signs.

~~2. Class 2 lighting is lighting used for applications where general illumination for safety or security is the primary concern.~~

2. Class 2 Lighting is lighting used for applications where general illumination for safety or security is the primary concern. Narrow-Spectrum Amber LEDs are required in all Class 2 lighting applications. Examples of Class 2 Lighting applications include the following:

~~a. Examples of Class 2 lighting applications include the following:~~

~~(1) Pedestrian walkways, driveways and roadways;~~

a. Pedestrian walkways, driveways, and roadways;

~~(2) Parking lots;~~

b. Parking lots;

~~(3) Equipment yards; and~~

c. Equipment yards; and

~~(4) Outdoor security.~~

d. Outdoor security.

~~b. Low-pressure sodium (LPS) lamps or narrow-spectrum amber LEDs are required in all Class 2 lighting applications, except that up to 10 percent of all Class 2 lighting may be non-LPS lighting as noted in Table 10-50.70.050.A, Maximum Total Outdoor Light Output Standards.~~

~~3. Class 3 lighting is outdoor lighting used for decorative purposes.~~

3. Class 3 Lighting is outdoor lighting used for decorative purposes. All light sources may be used for Class 3 Lighting including technologies that allow for the color of the light to change so long as the colors change less than every two minutes. Examples of Class 3 Lighting applications include the following:

~~a. Examples of Class 3 lighting applications include the following:~~

~~(1) Architectural illumination;~~

a. Architectural illumination;

~~(2) Flag and monument lighting; and~~

b. Flag and monument lighting; and

~~(3) Landscape lighting and the illumination of trees, shrubs, and other vegetation.~~

c. Landscape lighting and the illumination of trees, shrubs, and other vegetation.

~~b. Class 3 lighting fixtures shall be included in the total lumen calculations for the site. If decorative lighting is applied to the exterior wall of a building using LED lights or similar technologies that allow for the color of the light to change, only one color change every two minutes is permitted.~~

~~4. The use of solar powered light systems as a light source in all lighting classes is appropriate.~~

CB. Total Outdoor Light Output.

~~1. Total outdoor light output, excluding streetlights and pedestrian lighting used to illuminate public rights-of-way and any interior lighting shall not exceed the following limits averaged over the entire development (values listed are total initial lamp lumens per acre and per residence).~~

1. The Total Outdoor Light Output shall not exceed the amounts allowed in Table 10-50.70.050.A.

Table 10-50.70.050.A: Maximum Total Outdoor Light Output Standards

Land Use	Zone 1	Zone 2	Zone 3
Commercial, Industrial, and Multifamily Residential (lumens per net acre)[‡]	-		
Total (Fully Shielded and Partially Shielded)	25,000	50,000	100,000
Partially Shielded only	0	5,500	5,500
Non-LPS and non-narrow spectrum amber LED	2,500	5,000	10,000
Single-Family Residential (lumens per parcel inclusive of accessory structures)[‡]			-
Total (Fully Shielded and Partially Shielded)	10,000	10,000	10,000
Partially Shielded only	0	4,000	4,000

End Note

[‡]To determine the allowed lumens per net acre for all LED lamps (i.e., narrow spectrum amber LED and all other LED lamps), divide the total number of lumens permitted in each lighting zone by 1.43.

Table 10-50.70.050.A		
Maximum Total Outdoor Light Output Standards		
Land Use	Lighting Zone 1	Lighting Zone 2
Commercial, Industrial, and Multiple-Family Development (Lumens per Net Acre)		
Combined Maximum for Fully and Partially Shielded Fixtures, and fixtures mounted to a building or canopy	17,500	35,000
Partially Shielded Fixtures maximum	0	3,850
Fixtures not mounted to a building or canopy¹ maximum	4,000	35,000
Single-Family and Duplex Developments, Including Accessory Structures (Lumens per Lot, or Parcel)		
Combined Maximum for Fully and Partially Shielded Fixtures, and fixtures not mounted to a building or canopy, excluding motion sensing Outdoor Light Fixtures²	1,500	5,000
Partially Shielded Fixtures maximum	0	2,000
Motion sensing Outdoors Light Fixtures² (fully shielded) maximum	0	2,000
Fixtures that are not mounted to a building or canopy¹ maximum	0	1,500
End Note		
<ol style="list-style-type: none"> 1. Fixtures that are not directly mounted to the side of a building or to the underside of, or within, a canopy or overhang. 2. Motion sensing Outdoor Light Fixtures shall have an automated timer set to turn off the fixture at a time no greater than five (5) minutes after the light has been turned on. 		

2.—For determining compliance with this section, light emitted from outdoor lighting is to be included in the total outdoor light output as follows (see Figure 10-50.70.050A):

a.—Light fixtures installed as described below shall be included in the total outdoor light output by adding 100 percent of the initial lumen outputs of the lamps used:

(1)—All unshielded or partially shielded fixtures, regardless of location;

(2)—Light fixtures installed on poles (such as parking lot light fixtures);

(3)—Light fixtures installed on the side of buildings or other structures but not located as described in subsections (C)(2)(b) or (c) of this section; and

(4) Light fixtures installed within open parking garages, or under canopies, building overhangs, or roof eaves that are not fully shielded or are fully shielded but not located as described in subsections (C)(2)(b) or (c) of this section.

b. Fully shielded light fixtures installed as described below shall be included in the total outdoor light output by adding only 25 percent of the initial lumen outputs of the lamps used;

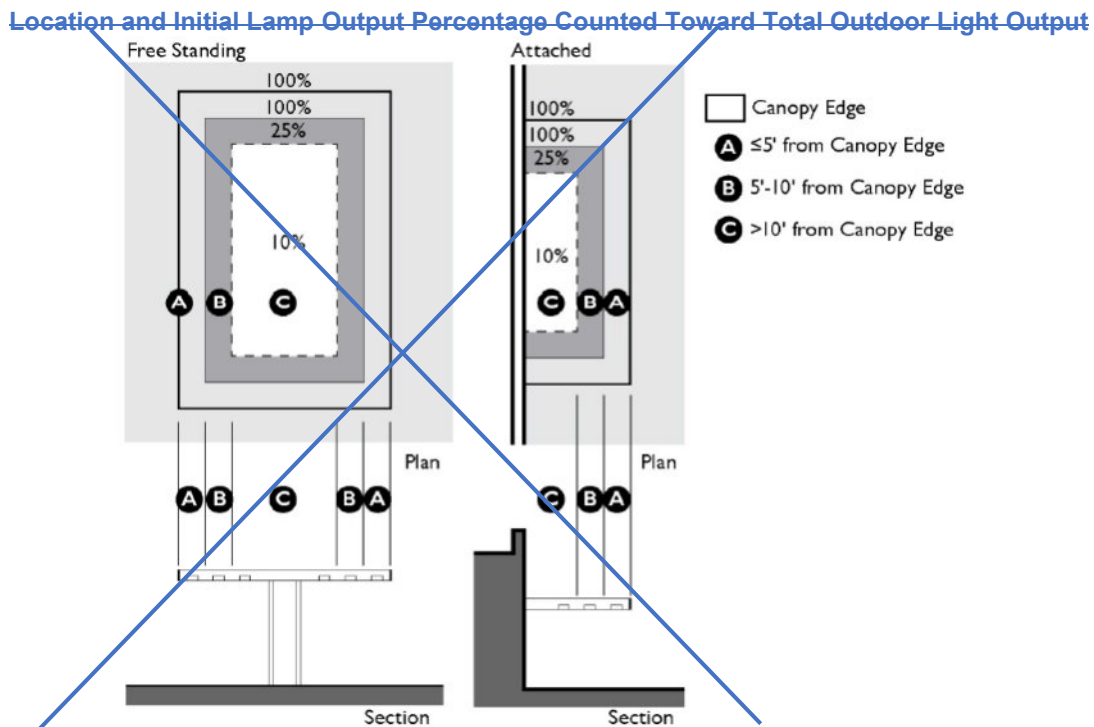
(1) Fully shielded light fixtures located within open parking garages, or located under canopies, building overhangs, or roof eaves, where all parts of the light fixture are located at least five feet but less than 10 feet from the nearest outdoor opening, canopy, or overhang edge.

c. Fully shielded light fixtures installed as described below shall be included in the total outdoor light output by adding only 10 percent of the initial lumen outputs of the lamps used;

(1) Fully shielded light fixtures located within open parking garages, or located under canopies, building overhangs, or roof eaves, where all parts of the light fixture are located 10 feet or more from the nearest outdoor opening, canopy, or overhang edge.

Figure 10-50.70.050A

Elevation and Section Views of a Freestanding and Attached Canopy or Overhang, Showing Fixture Location and Initial Lamp Output Percentage Counted Toward Total Outdoor Light Output



D.—**Lamp Source and Shielding.** The standards provided in Table 10-50.70.050.B, Lamp Type and Shielding Standards, shall apply:

C. Shielding. The standards provided in Table 10-50.70.050.B, Shielding Standards, shall apply:

Table 10-50.70.050.B: Lamp Type and Shielding Standards			
Lamp Type and Lighting Class	Zone-1	Zone-2	Zone-3
Nonresidential² Outdoor Lighting			
Class 1 Lighting (Color Rendition):		-	
All lamp types and outputs	FS	FS	FS
Class 2 Lighting (General Illumination):	-	-	-
All lamp types and outputs	FS	FS	FS
Class 3 Lighting (Decorative):		-	
All lamp types 2,500 lumens ⁴ or above per fixture	X	X	FS
All lamp types below 2,500 lumens ⁴ per fixture	FS	A ³	A ³
Residential² Outdoor Lighting			
Class 1-3 Lighting		-	
Lighting (Color Rendition):			
All lamp types 1,000 lumens ⁴ or above per fixture	FS	FS	FS
All lamp types below 1,000 lumens ⁴ per fixture	FS	A ³	A ³
Key:			

FS = Allowed; Only Fully Shield Fixtures permitted

A = Allowed; Fully Shielded Fixtures preferred, and Partially Shielded Fixtures permitted subject to the amounts listed in Table A (Maximum Total Outdoor Light Output Standards).

X = Prohibited

Table 10-50.70.050.B: Lamp Type and Shielding Standards

Lamp Type and Lighting Class	Zone-1	Zone-2	Zone-3
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End Notes

¹Examples of lamp types of 2,500 and 1,000 lumens and below for commercial and residential applications respectively are provided in Table 10-50.70.050.C, Lamp Type and Wattage with Outputs below 2,500 and 1,000 lumens. The acceptability of a particular lamp is decided by lumen output, not wattage. The values listed are approximate, and the manufacturer's specifications for a particular lamp must be checked.

²For purposes of this subsection, residential refers to property developed primarily for residential purposes, including single-family residences, manufactured homes, duplexes, and triplexes as well as multifamily (i.e. apartment, condominium, townhome) uses. Nonresidential uses include all other uses.

³For purposes of determining total light output from a light fixture, lighting assemblies which include multiple unshielded or partially shielded fixtures or lamps on a single pole shall be considered as a single fixture (see Figure 10-50.70.050B). Partially shielded lighting is limited to the amounts listed in Table 10-50.70.050.A, Maximum Total Outdoor Light Output Standards.

Table 10-50.70.050.B: Lamp Type and Shielding Standards

Lamp Type and Lighting Class

Zone-1

Zone-2

Zone-3

Table 10-50.70.050.B Shielding Standards		
Land Use and Lighting Class	Lighting Zone 1	Lighting Zone 2
Commercial, Industrial, and Multiple-Family Development		
Class 1 Lighting All Outdoor Light Fixtures	FS	FS
Class 2 Lighting All Outdoor Light Fixtures	FS	FS
Class 3 Lighting		
All Outdoor Light Fixtures with a Lumen output below 1,750¹ Lumens	FS	A¹
All Outdoor Light Fixtures with a Lumen output equal to and above 1,750¹ Lumens	X	X
Single-Family and Duplex Residential Dwelling Units		
Class 1-3 Lighting		
All Outdoor Light Fixtures with a Lumen output below 700¹ Lumens	FS	A¹
All Outdoor Light Fixtures with a Lumen output equal to and above 700¹ Lumens	X	X
End Notes		
<p>1. For purposes of determining the Total Outdoor Light Output from an Outdoor Light Fixture, lighting assemblies which include multiple unshielded or Partially Shielded Fixtures or lamps on a single pole or assembled as a single unit shall be considered as one fixture. Refer to the Table 10-50.70.050.A.</p>		
Key		
<p>FS = Allowed; Only Fully Shielded Fixtures</p> <p>A = Allowed; Fully Shielded Fixtures preferred, and Partially Shielded Fixtures are allowed subject to the Lumen amounts listed in Table 10-50.70.050.A</p> <p>X = Outdoor Light Fixture is Prohibited</p>		

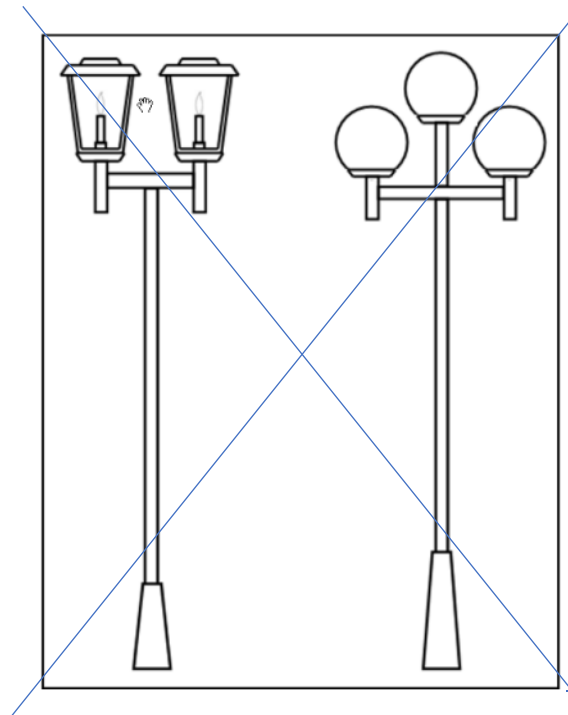
Figure 10-60-70.050B

Table 10-60.70.050.C: Lamp Type and Wattage with Outputs below 2,500 and 1,000 Lumens

Lamp Type	2,500-lm (Commercial and Industrial)	1,000-lm (Residential)
Standard incandescent and less	100-watt	60-watt
Tungsten halogen (quartz) and less	100-watt	60-watt
Fluorescent and less	25-watt	15-watt
Compact Fluorescent and less	26-watt	13-watt

No available data for High-Pressure Sodium or Metal Halide lamps

~~Light Fixture with Multiple Unshielded Fixtures or Lamps~~



~~E. **Effective Shielding.** All light fixtures that are required to be fully shielded shall be installed in such a manner that the shielding satisfies the definition of a fully shielded fixture.~~

D. Effective Shielding. All Outdoor Light Fixtures that are required to be fully shielded shall be installed in such a manner that the shielding satisfies the definition of a Fully Shielded Light Fixture.

F. ~~Light Trespass Standard.~~

E. Light Trespass Standard.

~~1. All light fixtures, including security lighting, shall be located, aimed and shielded so that the direct illumination from the fixture shall be confined to the property boundaries of the source.~~

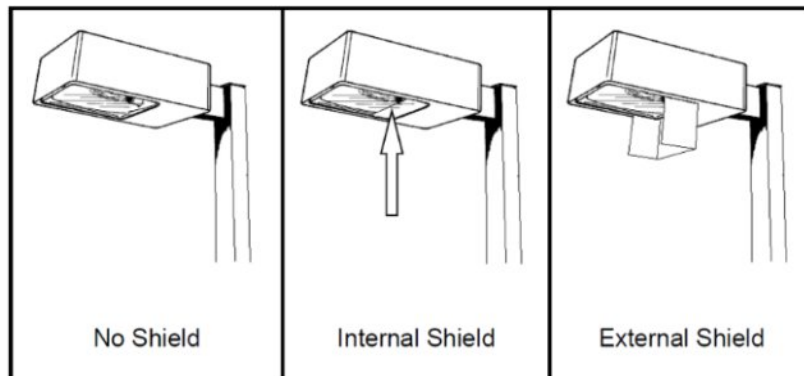
1. All Outdoor Light Fixtures, including motion sensing lighting, shall be located, aimed, and shielded so that the direct illumination from the fixture shall be confined to the property boundaries of the source.

~~2. Any privately or publicly owned outdoor light fixture with a lamp of initial output over 10,000 lumens located within 50 feet of any residential (including multifamily residential) property or public right-of-way shall utilize an internal or external shield, with the light fixture and shield oriented to minimize light trespass over the adjacent property or right-of-way line. If an external shield is used, its surface must be painted black to minimize reflections (Figure 10-50.70.050C).~~

2. Any privately or publicly owned Outdoor Light Fixture with an output over 10,000 Lumens located within 50 feet of any residential (including Multiple-Family Development) property or public right-of-way shall utilize an internal or external shield, with the Outdoor Light Fixture and shield oriented to prevent direct illumination over the adjacent property or right-of-way line. If an external shield is used, its surface must be painted black to minimize reflections (Figure 10-50.70.050.C).

Figure 10-50.70.050.C

Shielding Configurations



~~G. **Motion Sensing Light Fixtures.** Motion sensing light fixtures shall be fully shielded.~~

F. Motion Sensing Outdoor Light Fixtures. Motion sensing Outdoor Light Fixtures shall be fully shielded.

~~H. **Time Limits for Outdoor Lighting.** All outdoor Class 1 and Class 3 lighting, and outdoor Class 2 lighting located more than 50 feet from any building or outdoor product display or storage area shall be turned off at the times listed in Table 10-50.70.050.D, Time Limits for Outdoor Lighting, or no later than 30 minutes after the business closes, whichever is later, and remain off for the remainder of the night or until the business reopens. Decorative holiday lights are exempt in accordance with Section 10-50.70.080(D), and outdoor recreation facilities are exempt in accordance with Section 10-50.70.060(B).~~

G. Time Limits for Outdoor Lighting. All outdoor Class 1 and Class 3 Lighting, and outdoor Class 2 Lighting located more than 50 feet from any structure, outdoor product display, or storage area shall be turned off no later than 30 minutes after the business closes and are to remain off until the business reopens. Decorative holiday lights are exempt in accordance with Section 10-50.70.080.D, and outdoor sports facilities are subject to the time limits in Table 10-50.70.060.B.

~~Table 10-50.70.050.D: Time Limits for Outdoor Lighting~~

-	Zone 1	Zone 2	Zone 3
Time limit when outdoor lights must be turned off	9:00 p.m.	11:00 p.m.	11:00 p.m.

~~I. **Sign Illumination.** Standards for external and internal sign illumination are provided in Division 10-50.100, Sign Standards. Lighting used for the external illumination of signs is included toward the total outdoor light output standards of subsection (C) of this section.~~

H. Sign Illumination. Standards for external and internal sign illumination are provided in Division 10-50.100, Sign Standards. Lighting used for the external illumination of signs is included toward the Total Outdoor Light Output standards of subsection B. of this section.

~~J. **Neon Building Lighting.** Neon building lighting is included in the total outdoor light output calculations for the site. Lumens for neon lighting are calculated on a per foot basis, rather than per “fixture.” Unshielded neon lighting is not permitted.~~

I. Neon Building Lighting. Neon building lighting is included in the Total Outdoor Light Output calculations for the site. Lumens for neon lighting are calculated on a per foot basis, rather than per “fixture.” Unshielded neon lighting is not allowed **except for signage.**

~~K. **Multi-Class Lighting.** Multi-class lighting must either conform to the lamp-type and shielding requirements of the strictest included class as shown in Table 10-50.70.050.A, Maximum Total Outdoor Light Output Standards, and Table 10-50.70.050.B, Lamp Type and Shielding Standards, or conform to the time limitations of the least restrictive included class as shown in Table 10-50.70.050.D, Time Limits for Outdoor Lighting.~~

J. Multi-Class Lighting. Multi-class lighting must either conform to the lamp-type and shielding requirements of the strictest included class as shown in Table 10-50.70.050.A, Maximum Total Outdoor Light Output Standards, and Table 10-50.70.050.B, Shielding Standards, or **be turned off no later than 30 minutes after the business closes.**

~~L. **Internally Illuminated Architectural Elements.** Any architectural element, including walls or portions of buildings that are internally illuminated and that is not a sign or fenestration (windows or doors), shall have 100 percent of the initial lamp output of all lamps used to provide such illumination counted toward partially shielded lighting for the purposes of calculating total outdoor light output for the site and is subject to the standards of subsection (C) of this section.~~

K. Internally Illuminated Architectural Elements. Any architectural element, including walls or portions of buildings, **including canopy facias**, that are internally illuminated and that is not a sign or fenestration (windows or doors), shall have 100 percent of the initial lamp output of all lamps or **luminous tubes** used to provide such illumination counted toward partially shielded lighting for the purposes of calculating Total Outdoor Light Output for the site and is subject to the standards of subsection B. of this section.

~~M. **Architectural/Landscape Lighting.** Architectural lighting used to illuminate the wall of a building or landscape lighting used to illuminate trees or other landscape elements is permitted subject to the following:~~

L. Architectural/Landscape Lighting. Architectural lighting used to illuminate **a structure** or landscape lighting used to illuminate trees or other landscape elements is **allowed** subject to the following:

~~1. Architectural and landscape lighting that is directed downward onto a wall, tree or other landscape feature shall be included in the total outdoor light output standards provided in Table 10-50.70.050.A, Maximum Total Outdoor Light Output Standards, based on whether a fully shielded or partially shielded light fixture is used; and~~

1. Architectural and landscape lighting that is directed downward onto a structure, tree, or other landscape feature shall be included in the Total Outdoor Light Output standards provided in Table 10-50.70.050.A, Maximum Total Outdoor Light Output Standards, based on whether a fully Shielded or Partially Shielded Light Fixture is used; and

~~2. Architectural and landscape lighting that is directed upward onto a wall, tree or other landscape feature is not permitted.~~

2. Architectural and landscape lighting that is directed upward onto a structure, tree, or other landscape feature is not allowed.

~~N. **Emergency Lighting.** Emergency lighting that is only turned on in the event of a power failure or when an alarm is activated is permitted in all lighting zones and is excluded from the total lumen calculations for the site.~~

M. Emergency Lighting. Emergency lighting that is only turned on in the event of a power failure or when an alarm is activated is allowed in all lighting zones and is excluded from the Total Outdoor Light Output standards provided in Table 10-50.70.050.A, Maximum Total Outdoor Light Output Standards.

~~O. **Use of Mercury Vapor Light Fixtures.**~~

N. Use of Mercury Vapor Outdoor Light Fixtures. Except for outdoor lighting systems erected prior to 1950, no mercury vapor outdoor light fixtures are allowed within the City of Flagstaff.

~~1. No new mercury vapor outdoor light fixtures shall be installed after the effective date of this Zoning Code. No replacement equipment other than bulbs for mercury vapor lighting fixtures shall be sold in the State after January 1, 1991, and the use of mercury vapor light fixtures is prohibited after January 1, 2011.~~

~~2. The provisions of this section shall not apply to outdoor light systems erected prior to 1950.~~

10-50.70.060 Special Uses

A. Canopies, Building Overhangs, and Roof Eave Lighting.

1. **Shielding.** All Outdoor Light Fixtures attached, mounted to, or within, a canopy, building overhang, or roof eave shall be fully shielded.
2. **Total Lumens.** The Total Lumen of each Outdoor Light Fixture shall be calculated based on the distance from the edge of the canopy, building overhang, or roof eave subject to Figure 10-50.70.060.A.

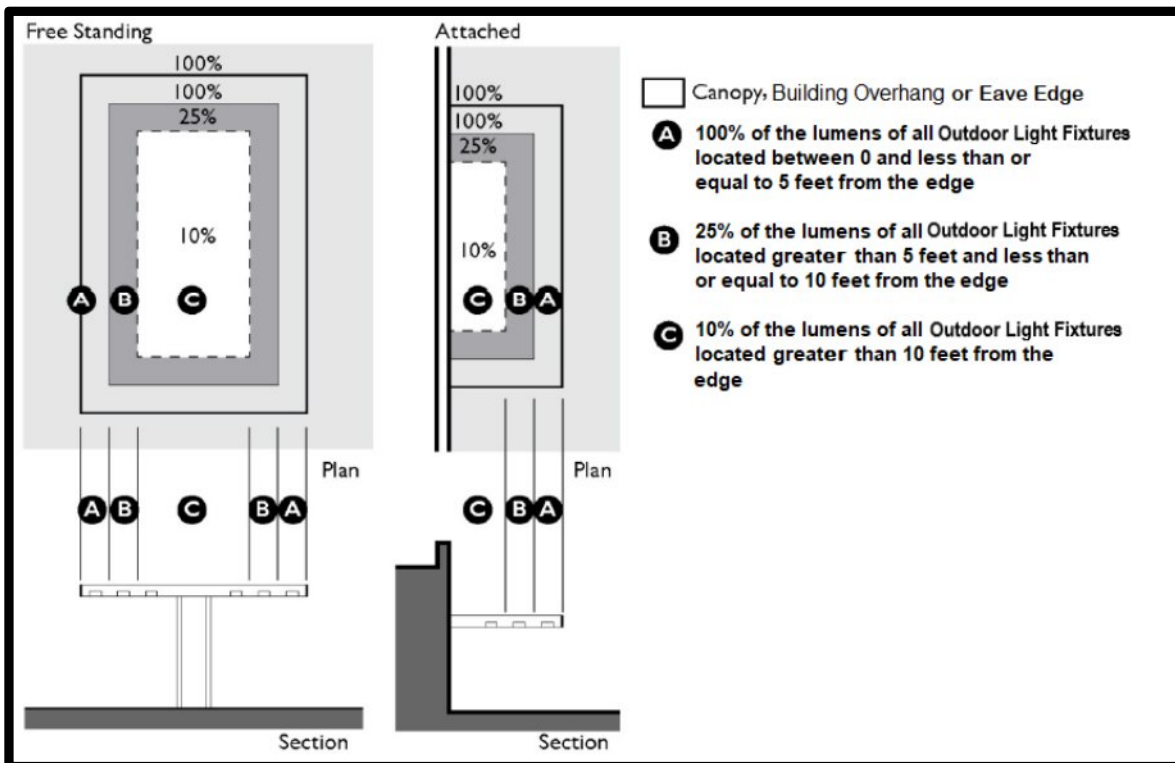


Figure 10-50.70.060.A

Plan and Section Views of a Freestanding and Attached Canopy or Overhang, Showing Fixture Location and Initial Lamp Output Percentage Counted Toward Total Outdoor Light Output

A. ~~Service Station Canopy Lighting.~~

B. Service Station Canopy Lighting.

1. **Lighting Class.** Lighting for service station canopies shall be considered Class 1 lighting.

~~2.—Shielding. All light fixtures mounted on or recessed into the lower surface of service station canopies shall be fully shielded and utilize flat lenses. Such shielding must be provided by the fixture itself; shielding by surrounding structures such as canopy edges is not permitted.~~

2. Shielding. All Outdoor Light Fixtures mounted on or recessed into the lower surface of service station canopies shall be fully shielded and utilize flat lenses. Such shielding must be provided by the fixture itself; shielding by surrounding structures such as canopy edges is not allowed.

~~3.—Total Under-Canopy Output. The total light output used under service station canopies, defined as the sum of all under-canopy initial lamp outputs in lumens, shall not exceed 40 lumens per square foot of canopy in Lighting Zone 2 and 3, and shall not exceed 20 lumens per square foot in Lighting Zone 1 (note: these values are not foot-candle illuminances).~~

3. Total Under-Canopy Output. The Total Outdoor Light Output used under service station canopies, defined as the sum of all under-canopy Light Fixtures, shall not exceed 30 Lumens per square foot of canopy in Lighting Zone 2, and shall not exceed 15 Lumens per square foot in Lighting Zone 1 (note: these values are not foot-candle illuminances).

~~4.—All lighting mounted under the canopy, including but not limited to light fixtures mounted on or recessed into the lower surface of the canopy and any lighting within signage (but not including any lamps mounted within the pumps and used to illuminate information indicating such items as the total cost of fuel pumped and price per gallon), shall be included in the total outdoor light output for the site and is subject to the standards of Section 10-50.70.050(C).~~

4. Total Lumens. All lighting mounted under the canopy, including but not limited to Outdoor Light Fixtures mounted on or recessed into the lower surface of the canopy and any lighting within signage (but not including any lamps mounted within the pumps and used to illuminate information indicating such items as the total cost of fuel pumped and price per gallon), shall be included in the Total Outdoor Light Output for the site and is subject Figure 10-50.70.060.A.2.

~~B.—Outdoor Recreation Facilities.~~

C. Outdoor Recreation Facilities.

~~1.—Lighting Class. Lighting for field/track/arena areas only shall be considered Class 1.~~

1. Lighting Class. Lighting for field/track/arena areas only shall be considered Class 1 Lighting.

~~2. Lumen Cap Exemption.~~

2. **Lumen Cap Requirements.**

~~a. In Lighting Zone 1, lighting for field/track/arena areas is subject to the lumens per acre limit set in Section 10-50.70.050(C);~~

a. In Lighting Zone 1, lighting for field/track/arena areas is subject to the Maximum Total Outdoor Light Output standards set in Table 10-50.70.050.A.;

~~b. In Lighting Zones 2 and 3, lighting for field/track/arena areas is not subject to the lumens per acre limit set in Section 10-50.70.050(C); and~~

b. In Lighting Zone 2, lighting for field/track/arena areas is not subject to the Maximum Total Outdoor Light per acre limit set in Table 10-50.70.050.A; and

~~c. Illumination levels for the field/track/arena shall be designed to be no higher than recommended for Class IV play, as defined by the Illuminating Engineering Society of North America publication IESNA RP-06-01.~~

c. Illumination levels for the field/track/arena shall be designed to be no higher than recommended for Class IV play, as defined by the Illuminating Engineering Society of North America publication ANSI/IES RP-6-20, as amended.

3. **Shielding.** Fixtures used for field/track/arena areas shall be fully shielded.

~~4. **Time Limits.** No illuminated sports facility shall be illuminated after the time limits listed in Table 10-50.70.050.D, Time Limits for Outdoor Lighting, except to conclude a scheduled recreational or sporting event in progress prior to the time limitation.~~

4. Time Limits. Outdoor sports facilities shall not be illuminated after the time limits listed in Table 10-50.70.060.B, except to conclude a scheduled recreational or sporting event in progress prior to the time limitation.

Table 10-50.70.060.B		
Time Limits for Outdoor Lighting of Sports facilities		
	Zone 1	Zone 2
Time limit when outdoor lights shall be turned off	9:00 p.m.	11:00 p.m.

5. **Certification.** Lighting systems for outdoor recreational facilities shall be designed and certified by an engineer registered in Arizona as conforming to all applicable restrictions of this code before construction commences. Further, after installation is complete, the system shall be again certified by a registered engineer to verify that the installation is consistent with the certified design.

~~C. Street Lighting.~~

D. Street Lighting.

~~1. Standards for street lighting installed on public rights-of-way are found in the City Engineering Standards, Title 12, Street Lighting.~~

1. Street lighting installed on public rights-of-way shall be in accordance with Title 13, Engineering Design Standards and Specifications for New Infrastructure.

~~2. Street lighting installed on private rights-of-way shall be included within the total outdoor light output for the development.~~

2. Street lighting installed on private street tracts or easements shall be in accordance with Title 13, Engineering Design Standards and Specifications for New Infrastructure.

~~D. Parking Garages.~~

E. Parking Garages.

1. **Lighting Class.** Lighting installed for general illumination of parking areas within parking garages, where the parking areas are open to the outside, shall be considered Class 2.

~~2. Inclusion Toward Total Outdoor Light Output. The lumen output of light fixtures mounted 15 feet or more from the nearest opening to the outdoors and within open parking garages shall not be included~~

toward the Total Outdoor Light Output standards in Section 10-50.70.050(C). All light fixtures mounted less than 15 feet from the nearest opening to the outdoors shall comply with the total outdoor light output standards established in Section 10-50.70.050(C).

2. Total Outdoor Light Output. Ten percent (10%) of the Lumen output of Light Fixtures mounted less than 15 feet from the nearest opening to the outdoors of an open parking garage shall be included toward the Total Outdoor Light Output standards established in Table 10-50.70.050.A subject to Figure 10-50.70.060.C. The Lumen output of Light Fixtures mounted 15 feet or more from the nearest opening to the outdoors of an open parking garage shall not be included toward the Total Outdoor Light Output standards in Table 10-50.70.050.A subject to Figure 10-50.70.060.C.

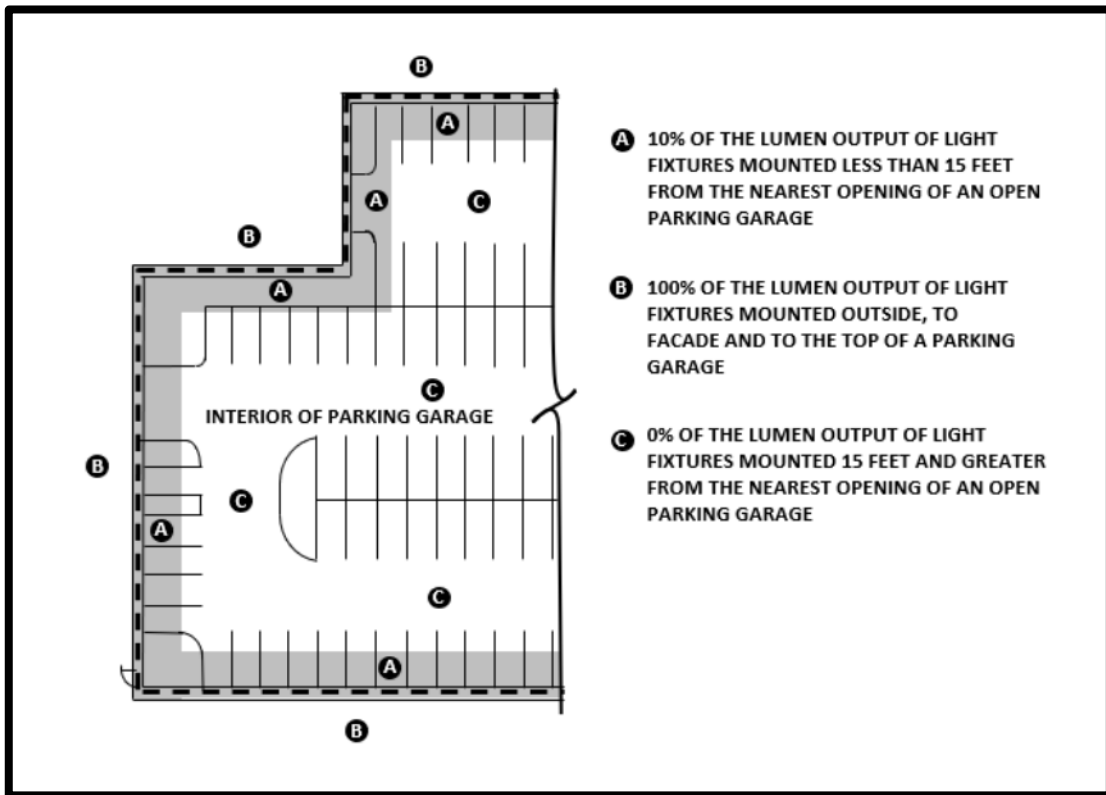


Figure 10-50.70.060.C
Calculation of Total Lumens of the Light Fixtures Located Inside of Parking Garage

3. Shielding. All light fixtures used on or within open parking garages, including those mounted to the ceilings over the parking decks, shall be fully shielded.

E. Outdoor Display Lots.

F. Outdoor Display Lots.

~~1. **Lighting Class.** Outdoor lighting for outdoor display lots shall be considered Class 1 lighting, and shall conform to applicable lumens per net acre limits applied to the entire parcel.~~

1. Lighting Class. Class 1 Lighting may be used to illuminate outdoor display lots, and shall be included toward the Total Outdoor Light Output standards in Table 10-50.70.050.A.

~~2. **Lighting Time Limitations.** Outdoor display lot lighting shall conform to the hours of operation as established under Class 1 lighting standards. Any lighting on after the time limitations shall be considered Class 2 lighting and shall conform to all restrictions of this division applicable to this class.~~

2. Lighting Time Limitations. All Class 1 outdoor display lighting shall be turned off no later than 30 minutes after the close of business. Only lighting meeting Class 2 Lighting standards may be used to illuminate an outdoor display area 30 minutes or later after the close of business.

3. **Shielding.** All light fixtures used in outdoor display lots shall be fully shielded and be aimed so that the direct illumination shall be confined to the property boundaries of the source.

~~F. **Temporary Lighting.** Temporary lighting which does not conform to the provisions of this division may be approved by the Director subject to the approval of an outdoor lighting permit in accordance with the provisions of Section 10-20.40.100, Outdoor Lighting Permits. Temporary lighting is intended for uses which by their nature are of limited duration, including for example, holiday decorations, civic events or construction projects.~~

G. Temporary Lighting. Temporary lighting which does not conform to the provisions of this division may be approved by the Director subject to the approval of an outdoor lighting permit in accordance with the provisions of Section 10-20.40.100, Outdoor Lighting Permits. Temporary lighting is intended for uses which by their nature are of limited duration, including for example, holiday decorations, civic events, or construction projects.

10-50.70.070 Prohibited Outdoor Lighting

The following types of outdoor lighting are prohibited:

- A. Outdoor floodlighting by flood light projection above the horizontal plane.
- B. Search lights, flood lights, laser source lights, or any similar high intensity light, except in emergencies by police, fire or medical personnel or at their direction; or for meteorological data gathering purposes.

C. Any lighting device located on the exterior of a building or on the inside of a window which is visible beyond the boundaries of the lot or parcel with intermittent fading, flashing, blinking, rotating or strobe light illumination.

10-50.70.080 Exceptions

~~A.—**Airport Lighting.** Required navigational lighting systems at airports for the safe and efficient movement of aircraft during flight, take off, landing and taxiing are exempt from the provisions of this division. Lighting used for illumination of aircraft loading, unloading, and servicing areas is exempt from the lumens per acre limits provided in Section 10-50.70.050(C), although it must conform to all other requirements of this division. All other outdoor lighting at airport facilities shall comply with the provisions of this division.~~

A. Flagstaff Municipal Airport Lighting. Required navigational lighting systems at public airports for the safe and efficient movement of aircraft during flight, take off, landing, and taxiing are exempt from the provisions of this division. Lighting used for illumination of aircraft loading, unloading, and servicing areas is exempt from the Lumens per acre limits provided in Table 10-50.70.050.A., although it must conform to all other requirements of this division. All other outdoor lighting at public airport facilities shall comply with the provisions of this division. **This provision does not apply to private helipads or landing strips.**

B. **Infrared Security Lighting.** Lights emitting infrared radiation used for remote security surveillance systems are permitted in all zones with the following restrictions:

1. Fixed lights must be fully shielded; and
2. Movable lights, such as spot lights attached to infrared sensitive cameras, must be mounted such that the lights cannot be directed higher than 20 degrees below the horizontal, measured from the center of the light beam.

C. **Emergency Lighting by Emergency Services.** Searchlights, floodlights, laser source lights, strobe or flashing lights, or any similar high intensity lights are permitted when used in emergencies by police, fire, medical, or utility personnel or at their direction.

~~D.—**Holiday Decorations.** In all lighting zones low voltage holiday decorations may be unshielded and remain on all night from November 15th to January 15th.~~

D. Holiday Decorations. In all lighting zones, **low Lumen output** holiday decorations may be unshielded and remain on all night from November 15th to January 15th.

E. Solar-Powered Lighting. Solar-powered lights of five watts or less per fixture used in residential landscaping applications and to illuminate walkways are exempt from applicable lamp type and shielding standards and are excluded from the total lumen calculations for the site.

F. Construction and Renovation of Municipal Facilities. All outdoor lighting used for construction or major renovation of municipal buildings, structures and facilities is exempt from the provisions of this division.

10-50.70.090 Nonconforming Outdoor Lighting

Section [10-20.60.080](#), Nonconforming Outdoor Lighting, provides the standards and regulations for nonconforming outdoor lighting.

10-50.70.100 Violations and Enforcement

A. It shall be unlawful to install or operate an outdoor light fixture in violation of this division. Any person violating any provisions of this division shall be guilty of a misdemeanor. Each and every day during which the illegal erection, maintenance, and use continues shall be considered a separate offense.

B. The requirements of this division shall be enforced in compliance with the enforcement provisions of Division [10-20.110](#), Enforcement.

10-20.60.040 Residential Exemptions

~~An involuntarily damaged or destroyed nonconforming single-family or multifamily dwelling unit may be reconstructed or replaced with a new structure within the same footprint (including pre-existing nonconforming setbacks), height and number of dwelling units, in compliance with current Building and Fire Code requirements.~~

An involuntarily damaged or destroyed nonconforming Single-Family or Multiple-Family Development unit may be reconstructed or replaced with a new structure within the same footprint (including pre-existing nonconforming setbacks), height and number of dwelling units, but in compliance with Title 4, Building Regulations; Title 5, Fire Code; and Division 10-50.70, Outdoor Lighting Standards.

10-20.60.080 Nonconforming Outdoor Lighting

A. General.

1. If at the effective date of this Zoning Code, or of any extension resulting from annexation to the City, any existing outdoor lighting which is being used in a manner or for a purpose which is otherwise lawful, but does not comply with the provisions of Division [10-50.70](#), Outdoor Lighting Standards, shall be deemed legal but nonconforming, and shall be allowed to continue provided such fixtures are extinguished between the hours of midnight and sunrise by an automatic shut-off device.
2. No modification or replacement shall be made to a nonconforming outdoor light fixture unless the fixture thereafter conforms to the provisions of Division [10-50.70](#), Outdoor Lighting Standards.
3. Whenever a nonconforming use, structure or lot is abandoned for a period of 180 consecutive days and then changed to a new use according to the requirements of Section [10-20.60.030](#), Restrictions on Nonconforming Uses and Structures, then any existing outdoor lighting shall be reviewed and brought into compliance as necessary for the entire building, structure or premises.

10-50.100.050.C.2. Internally Illuminated Sign Standards

(2) **Lighting Zones 2 and 3.** The sign face(s) shall be either composed of illuminated text and symbols against an opaque background (as in subsection (C)(2)(a)(1) of this section), or with generally lighter text and symbols against a colored (not white, off-white, light gray, cream, or yellow) background. Text and symbols may be white, off-white, light gray, cream, or yellow. (See Figure 10-50.100.050I.)

10-80.20.060 Definitions, “F”

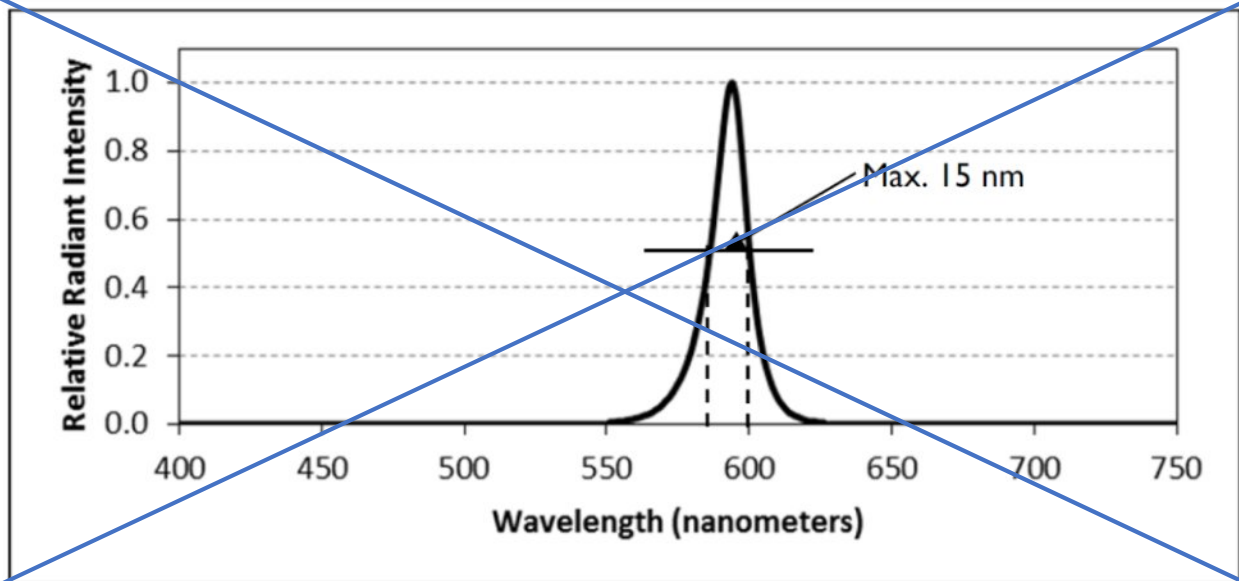
Fully Shielded Light Fixture: See “Light Fixture, Fully Shielded.”

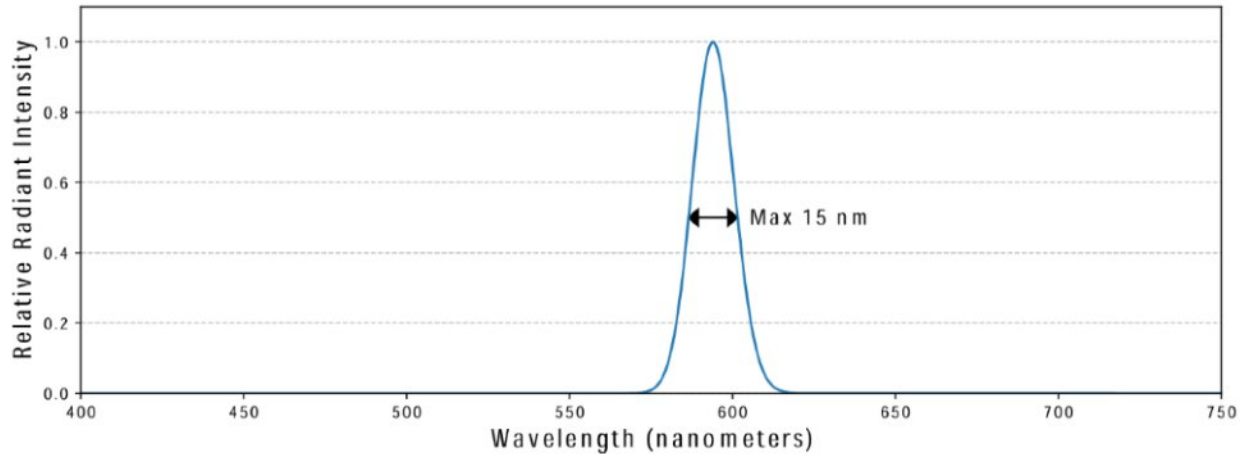
Fully Shielded Light Fixture: See “Fixture, Fully Shielded.”

10-80.20.120 Definitions, “L”

~~LED, Narrow-Spectrum Amber: A light-emitting diode (LED) with a spectrum similar to that shown in the graph below, and with a peak wavelength between 585 and 595 nanometers and a full width at 50 percent power no greater than 15 nanometers.~~

LED, Narrow-Spectrum Amber: A light-emitting diode (LED) with a peak wavelength between 589 and 595 nanometers and a full width at 50 percent power no greater than 15 nanometers.





Light Fixture: [See “Light Fixture, Outdoor.”](#)

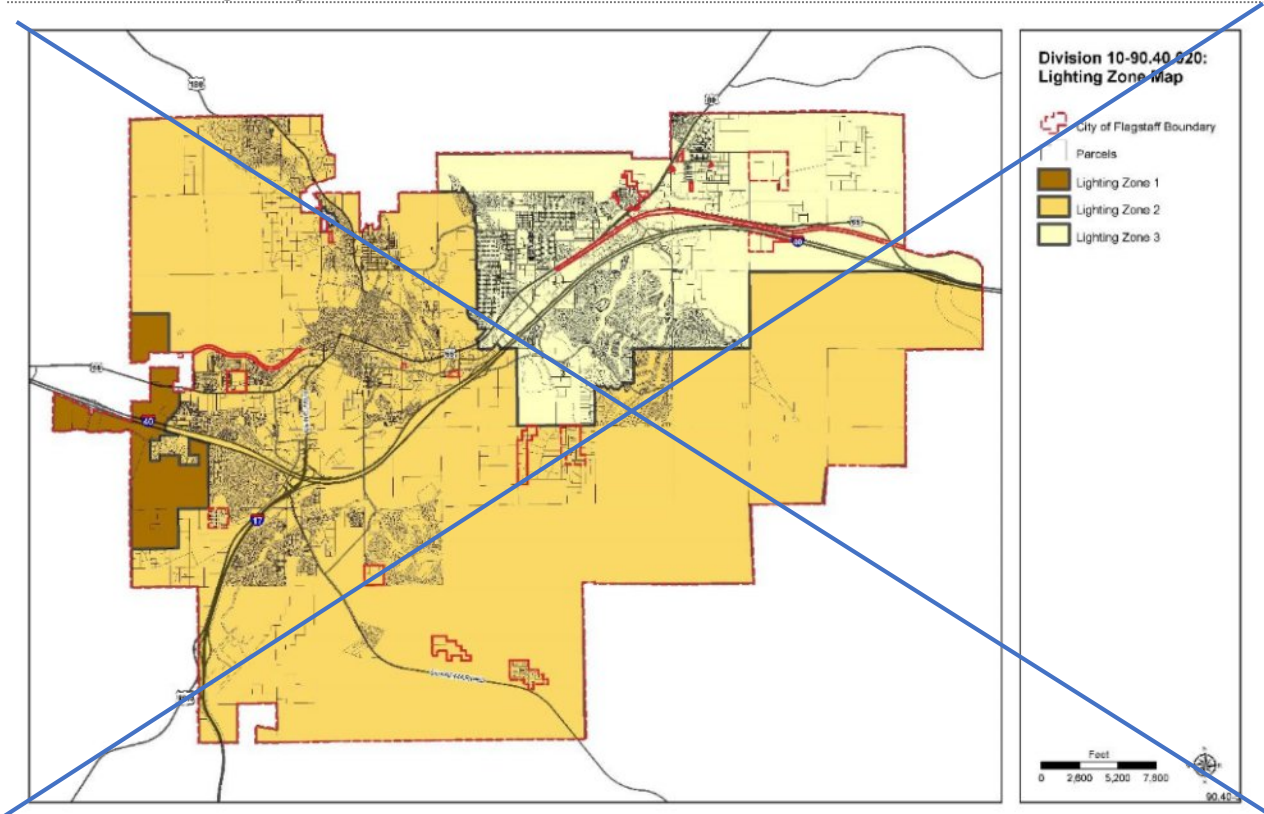
10-80.20.150 Definitions, “O”

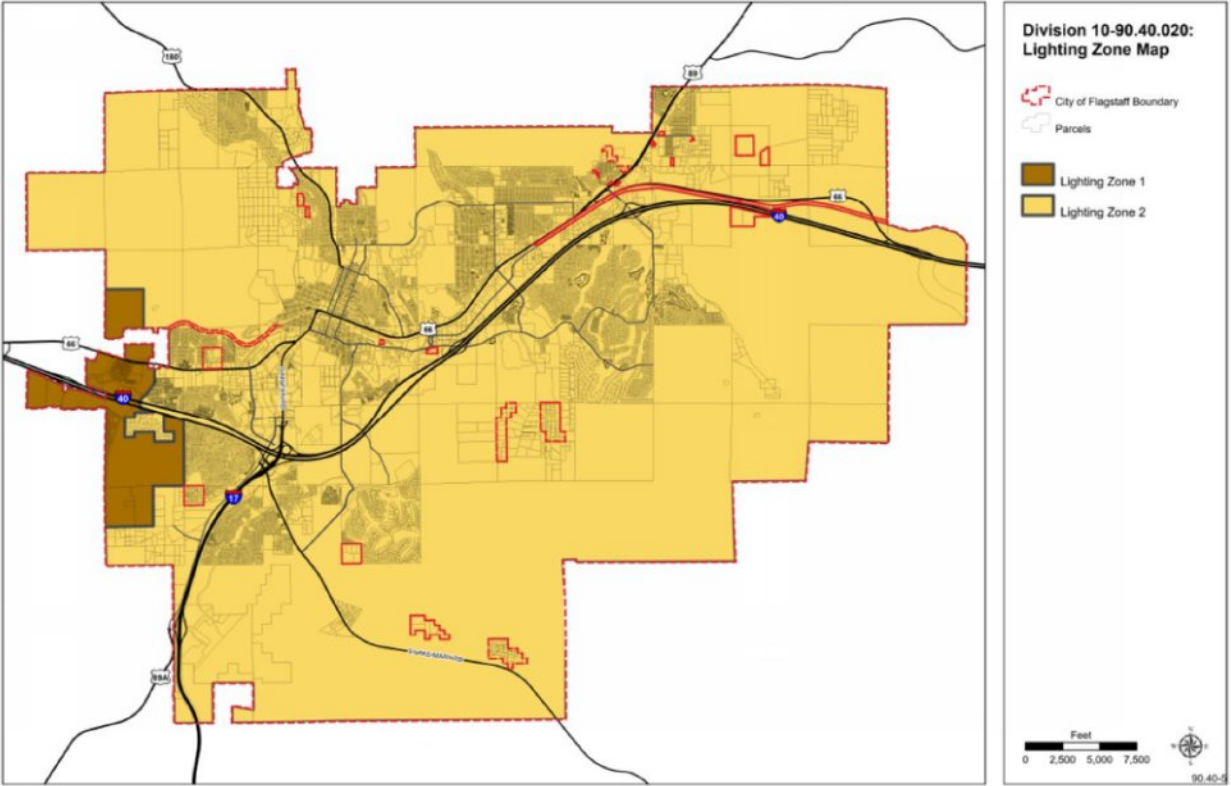
Outdoor Light Output, Total: The maximum total amount of light, measured in lumens, from all outdoor light fixtures. Includes all lights and luminous tubing used outdoors or in areas open to the outdoors, and lights used for external illumination of signs, but does not include lights used inside of internally illuminated signs or luminous tubing used in neon signs. For luminous tubes used outside of signage, output is calculated per linear foot of tubing rather than per lamp. For lamp types that vary in their output as they age (such as high pressure sodium, metal halide and fluorescent), the initial output, as defined by the lamp manufacturer, is the value to be considered.

Outdoor Light Output, Total: The maximum total amount of light, measured in Lumens, from all Outdoor Light Fixtures. Includes all outdoor lights and luminous tubing used in areas open to the outdoors, and lights used for external illumination of signs, but does not include lights used inside of internally illuminated signs, luminous tubing used in neon signs, and street and pedestrian lighting installed on public rights-of-ways or private street tracts in accordance with Title 13, Engineering Design Standards and Specifications for New Infrastructure. The total Lumens of each Outdoor Light Fixture used to calculate the Total Outdoor Light Output is:

- (1) The total initial Lumen output listed by the manufacturer of an integral solid-state LED Outdoor Light Fixture;
- (2) The initial Lumen output for all outdoor luminous tubes (e.g., neon and fluorescent tubes and rods) calculated per linear foot;
- (3) The initial Lumen output (i.e., bulb lumens) listed by the manufacturer of all replaceable Edison Socket, or other screw-in, plug in, etc., LED bulbs used in an Outdoor Light Fixture multiplied by 0.70.; and
- (4) The initial Lumen output (i.e., bulb lumens) of all other outdoor bulb light sources (i.e., non-LED) included as part of an Outdoor Light Fixture multiplied by 0.70.

10-90.40.020 Lighting Zone Map





OUTDOOR LIGHTING ZONING CODE TEXT AMENDMENT PUBLIC PARTICIPATION PLAN

I. PURPOSE

The primary purpose of this Zoning Code Text Amendment is to update the Outdoor Lighting Zoning Code, related development standards and other related modifications to address the Joint Land Use Study (JLUS) implementation strategies, remove conflicts and simplify the requirements.

This Public Participation Plan will service as the guiding methodology to provide opportunities to the public to participate and provided public comments regarding the proposed Zoning Code Text Amendment.

II. WORK GROUP

The primary purpose of this the work group is to review the draft amendment to verify that it addresses JLUS study prior to beginning public outreach. The workgroup is anticipated to include the following persons:

Dan Symer
Tiffany Antol
Genevieve Pearthree
Christina Rubalcava
Dan Folke
Reggie Eccleston

Mark Stento
Mary Beth Dreusike
Frederick Vrba
Stephen Williams
Christian Luginbuhl
Jeffrey C. Hall

III. PUBLIC OUTREACH

After the work group finalized a draft of the Outdoor Lighting Standards amendment. Staff completed the following efforts to reach out for public input on the proposed amendment prior to scheduling work sessions or public hearings:

- Direct contact with known electrical and lighting contractors was made via email to solicit feedback on the proposed amendment.
- Notice about the proposed amendment was added to all water bills during the month of July.
- Staff had an article about the proposed amendment published in the Flagstaff Business News July 2022 edition.
- A direct mailing to all commercial property owners in Lighting Zone III (approximately 600 owners) with notice of the proposed amendment and invitation to an Open House to discuss the amendment.
- Staff held an Open House meeting on August 4, 2022, 5:30 p.m. at the Flagstaff Public Library (Downtown) to discuss the amendment. One member of the public attended the open house.

IV. REQUIRED WORK SESSIONS AND PUBLIC HEARINGS

The Zoning Code's required Citizen Review work session with the Planning and Zoning Commission will be held at least 14 days prior to the Planning and Zoning Commission's public hearing to provide a recommendation to the City Council on the proposed Zoning Code Text Amendments. Also, a work session with the City Council will be held at least 14 days prior to the City Council's public hearing on the proposed Zoning Code Text Amendments.

City Council Work Session – September 27, 2022, 3:00 p.m.

Planning and Zoning Commission Work Session - September 28, 2022, 4:00 p.m.

Planning and Zoning Public Hearing – October 12, 2022, 4:00 p.m.

City Council Public Hearing – November 1, 2022, and November 15, 2022, 3:00 p.m.

V. METHODOLOGY OF PUBLIC NOTICE

Notification to public will be provided in several methods. These will include:

- First class mail notices will be sent to all on the interested parties/notification list on file with the Planning and Development Services a minimum of 15 days prior to any neighborhood meeting and public hearings.
- Eighth-page ads in the Arizona Daily Sun will be published at least 15 days prior to any required work sessions and public hearings.
- Email notices to regular of the work sessions and public hearing will be provided to contractors, electrical engineers and lighting designers that submit regularly to the City.
- Notifications on the Zoning Code Amendment webpage will be provided.
- The City Council and Planning and Zoning Commission meeting and work session agendas that include this amendment will be posted at the City Hall and on the City website.



Planning & Zoning Commission

5. B.

Meeting Date: 10/12/2022

From: Tiffany Antol, Senior Planner

Information

TITLE:

PZ-21-00021

This request is for a Zoning Code Text Amendment to amend Section 10-90.40.030 of the Zoning Code, the Rural Floodplain Map, to change the map designation of approximately 7.76 acres from Rural Floodplain to Urban Floodplain on eight parcels of land (APNs 101-01-020A, 020B, 101-28-005G, 005H, 005K, 013A, 013B, and 013D) located generally between W Forest Avenue, N San Francisco Street.

STAFF RECOMMENDED ACTION:

Staff recommends the Planning and Zoning Commission, in accordance with the findings presented in this report, make a recommendation to the City Council for approval of the Zoning Code Text Amendment.

Attachments

Staff Report
Application
Project Narrative
Floodway-Flood Fringe Map
Concept Plan Narrative
Concept Plan
Letter from NAH
Letter from Testan Properties
RP Map 7 Significant Natural Resources
RP Map 8 Concentration of Natural Resources
Proposed Rural Floodplain Map
Citizen Outreach Plan
Public Meeting follow up
Comment Emails

PLANNING AND DEVELOPMENT SERVICES REPORT
Zoning Code Text Amendment

PUBLIC HEARING
PZ-21-00021

DATE: September 26, 2022
MEETING DATE: October 12, 2022
REPORT BY: Tiffany Antol, AICP

REQUEST:

This request is for a Zoning Code Text Amendment to amend Section 10-90.40.030 of the Zoning Code, the Rural Floodplain Map, to change the map designation of approximately 7.76 acres from Rural Floodplain to Urban Floodplain on eight parcels of land (APNs 101-01-020A, 101-01-020B, 101-28-005G, 101-28-005H, 101-28-005K, 101-28-013A, 101-28-013B, and 101-28-013D) located generally between W Forest Avenue and N San Francisco Street.

STAFF RECOMMENDATION:

Staff recommends the Planning and Zoning Commission, in accordance with the findings presented in this report, make a recommendation to the City Council for approval of the Zoning Code Text Amendment.

I. PROJECT INTRODUCTION

A. Background

The Zoning Code includes a Resource Protection Overlay (RPO) that was originally adopted in June 1999 and applied to vacant parcels greater than five acres at the time of adoption. The purpose of the RPO is to provide standards for the protection of natural resources, including floodplains, steep slopes, and forest. The requirements are meant to ensure that proposed development is consistent with the character of its natural surroundings. Floodplains (both Rural and Urban) are the highest priority resource to be protected on a site. Floodplains are categorized as either urban or rural based on the descriptions below.

1. **Urban Floodplains.** All watercourses and associated floodplains not defined as rural floodplains are urban floodplains. Urban floodplains are typically located in urbanized areas and have typically been altered from their natural state by channelization. Urban floodplains may be altered to address conveyance and erosion concerns, provided that all necessary requirements of the City's *Stormwater Regulations* as administered by the Stormwater Manager are addressed. However, certain urban floodplains that have characteristics conducive to water quality, wildlife habitat, and stream ecology should be preserved. Proposals for any disturbance of these watercourses shall be reviewed by the Stormwater Manager and must address these attributes and provide for mitigation if necessary. Undergrounding of urban floodplains is strongly discouraged, and a justification must be provided prior to any approval of undergrounding.

2. **Rural Floodplains.** Rural floodplains are natural undisturbed open spaces that are unsuitable for development purposes due to periodic flood inundation and the need to preserve the stream corridor for beneficial uses such as the preservation of important ecological resources. Rural floodplains are delineated in Section [10-90.40.030](#), Rural Floodplain Map, and defined as areas of delineated 100-year floodplain that cannot be disturbed or developed except for roadway and utility crossings. Rural floodplains cannot be altered through a floodplain map amendment or revision and must remain undisturbed (i.e., 100 percent protection). The extension of rural floodplains beyond the limits of the delineated floodplains, both upstream and laterally, may be required based on more current or extended floodplain studies, master plan documents or other studies or documents related to hydrology, hydraulics, stream geomorphology, wildlife habitat, or wildlife corridors.

B. Proposed Amendment

The proposed amendment is to change the map designation of approximately 7.76 acres from Rural Floodplain to Urban Floodplain. The applicant's request is specific to their parcel APN 101-28-005H. The Rural Floodplain encumbers approximately 1.96 acres of the applicant's 3.35-acre parcel. The applicant contends that the existing

floodplain has been altered by adjacent development making the Rural Floodplain designation incongruent with the description provided in the Zoning Code. The applicant states that the correct designation is Urban Floodplain. The applicant is only requesting this designation be changed on their property. Staff believes that if the adjacent floodplain areas have been altered as is described in this application, they also no longer meet the description of Rural Floodplain and have included these areas as part of the Zoning Code Text Amendment.

This area of Rural Floodplain is bounded on the north by W Forest Avenue. The floodplain bisects two parcels of land owned by Northern Arizona Healthcare (NAH). The floodplain is primarily located on land owned by the City of Flagstaff running in between the NAH properties, however, portions of the floodplain still overlap one of the parcels owned by NAH. As the floodplain moves further south it encumbers another parcel owned by NAH. NAH has provided written support to join this application (see attachment). Beyond the NAH parcels is a parcel that is occupied by the Flagstaff YMCA. A portion of this parcel (most of which is encumbered by the floodplain) has been dedicated to the City of Flagstaff as right-of-way. The applicant's parcel is directly south of the YMCA and the City right-of-way. There are two additional vacant properties (owner has also submitted a letter to be included in this application) and the Northland Hospice site at the southern extent of this floodplain.

The applicant states as part of their concept plan narrative that the project site is challenging due to constraints across the entire parcel including man-made slopes from the Switzer Canyon Road fill slope as well as moderate to dense tree coverage and 1.96 acres of the total site are within the Rural Floodplain. This leaves approximately 1.39 acres to hit a minimum density of 34 units. The applicant's property is currently zoned High Density Residential and is located within the RPO. The minimum density required is 10 units per acre ($3.35 \times 10 = 33.5$ or 34 units). The maximum density allowed for a parcel outside of an activity center and within the RPO is 22 units per acre ($3.35 \times 22 = 73.7$ or 74 units). The applicant is proposing to develop approximately 0.36 acres of the designated Flood Fringe (within the 100-year floodplain outside of the floodway) leaving the remaining 1.37 acres as undisturbed open space. Residential development within the 100-year floodplain is required to be constructed so that the finished floor of livable space is a minimum of one foot above the 100-year floodplain as determined by the FEMA flood maps. The applicant's proposed residential design includes two floors of livable space above a bottom floor garage which would assist with these elevation requirements.

Existing and potential development on the surrounding parcels based on existing zoning includes the following:

- APN 101-01-020A – Owned by Northern Arizona Healthcare (NAH), zoned Highway Commercial (HC), currently vacant; this site could allow either commercial or residential development. This zoning category allows one of the highest density and intensity of development.
- APN 101-28-005G – Owned by NAH, zoned High Density Residential (HR), currently vacant, 4.86 acres; could be developed with 107 residential units or medical offices with a conditional use permit.
- APN 101-28-005K – Owned by Valley of the Sun Young Men's Christian Association; has been developed with the current Flagstaff YMCA facility.
- APN 101-28-013A – Owned by Testan Properties LLC, zoned Single-Family Residential (R1), currently vacant, .72 acres; could have four residential units.
- APN 101-28-013B – Owned by Testan Properties LLC, zoned Single-Family Residential (R1), currently vacant, .71 acres; could have four residential units.
- APN 101-28-013D – Owned by Northland Hospice, zoned Single-Family Residential (R1), currently developed with Northland Hospice facilities.

II. ZONING CODE TEXT AMENDMENT

An application for a Zoning Text Amendment shall be submitted to the Planning Director and shall be reviewed and a recommendation prepared. The Planning Director's recommendation shall be transmitted to the Planning and Zoning Commission in the form of a staff report prior to a scheduled public hearing. The recommendation shall include: an evaluation of the consistency and conformance of the proposed amendment with the goals and policies of the General Plan and any applicable specific plans; the grounds for the recommendation based on the standards and purposes of the

zones set forth in Section 10-40.20 (Establishment of Zones) of the Zoning Code; and whether the amendment should be granted or denied.

A Zoning Code Text Amendment shall be evaluated based on the following findings:

A. Finding #1:

- **The proposed amendment is consistent with and conforms to the objectives and policies of the General Plan and any applicable specific plan.**

The proposed amendment is to resolve a conflict in the Rural Floodplain Map. The existing Switzer Wash within the subject area has been significantly altered through various development projects over time and no longer meets the intent and purpose of the Rural Floodplain. This amendment will change the designation from Rural Floodplain to Urban Floodplain. The Regional Plan does not specifically address Rural versus Urban Floodplain as described in the Zoning Code.

Floodplains in general are considered environmentally sensitive lands which are covered in the Regional Plan on page IV-16. The plan states, "These areas contain critical resources and require special consideration in the development design and review process." The following goals and policies apply to this application:

Goal E&C.7 Give special consideration to environmentally sensitive lands in the development and review process.

Policy E&C.7.1. Design development proposals and other land management activities to minimize the alteration of natural landforms and maximize conservation of distinctive natural features.

Policy E&C.7.2. Favor the use of available mechanisms at the City and County level for the preservation of environmentally sensitive lands, including but not limited to public acquisition, conservation easements, transfer of development rights, or clustered development with open space designations.

Development in Floodplains is regulated by Title 12 of the Flagstaff City Code entitled Floodplains, which is managed through our Stormwater Program as part of the Water Services Division. No new structure or development is permitted to be constructed without full compliance with these regulations. Development standards in the flood fringe include proper anchoring (if necessary), flood resistant materials and construction methods, and elevation and flood proofing requirements. If the applicant's proposed development moves forward, they will be required to comply with all portions of these standards which are intended to protect the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions. The applicant's development proposal is also in alignment with the above referenced policies as they attempt to avoid most of the floodplain by clustering the development outside of the Flood Fringe. This causes an additional burden on the applicant with the remainder of this site outside of the Flood Fringe impacted by slopes and forest resources.

The Environmental Planning & Conservation Chapter of the Regional Plan includes two maps that help identify concentration of natural resources in Flagstaff. Map 7: Significant Natural Resource: Wildlife, Vegetation, Hydrology and Geology identifies the subject areas as a potential site for Riparian Vegetation. A visit to this site shows only Ponderosa Pine and native grasses and typical riparian vegetation. Map 8: Concentration of Natural Resources shows the subject area in the moderate range of resource concentration without further indication of the resource identified in this area. The area is not identified as a Watchable Wildlife Area. Both maps include notes that the indication of natural resources does not preclude private development entitlements.

Other provisions of the Regional Plan that apply to this application are found in the Stormwater and Watershed Management section covered on page VI-14. This section identifies that watercourse preservation and restoration is a critical and necessary part of stormwater and watershed management. The following goals and policies apply to this application:

Goal WR.5. Manage watersheds and stormwater to address flooding concerns, water quality, environmental protections, and rainwater harvesting.

Policy WR.5.1. Preserve and restore existing natural watercourse corridors, including the 100-year floodplain, escarpments, wildlife corridors, natural vegetation, and other natural features using methods that result in a clear legal obligation to preserve corridors in perpetuity, where feasible.

Policy WR.5.3. Identify downstream impacts as the result of development and provide for mitigation measures to address impacts. When possible, mitigations should be non-structural in nature.

If this floodplain's watershed were impacted by fire in the future increasingly the likelihood of flooding in the area, beyond what has already been identified, the City would be limited in managing this floodplain area because of the Rural Floodplain designation. Staff believes the best possible result for this area would be to see the existing floodplain restored and preserved. The possibility of making that a reality due to land ownership, parcel configuration, and existing development is limited. Lastly, any new construction will be required to comply with existing Floodplain regulations that would address the issues with downstream impacts.

The proposed amendment can be found consistent and conforms to the objectives and policies of the Regional Plan. There are no specific plans that cover this area.

B. Finding #2

- **The proposed amendment will not be detrimental to the public interest, health, safety, convenience or welfare of the City.**

The proposed amendment is not anticipated to be detrimental to the public interest, health, safety, convenience, or welfare of the City. This amendment will resolve a conflict in the Rural Floodplain Map.

C. Finding #3

- **The proposed amendment is internally consistent with other applicable provisions of this Zoning Code.**

The current indicated area is inconsistent with the description of Rural Floodplains. Rural floodplains are described as "...natural undisturbed open spaces that are unsuitable for development purposes due to periodic flood inundation and the need to preserve the stream corridor for beneficial uses such as the preservation of important ecological resources." The Zoning Code describes the Urban Floodplain as watercourses "...in urbanized areas [that] have typically been altered from their natural state by channelization." The applicant has provided a biological evaluation of the Switzer Wash in the subject area prepared by Natural Channel Design, Inc. in 2003. The report states the following: "The primary limiting factors to the biological and physical functions of Switzer Creek are direct manipulations of the channel and floodplain during past construction of surrounding roads, utility pipelines, and other infrastructure. In several places the channel and floodplain have been significantly narrowed and/or completely realigned. Large rock has been added to the banks and channel presumably to minimize erosion. Extensive spoil piles limit access to the active floodplain. Steep road embankments contribute to increases sediment supplies. Channel realignments have pushed the channel into dense thickets of Ponderosa pine. The cumulative impact of these modifications limits the function of the riparian system." The proposed amendments enhance the Zoning Code's internal consistency by resolving a conflict on the Rural Floodplain Map pertaining to the subject property.

III. CITIZEN PARTICIPATION

In accordance with State Statute and the Zoning Code, the Planning and Zoning Commission work session and public hearing for this amendment was advertised in the Arizona Daily Sun on September 10, 2022. Also, persons of interest that are on file with the Planning and Development Services Section were notified of the work sessions and hearings via first class mail. The applicant also held a neighborhood meeting inviting all property owners within 300 feet. The meeting was held on August 25th from 10:00 a.m. to noon on the parcel. Approximately 24 members of the public attended the meeting but only 11 attendees signed in. Concerns presented included the following:

- Concerns that a change from Rural to Urban would open the possibility of further channelization of water through the area and prevent it from soaking into the water table that provides our drinking water.
- Concerns that a change from Rural to Urban would create flooding concerns for businesses and residencies downstream from the location.
- Concerns that a change from Rural to Urban would impact wildlife that uses the area as a corridor.

Staff was contacted by several community members requesting additional information about the application. As of the preparation of this report, staff has received seven public comments via email, which are attached to this report.

IV. PLANNING AND ZONING COMMISSION WORK SESSION

At the September 28, 2022, Planning and Zoning Commission Work Session, staff and the applicant reviewed the text amendment applications with the Commission. The Commission had general and informational questions about the ownership of the applicant's property and the timing of adjacent construction. Staff will be following up with additional information of when the water and sewer lines were constructed and information on the floodway versus flood fringe areas.

V. STAFF RECOMMENDATION

Staff believes that the findings for this amendment can be met for this request. The proposed amendment conforms to and is in general compliance with the Flagstaff Regional Plan 2030. The proposed amendments should not be detrimental to the public interest, health, safety, convenience, or welfare of the City based on existing requirements for the regulation of development within designated floodplains and stormwater management. Lastly, the proposed amendment is internally consistent with other provisions of the Zoning Code as it has been demonstrated that the Rural Floodplain designation is no longer consistent with the existing conditions on the subject property.

Attachments:

1. Application
2. Zoning Code Text Amendment Narrative
3. Floodway – Flood Fringe Map
4. Concept Development Plan Narrative
5. Concept Development Plan
6. Letter from Northern Arizona Healthcare
7. Letter from Testan Properties LLC
8. Regional Plan Map 7 – Significant Natural Resources
9. Regional Plan Map 8 – Concentration of Natural Resources
10. Draft of the Modification to the Rural Floodplain Map
11. Citizen Participation Plan
12. Comment Emails

Minimum Submittal Requirements:

As part of the Pre-application Meeting (required), the Zoning Code Manager, or designee, will identify those items from this application checklist that will be required for Zoning Code Text Amendment application submittal. An application that does not include all required items will not be accepted. By signing the application, the applicant acknowledges that all required documents/information are included within the application.

If you have any questions regarding the information above or items indicated on this checklist, please contact the Zoning Code Manager, or designee indicated in the contact information listed on Page 3 of this checklist.

PART I – GENERAL REQUIREMENTS

Staff Use Only		Description of Documents Required for Complete Application. No application shall be accepted without all items marked below
Rec'd	Sub'd	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	I.1 Zoning Code Text Amendment Application Checklist (this list)
<input checked="" type="checkbox"/>	<input type="checkbox"/>	I.2 Application Fee Base fee \$ 3265 (same as the small scale rezoning base fee) * The application fee provided is based on the current fee schedule adopted by the City Council and is subject to change without notification. The applicant shall pay the fee applicable at the of the application submittal.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	I.3 Completed Application for Zoning Code Text Amendment – 1 copy The application must be signed by the applicant and the current property owner of record. If the property owner is unavailable to sign the application, a Letter of Authorization must be submitted.
<input checked="" type="checkbox"/>	<input type="checkbox"/>	I.6 Citizen Participation Plan – 1 copy <input checked="" type="checkbox"/> A plan identifying the methodology the applicant intends to use to notify the public, and when required, conduct a neighborhood meeting. The plan shall include: <input type="checkbox"/> 1. The dates, times, and locations of the neighborhood meeting(s). The applicant shall hold a minimum of _____ neighborhood meeting(s), that is/are separate from a work session with the Planning and Zoning Commission. <input type="checkbox"/> 2. A copy of the published advertisement(s) for the neighborhood meeting. The applicant shall publish a 1/8-page advertisement in the local newspaper a minimum of 10 days, and not more than 14 days prior to the date of the neighborhood meeting. The advertisement shall include the applicant's contact information, a summary of the Zoning Code amendment, and the dates, times, and locations of the neighborhood meeting(s). The Zoning Code Manager, or designee, shall approve that advertisement before it is sent to the newspaper for publication. (Contact the Arizona Daily Sun newspaper for publishing deadlines.) <input type="checkbox"/> 3. A copy of the letter sent to all persons on the City's notification registry for a Zoning Code Text Amendment, and the mailing addresses of all persons that the letter was sent to. The applicant shall notify all persons on the City's notification registry for a Zoning Code Text Amendment of their proposed amendment by 1st Class Letter. The letter shall include the applicant's contact information, a summary of the Zoning Code amendment, and: <input type="checkbox"/> a. the dates, times, and locations of the neighborhood meeting(s). <input type="checkbox"/> b. legislative draft of the proposed zoning code text amendment. <input type="checkbox"/> 4. A copy of the letter sent to all property owners within _____ the property, the mailing addresses of the property owners that the letter sent to, and a map showing the location of properties there were notified. The letter shall include the applicant's contact information, a summary of the Zoning Code amendment, and: <input type="checkbox"/> a. the dates, times, and locations of the neighborhood meeting(s). <input type="checkbox"/> b. legislative draft of the proposed zoning code text amendment. <input checked="" type="checkbox"/> 5. A report of the status and results of the any communication and comments received from the public, including the neighborhood meeting (when required), and the applicant's proposed resolution to comments received. <input checked="" type="checkbox"/> 6. Methods to keep the Director informed of the status and results of the any communication and comments received from the public. The Director, or designee, may request written report pertaining to any communication and comments received from the public prior to scheduling a work session, or hearing, before the Planning Commission.

<input checked="" type="checkbox"/>	<input type="checkbox"/>	I.10 Electronic Submittal – 1 copy An electronic copy of all submitted information (.pdf format)
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PART II – CONCEPT ZONING CODE TEXT AMENDMENT

Staff Use Only	Description of Documents Required for a Complete Application. No Application will be accepted without all items marked below.
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	II.1 Project Narrative – 5 copies The narrative shall include the following: <ul style="list-style-type: none"> • Project title and date. • The reason for the request. • List and respond to each of the required Zoning Code findings for Text Amendments, which are: <ol style="list-style-type: none"> (1) The proposed amendment is consistent with and conforms to the objectives and policies of the General Plan and any applicable specific plan; (2) The proposed amendment will not be detrimental to the public interest, health, safety, convenience or welfare of the City; and (3) The proposed amendment is internally consistent with other applicable provisions of this Zoning Code. • An analysis of how the proposed amendment will benefit the community. • Any additional information the applicant would like add in support of the requested amendment.
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<input checked="" type="checkbox"/>	<input type="checkbox"/>	II.2 Legislative Draft of the Proposed Zoning Code Text Amendment – 5 copies
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PART IV – OTHER SUBMITTAL REQUIREMENTS

Staff Use Only	Description of Documents Required for Complete Application. No application shall be accepted without all items marked below
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<input type="checkbox"/>	<input type="checkbox"/>	IV.1 Other Requirements Please provide the following: <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
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PART V – ZONING CODE MANAGER, OR DESIGNEE

No application shall be accepted without a Zoning Code Manager's, or designee's, signature below.

V.1 Zoning Code Manager or designee Contact Information

If you have any questions regarding this application checklist, please contact the Zoning Code Manager or designee.

Name (print): _____ **Phone:** _____

E-mail: _____ @flagstaffaz.gov **Date:** _____

Signature: _____



City of Flagstaff

Community Development Division

211 W. Aspen Ave

P: (928) 213-2618

Flagstaff, AZ 86001

F: (928) 213-2609

www.flagstaff.az.gov

Date Received	Application for Zoning Code Text Amendment	File Number
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Applicant(s)/Property Owner(s) MATT PEACE	Title OWNER	Phone 928-699-1245	Email MATT@DARKSKYCAPITAL.COM
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Mailing Address 6086 BARNEY DR FLAGSTAFF AZ 86004	City, State, Zip
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Representative (If applicable) STEVEN HOLLOWAY	Title OPERATIONS	Phone 928-814-3134	Email STEVE@DARKSKYCAPITAL.COM
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Mailing Address 3365 N. MONTE VISTA FLAGSTAFF AZ 86004	City, State, Zip
--	------------------

Property Address 800 N. SWITZER CANTON DR. FLAGSTAFF AZ 86001	City, State, Zip
---	------------------

Application Name:
Zoning Code Text Amendment
Chapter Name and Number: ZONING CODE CHAPTER 10
Division Name and Number: FLOODPLAINS: DIVISION 90
Section Name and Number: APPLICABLE SECTION. 040
Chapter Name and Number:
Division Name and Number:
Section Name and Number:
Chapter Name and Number:
Division Name and Number:
Section Name and Number:

Additional Information:

Owner's Signature (required) 	Date:	Representative Signature (If applicable) 	Date:
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For City Use		
Date Filed:	File Number(s):	Fee Receipt Number:
P & Z Hearing Date:	Publication and Posting Date:	Amount:
Council Hearing Date:	Publication and Posting Date:	Date:
Received by:	Comments:	



Narrative for Switzer Canyon Parcel Floodplain

Zoning code Text Amendment

Date: April 21, 2022

To: Zoning Code manager COF

From: AXXO LLC

Re: Floodplain Zoning Code Text Amendment

The purpose of this narrative is to support the request for a Zoning Code Text amendment to revise the floodplain designation on private parcel (APN: **10128005H**) from a Rural Floodplain to an Urban Floodplain.

The private parcels

Per the COF Zoning code Rural flood plain map, the flood plain on the subject parcel are designated as a rural flood plain. Per the COF Zoning code, Rural flood plains are defined as natural undisturbed open spaces that are unsuitable for development purposes due to periodic flood inundation and the need to preserve the stream corridor for beneficial uses such as the preservation of important ecological resources. Please see exhibit 2 for the Rural Floodplains within the city of flagstaff.

All water courses and associated floodplains not defined as Rural Floodplains are Urban Floodplains which are typically located in urbanized areas and have typically been altered from their natural state by channelization. Urban Floodplains may be altered to address conveyance and erosion concerns.

It is the opinion of the owner that the flood plain has been altered and channelized from previous developments, was incorrectly designated, and should be re-defined as urban flood plain per the definition in the Zoning Code for Urban Flood plains and per the historical and current nature of the wash.

Based on the research of the history of Switzer Canyon wash, we find that is has been channelized.

See exhibit 1: Photos of a channel of trees approximately 30 feet wide that were removed during the installation of a city water line. Large rock and debris were piled into a berm to the eastern edge of the channel of removed trees and city water line.

See exhibit 2: Photo of defined channel with banks on parcel # 10128005H

See exhibit 3: Photos of the man-made embankment on the eastern edge of Switzer wash on parcel #10128005H. The edge of the wash on this parcel has the city sewer line installed underneath embankment

and there is existing evidence of large boulders and parts of an old sidewalk and curb pieces stacked up to approximately 10 feet tall along the edge of Switzer wash.

See exhibit 4: The preliminary Grading and Drainage plan for the YMCA Depicting the location of the detention pond, the current FEMA (NFHL viewer) Showing the approximate location of the detention pond located inside of the Rural Floodplain and a photograph of the existing detention pond.

See exhibit 5: The current FEMA (NFHL viewer) showing the Introduction of a culvert at the crossing of the flood plain at the YMCA property (APN: **10128005K**). The image depicts the width of the Floodplain as approximately 68 feet and the photograph of the 16-foot culvert that flows under the bridge clearly indicating there is channelization.

See exhibit 6: The current FEMA (NFHL viewer) showing the approximate location of the retention wall built up inside the Floodplain on the back side of the Olivia White Hospice home and a photograph of the existing retention wall that has introduced channelization.

See exhibit 7: The COF Rural Floodplain map show an Urban Floodplain upstream that flows into this area.

Exhibit 8: Photo of man-made embankment along the eastern bank of the wash where the sewer lines have been buried.

Switzer Canyon Wash, which contains a FEMA designated floodplain and floodway. The floodplain is also designated Rural by the City of Flagstaff, although the same floodplain is designated urban both up and downstream of this stretch. Multiple parcels along this stretch of floodplain have been developed in and along the floodplain by elevating building pads out of the true drainage path. There have also been substantial disturbances by underground utilities including the 15" Switzer Canyon Trunk Sewer and the 16" Switzer Canyon Water Line. And more recently a roadway crossing to the north that constricts runoff through a culvert, negating any true floodplain characteristics.

A Design Report and Biological Evaluation was completed by Natural Channel Design in 2003 that concluded that due to development and the ephemeral nature of the stream this area does not contain suitable habitat for any federally listed species.

Findings: Zoning code Section 10-20.50.040F.1.b Findings for the Text Amendment.

1. The proposed amendment is consistent with and conforms to the objectives and policies of the General Plan and any applicable specific plan;

Following in the list of the applicable goals and policies that will be met by this proposed project:

Policy E&C.3.3. Invest in forest health and watershed protection measures.

Response: The trees in in the Floodplain will be preserved to meet the Natural Resources Protection Plann (NRPP) requirements, thereby preserving forest health. Channelizing the flow also reduces erosion head cutting and promotes forest health.

Policy E&C.6.3. Promote protection, conservation, and ecological restoration of the region's diverse ecosystem types and associated animals.

Response: Preserving the trees, supplementing the soil in the flood plain with Atriplex canescens seeds and

Schizachyrium scoparium seeds will result in the restoration of the region's natural vegetation ecosystem and associated wildlife habitat.

Policy E&C.6.4. Support collaborative efforts to return local native vegetation, channel structure and, where possible and applicable, preservation and restoration of in-stream flows to the region's riparian ecosystem.

Response: The soil supplementation with the spreading of Atriplex canescens seeds and Schizachyrium scoparium seeds which are listed in the Appendix 3 City of Flagstaff landscape plant list as has having soil stabilization characteristics will help promote a drainage corridor for a healthier riparian ecosystem along the channel of the subject area.

Goal WR.5. Manage watersheds and stormwater to address flooding concerns, water quality, environmental protections, and rainwater harvesting.

2. The proposed Amendment is internally consistent with other applicable provisions of the Zoning Code.

Response: The proposed Amendment is to revise the floodplain on private parcel and is not detrimental to the public interest, health, safety or welfare of the City. The proposed change will provide an opportunity to the owner to address erosion, head cutting and transporting sediment further downstream in the watershed which

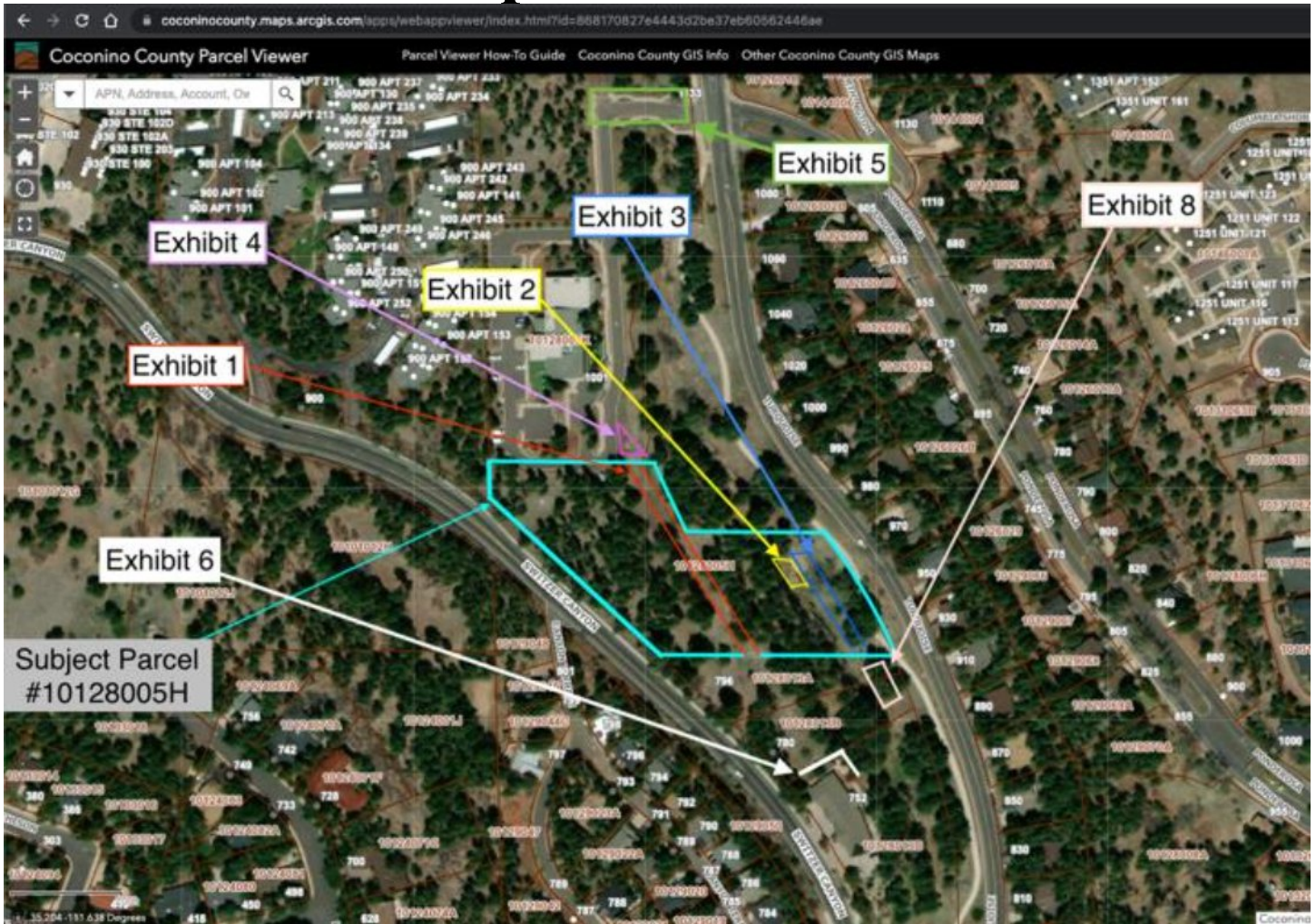
further enhances ecosystem health, water quality, restores natural, riparian and wildlife habitat. As discussed above the amendment is in conformance to many of the policies of the City's general plan.

3. The Proposed amendment is internally consistent with other applicable provisions of the Zoning Code

Response: The proposed amendment is internally consistent with all other applicable provisions of the Zoning code. The development procedures will conform to City's Zoning Code requirements for Commercial Developments.

Thus, we believe that the Rural Floodplain through the subject site (Map Panel #04005C6809G), Switzer Canyon wash due to previous private development has channelized the drainage from its historic condition and cannot be considered a Rural Floodplain as a "natural undisturbed space". Therefore, we request that the floodplain designation on the subject site to be revised to an Urban Floodplain via a Zoning Code Text amendment.

Map of Exhibits:



Channel of trees removed during the installation of the city water main



Exhibit 1



Channel of trees cut out during
installation of City water line

Exhibit 1



Berm introduced during
the installation of city water
main

Exhibit 1

City Water main

Berm of rock
that runs the length
of the channel of trees
Next to the water main



Exhibit 1

C
W
U
A
I
T
L
E
V
E
R
E
BEFORE
DIGGING
CALL 800.452.4527

City Water main



Exhibit 2



Bank approximately 20 inches high
on parcel# 10128005H

Exhibit 3

Man-Made enbankment
Introduced during
installation of City
sewer on parcel #
10128005H





Manhole

Man-made embankment introduced during the installtion of City sewer on parcel #10128005H

Manhole

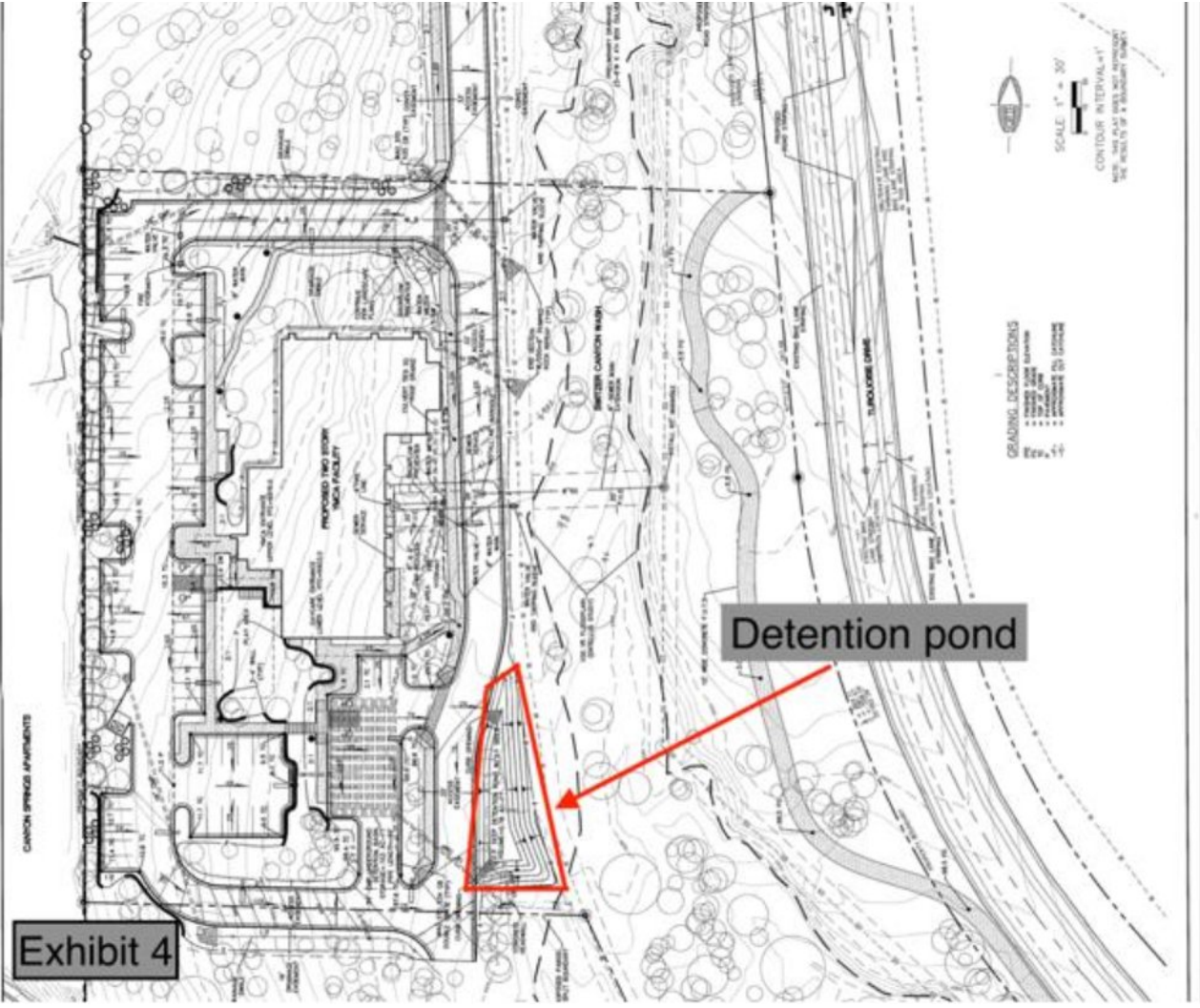


Exhibit 4

Detention pond



Channelization introduced
by parking lot drainage
through the detention
pond.

Exhibit 4

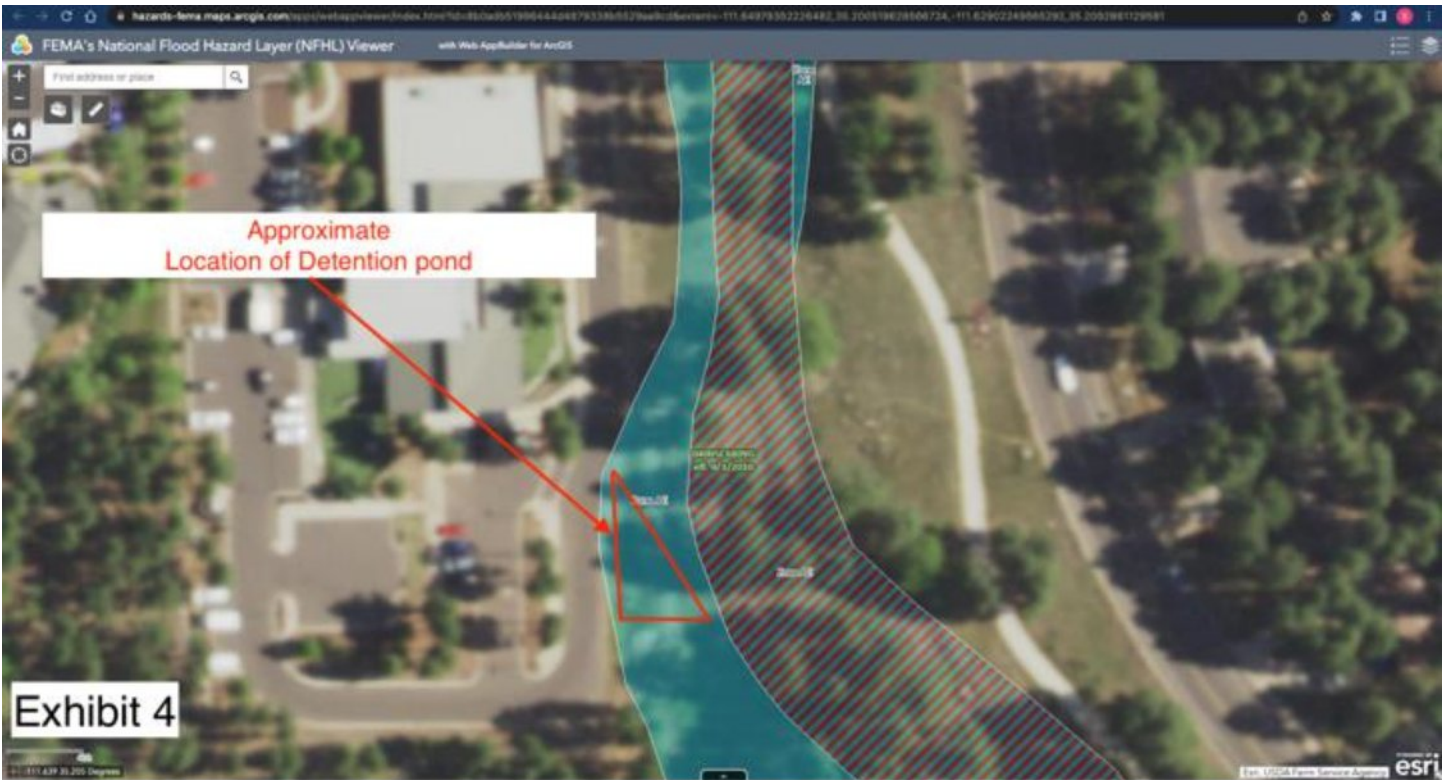
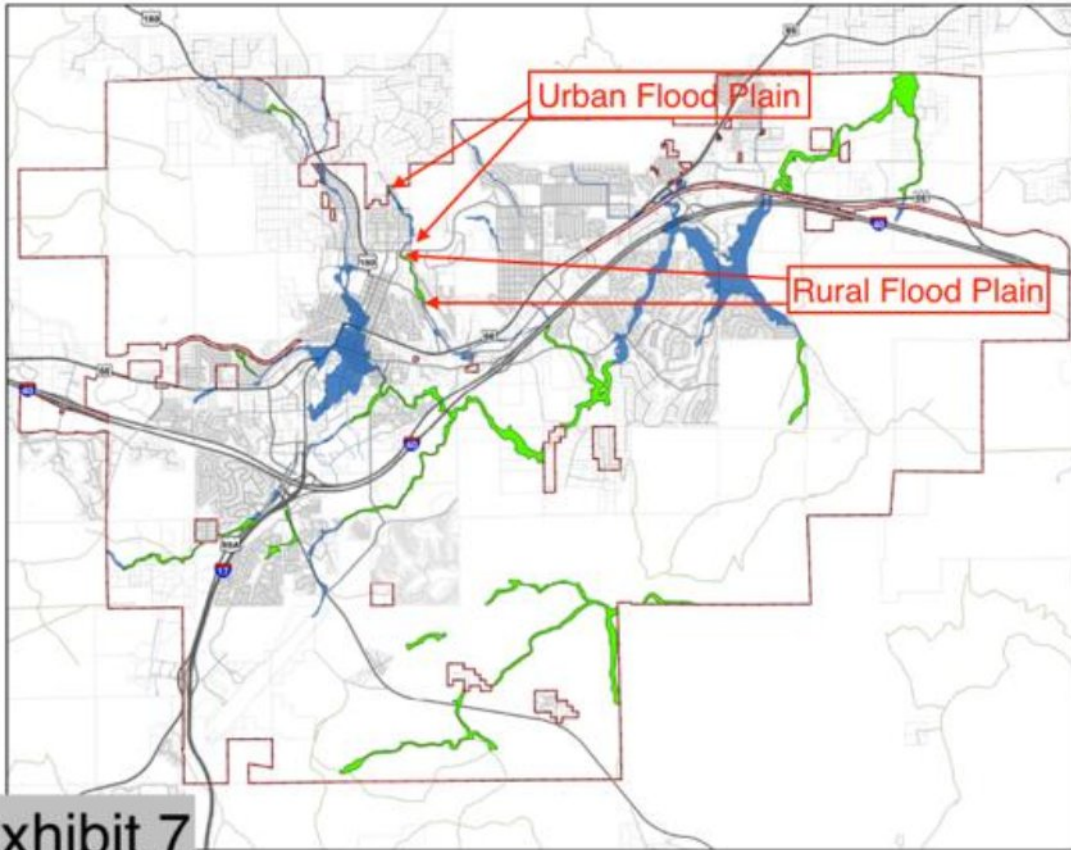








Exhibit 5





**Division 10-90.50.030:
Rural Floodplain Map**

-  City Limits
-  Urban Floodplains
-  Rural Floodplains
-  Parcels

Floodplain widths reflect the FEMA regulated floodplain widths, and are subject to change. Please consult the City of Flagstaff Stormwater section for the latest width information.



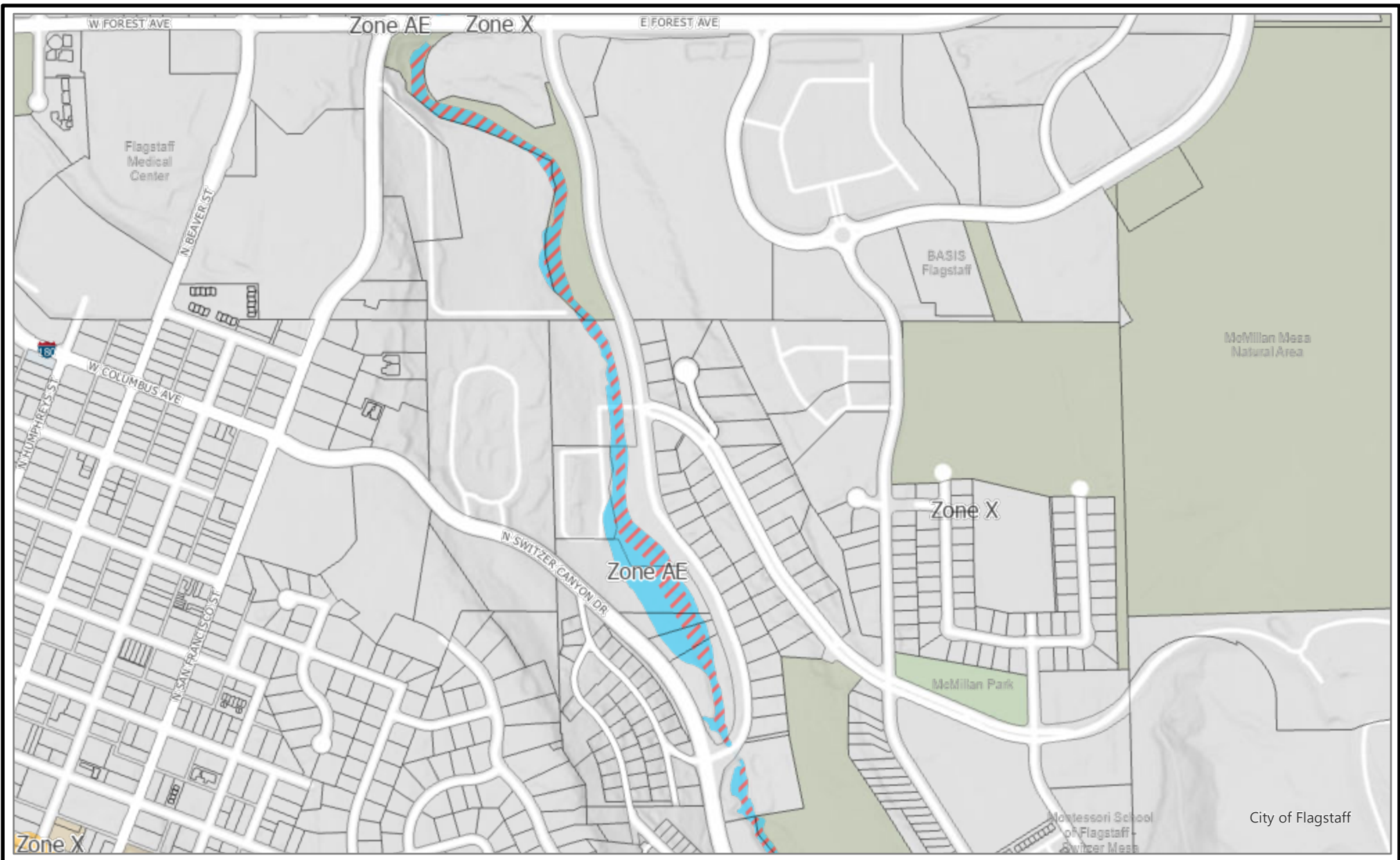
Exhibit 7

Exhibit 8

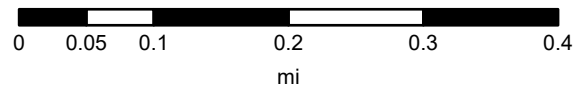
Sewer manholes

Man-Made embankment





CoF Web Map



City of Flagstaff maps and data are updated on a regular basis from data obtained from various sources. The City of Flagstaff endeavors to provide accurate information, but accuracy is not guaranteed. You are strongly encouraged to obtain any information you need for a business or legal transaction from a surveyor, engineer, title company, or other licensed professional as appropriate. Information is provided subject to the express condition that you knowingly waive any and all claims for damages against the City of Flagstaff relating to use of this information.



PROJECT SUMMARY

AXXO holdings is proposing to develop a portion of accessors parcel number is 101-28-005H which is approximately 3.35 acres. The project will be developed as townhomes, to be rented or possibly platted and sold as separate units. The site is currently zoned HR (high density residential). The project will include eight 4-plex buildings, and one 2-plex for a total of 34 units. Each unit will include a one car garage along with 2 bedrooms and 1-1/2 or 2 bathrooms. The parcel to the north is the existing YMCA building zoned HR and the parcel to the south is zoned R1 and is undeveloped. The parcel is bounded to the east and west by North Turquoise Drive and North Switzer Canyon Drive. Across the roads is additional single family lots. A Legal description for the project parcel is included in Appendix A.



Fig 1. Conceptual 4-Plex Unit

UNIQUE APPROACH TO DIFFICULT SITE

The project site is challenging due to constraints across the entire parcel. The steep 2:1 Switzer Canyon Road fill slope encroaches onto the site from the south and west. When the road slope catches grade, native ground slopes around 10% to 13% towards the Switzer Canyon Wash floodplain and floodway. There is a floodplain through the parcel that currently has a Rural Flood Plain Designation, meaning the floodplain should be preserved in its entirety. The entire parcel contains moderate to dense tree coverage. 1.96 acres of the 3.35 acres is in the flood plain. This only leaves around 1.39 acres to hit a minimum density of 34 units at 10 units per an acre. In order to improve buildable densities the project would like to develop approximately 0.36 acres of the floodplain that was mapped with the adjacent YMCA project. In return, the remainder of the parcel starting from the existing utility easement continued east to Turquoise Drive would be deeded over to the city as public open space (approximately 1.37 acres). This would then be combined with the existing open space to the north (2.25 acres) through a lot line adjustment or other instrument. The current concept plan shows 34 units, to provide a DUA of 10 or 17 depending on how the potentially split portion is handled. Additional arguments in support of this proposed rural floodplain mitigation are expanded throughout

RURAL FLOODPLAIN AND ENVIRONMENTAL CONSIDERATIONS

A major feature of the site is Switzer Canyon Wash, which contains a FEMA designated floodplain and floodway. The floodplain is also designated Rural by the City of Flagstaff, although the same floodplain is designated urban both up and downstream of this stretch. Multiple parcels along this stretch of floodplain have been developed in and along the floodplain by elevating building pads out of the true drainage path. There have also been substantial disturbances by underground utilities including the 15" Switzer Canyon Trunk Sewer and the 16" Switzer Canyon Water Line. And more recently a roadway crossing two parcels to the north that constricts runoff through a culvert, negating any true floodplain characteristics.

A Design Report and Biological Evaluation was completed by Natural Channel Design in 2003 that concluded that due to development and the ephemeral nature of the stream this area does not contain suitable habitat for any federally listed species. A copy of the report is in Appendix B.

FLOODPLAIN MAPPING

The FEMA designated floodplain and floodway mapping was the basis for determining the limits of the resource protection area. However more detailed HEC-RAS mapping was done for the wash crossing and YMCA project that better defines the true drainage ways and water surface elevations for the adjacent parcel that conflict with the FEMA mapping. Further analysis may show that existing floodplain isn't even in the proposed disturbance limits due to disturbance from the road crossing and YMCA disturbances. There is also a berm built with the existing water main which creates a cut off isolating the proposed disturbance areas (See Concept NRPP for exhibit). As this project progress, this reach of the floodplain can be redefined using HEC-RAS to determine current limits and verify the project will not have adverse impacts to the floodplain upstream or downstream.

NATURAL RESOURCE PROTECTION PLAN

The project site will preserve 50% of trees across the 3.35 acre parcel boundary and to dedicate 1.37 acres as public open space. The project does propose to disturb the currently mapped rural floodplain, but further investigation show that the area has already been disturbed by a utility easement and is likely never flooded due to the berm created by the utility easement and fill that was brought in with the YMCA project directing runoff to the east towards the existing thalweg. It should also be noted that this portion of floodplain is filled with many medium and young ponderosa pines, meaning that regular "standing water" type flooding of this area does not occur.

STORMWATER

The City requires detention/LID for any commercial development greater than ¼ acre in size. LID policies will require 1" of ROCV to be retained on site along with a water quality component. The project will use underground retention facilities to meet these requirements. Detention may not be required due to being adjacent to the wash.

ACCESS TO SITE

Access to the site is currently provided through an access easement across the YMCA property. Due to grade change, no vehicular access will be provided to Switzer Canyon Drive. The YMCA property has an existing staircase that dead ends at the property line. This will be picked up and an additional staircase will be constructed to connect a pedestrian access up the hill. The YMCA site also provided an ADA ramp stubbed to the property to provide an additional ADA pedestrian connection to Turquoise Drive.

UTILITIES

The site will provide new water meters and sewer services to the units. An additional hydrant will also be added. Water will connect to the 16" main in the wash. Sewer will connect to the 15" main in the wash. Shared dumpster and recycle bins will be located on site.

Townhomes Plat

The developer would like to consider the option of platting and selling the townhomes (condominiums).

CONSTRUCTION LOGISTICS PLAN

The project site is relatively small and will be very tight during construction. The only access to the site is to the north through the access easement in the existing YMCA parking lot. The contractor will need to schedule crews stage by stage as construction progresses in order to minimize the amount of parking needed at one time. There will be no impacts to North Switzer Canyon Drive as part of this project. There will be disturbances in the floodway to connect to the sewer main. These connections will need to be made in the spring or fall and planned around minimal risk of storms. In addition, grading work in general should be planned around winter and monsoon season, and strict erosion control measure implemented until stabilization is reached.

LANDSCAPE AESTHETIC

The site aesthetic and pedestrian experience will be guided through the use of natural materials and native plants. Canopy and ornamental trees will be used to reduce the scale of the buildings at the pedestrian level. Landscape design will be utilized to blend the natural aesthetic preserved on the eastern portion of the property where the new floodplain open space will be preserved. Appropriate native plants will be selected to reflect the amount of space, light, and water available on site.

Appendix A

Old Republic National Title Insurance Company - Issued by**Pioneer Title Agency Inc.****EXHIBIT A****LEGAL DESCRIPTION**

The Land referred to in the policy is described as follows:

The following is a legal description of a parcel of land lying within Section 15, Township 21 North, Range 7 East of the Gila and Salt River Base and Meridian, Coconino County, Arizona, more particularly described as follows:

COMMENCING at a found ½ inch rebar and plastic cap "R. SCHILKE RLS 28230" at the Southwest corner of Parcel 1, as described in Special Warranty Deed recorded at Instrument No. [3220487](#), records of Coconino County, Arizona (herein referred to as R1), and the TRUE POINT OF BEGINNING, and on the North right of way line for Switzer Canyon Road, and on the North-South centerline of Section 15, from which a found ½ inch rebar and aluminum cap "N.E.S. RLS 14671" at the Northwest corner of said Parcel and on said Section line bears North 01° 46' 38" West, a distance of 501.88 feet (measured and basis of bearing for this description) (North 01° 37' 00" West, a distance of 502.27 feet, R1);

Thence leaving said right of way line North 01° 46' 38" West (North 01° 37' 00" West, R1), along said Section line, a distance of 72.78 feet to a set ½ inch rebar and aluminum cap "LS 40640";

Thence leaving said Section line South 90° 00' 00" East, a distance of 291.63 feet to a set ½ inch rebar and aluminum cap "LS 40640";

Thence South 25° 55' 21" East, a distance of 138.95 feet to a set ½ inch rebar and aluminum cap "LS 40640";

Thence South 90° 00' 00" East, a distance of 260.30 feet to a set ½ inch rebar and aluminum cap "LS 40640" on the West right of way line for Turquoise Drive at the beginning of a non-tangent curve concave to the Southwest having a radius of 937.02 feet (R1) and a central angle of 15° 28' 53" and being subtended by a chord which bears South 30° 18' 27" East, a distance of 252.41 feet;

Thence along said right of way line Southeasterly along said curve, a distance of 253.18 feet to a found ½ inch rebar and plastic cap "R. SCHILKE RLS 28230";

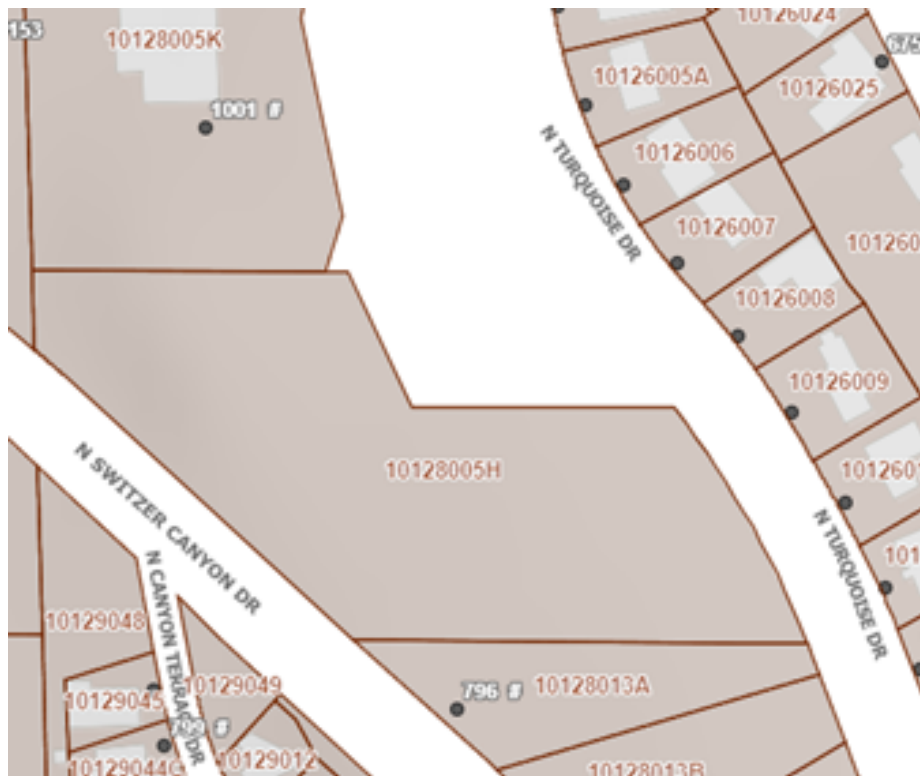
Thence leaving said right of line North 89° 34' 00" West, along the South line of said Parcel, a distance of 446.28 feet (North 89° 29' 15" West, a distance of 446.21 feet, R1) to a found ½ inch rebar and plastic cap "RLS 9078" on the North right of way line for Switzer Canyon Road;

Thence along said right of way line North 47° 21' 45" West, a distance of 357.13 feet (North 47° 37' 06" West, a distance of 357.83 feet, R1) to a found ½ inch rebar and plastic cap "R. SCHILKE RLS 28230" at the beginning of a non-tangent curve concave to the Southwest having a radius of 756.20 feet (R1) and a central angle of 02° 52' 59" (02° 52' 51", R1) and being subtended by a chord which bears North 49° 11' 59" West, a distance of 38.05 feet;

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Pioneer Title Agency Inc.

EXHIBIT A
(Continued)

Thence continuing Northwesterly along said curve, a distance of 38.05 feet (38.02 feet, R1) to the TRUE POINT OF BEGINNING.



Appendix B

DESIGN REPORT & BIOLOGICAL EVALUATION

Switzer Wash Project

Prepared for:

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Prepared by:

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January 2003

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PROJECT LOCATION:

The project site lies with the limits of the City of Flagstaff in Coconino County, Arizona. Switzer Wash is an ephemeral stream that begins along the northern flanks of Mount Elden and flows south and eastward to join Butler Wash and the Rio de Flag. The project lies at approximately 7,000 feet in a montane forest of ponderosa pine and oak. The valley floor is dominated by pine, oak, and various bunch grasses. Switzer Wash has a drainage area of approximately 2.5 square miles at the project site. The watershed is relatively undeveloped (forest and low-density residential) in the upper reaches and more urbanized (moderate-density residential and office park) near the project site. The project property is bounded by Forest Avenue to the north, Switzer Canyon Rd and San Francisco Street on the West and Turquoise Drive to the East and South.

The project is located within the corporate limits of Flagstaff, Arizona. The property is bounded on the south and east by Turquoise Drive and on the west by properties lying along San Francisco Street and on the north by Forest Avenue. The specific location of the project is Township 21N, Range 7E, Section 15, NW1/4SE1/4 or N 35° 12' 8.7" and W 111° 38' 13.0" longitude and latitude. See Figure 1 for location.

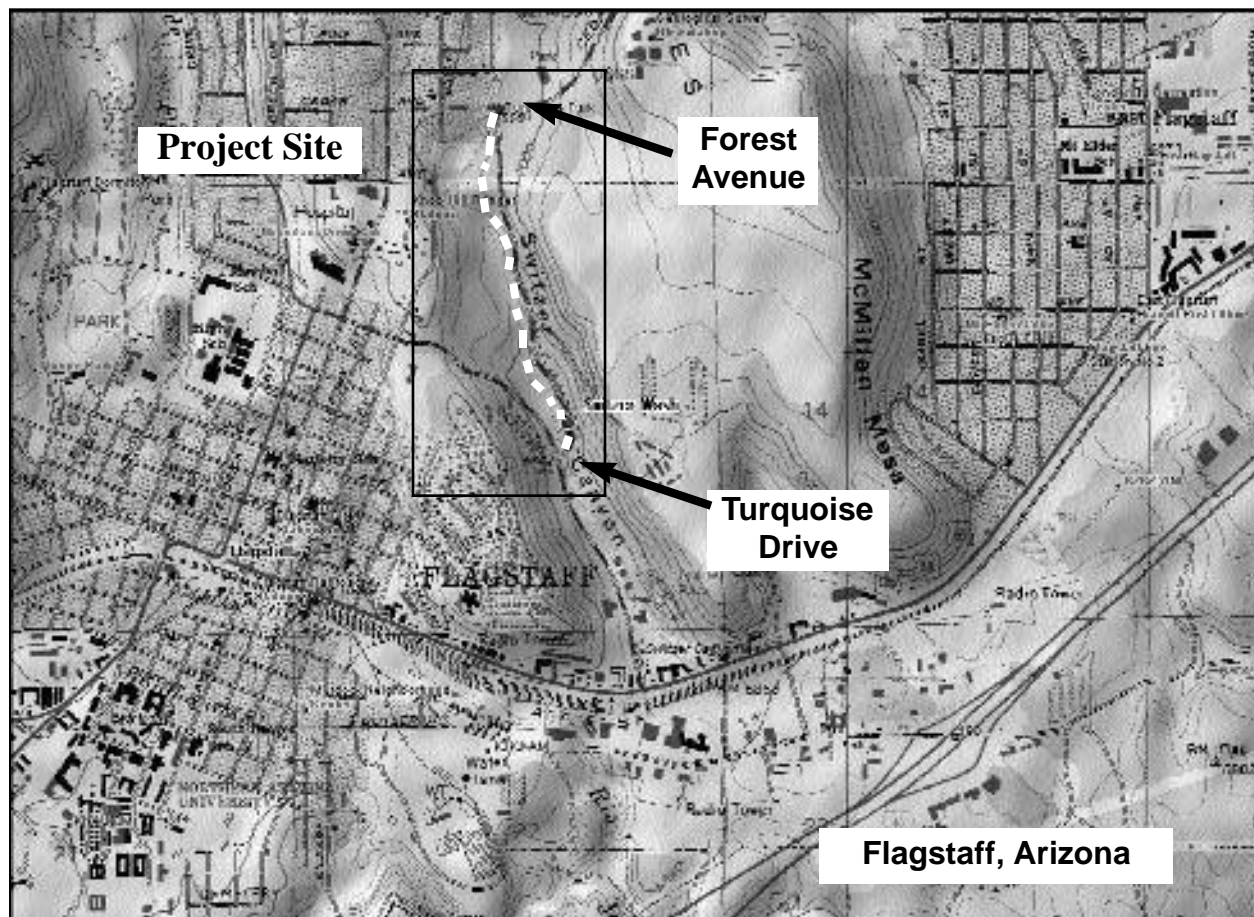


Figure 1. Switzer Wash Project Location

PROJECT PURPOSE:

The purpose of the project is to protect and/or improve the aesthetics and function of the channel and floodplain along 3000 feet of Switzer Wash while development of the surrounding property occurs. The ephemeral stream channel and floodplain will provide aesthetic and pedestrian recreation to surrounding developments. The majority of the project activities within and without the jurisdictional area will be directed toward maintaining and enhancing stream function. Footings for four double-pier vehicle bridges will be installed within the project area to allow vehicle crossing with minimum impact to the watercourse.

The area around the project site is in the process of being developed. Four road bridges crossing the stream channel are planned. However, the development plan intends to protect the wild nature of Switzer Wash by maintaining the open, undeveloped areas around the stream channel and its floodplain. A portion of the city urban foot/bike trail system will run through the valley and pedestrian access near the watercourse will be preserved. A sizeable portion of the valley floor has been transferred to the City of Flagstaff for protection as urban open space.

The project will require footings for four vehicle bridges to be sited adjacent to the the stream channel. In addition, existing spoil piles of rock and rubble will be removed or reshaped to restore natural channel and floodplain geometry. Natural channel dimension will be restored within the existing alignment to two reaches where excessive sediments have created channel braiding. A short section of previously altered channel will be realigned to reduce the sediment loads currently contributed from an existing road embankment. All disturbed areas will be replanted with native grasses, forbs, and woody species as appropriate.

Hydrologic, hydraulic, and geomorphic assessments of the project site have been completed to identify "Ordinary High Water:" and the jurisdictional area. A flow with a return interval of 2.33 years was chosen as "Ordinary High Water" because it includes both the bankfull channel and significant adjacent floodplain. It also statistically represents the Mean Annual Flood flow. Due to its small watershed, that area is a corridor along the stream channel with widths that varies from 16 - 76 feet.

PROJECT APPROACH

The project objective is to enhance biological and physical riparian function and aesthetic values to the project area by removing the direct and indirect impacts of human created modifications to the stream channel and floodplains. The approach was to develop the geomorphic parameters that represent the stable or reference condition for Switzer Wash. Reference conditions were used to evaluate the current conditions of the physical and biological resources. Due to the surrounding urbanization, reference conditions are based on the identification and characterization of functioning portions of the stream channel within the project site. Several representative cross-sections and a longitudinal profile were surveyed. Data at the natural functioning reaches was used to develop reference channel/floodplain dimension. Channel and floodplain restoration will be based on typical design cross-section dimensions (Table 1, Figure 2). For most of the project, channel/floodplain alterations are intended to restore natural dimension previously altered.

CURRENT CONDITION

Not surprisingly for a stream channel in an urban area, there is evidence of considerable human activities along Switzer Wash. A city sewer line, water line, and utilities follow the open valley and frequently cross the channel. Box culverts convey stream flow under roadways at the upper and lower end of the project. It appears that fill has been placed on or near the channel throughout the project over time and large angular rock is common along the edge of roadways and other infrastructure. Two road embankments contribute significant quantities of cinders and other small sediments to the stream channel causing braiding. In spite of these impacts, this reach of Switzer Wash still maintains its riparian function and much of its wild nature.

TABLE 1. REFERENCE CHANNEL/FLOODPLAIN DIMENSIONS AT PROJECT SITE.

	<u>Average</u>	<u>Range</u>
Bankfull Discharge	35 cfs	
Cross-sectional Area	13 sq. ft	11.5 – 14 sq. ft
Max bankfull depth	1.0 feet	0.65 – 1.2 feet
Bankfull width	23 feet	15 – 32 feet
Mean bankfull depth	0.65 feet	0.4 – 0.7 feet
Floodprone width	65 feet	45 – 140 feet
Width/depth ratio	35	30 – 42
Entrenchment ratio	2.5	2.3 – 5.8

Width/depth ratio is defined as bankfull width divided by mean bankfull depth and is a measure of channel shape and sediment transport capacity.

Floodprone width is the floodplain width at an elevation twice maximum bankfull depth and is a measure of stream access to an adjacent floodplain.

Entrenchment ratio is defined as floodprone width divided by bankfull width and is a measure of the stream's ability to access an adjacent floodplain.

(Rosgen, 1996)

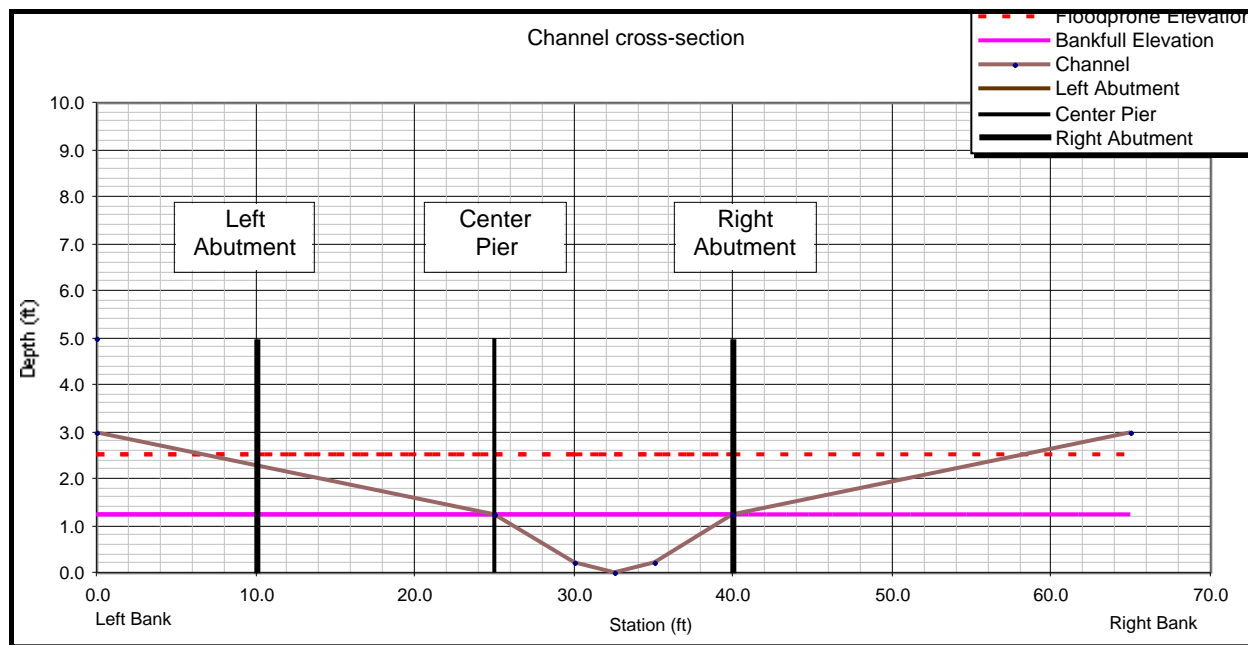


FIGURE 2. DESIGN CHANNEL/FLOODPLAIN CROSS-SECTION

The primary limiting factors to the biological and physical functions of Switzer Creek are direct manipulations of the channel and floodplain during past construction of surrounding roads, utility pipelines, and other infrastructure. In several places the channel and floodplain have been significantly narrowed and/or completely realigned. Large rock has been added to the banks and channel presumably to minimize erosion. Extensive spoil piles limit access to the active floodplain. Steep road embankments contribute to increases sediment supplies. Channel realignments have pushed the channel into dense thickets of Ponderosa pine.

The cumulative impact of these modifications limits the function of the riparian system. Project activities are designed to reverse these conditions.

MITIGATION MEASURES AND POLLUTION CONTROL

Construction will take place to: 1) minimize the chance of flood events, 2) minimize impacts nesting birds, and 3) allow harvesting and planting of local vegetation during or approaching a dormant state.

Excavation equipment can remain outside the channel for most operations. However, operations from the floodplain or terrace will create disturbance to the existing vegetation on these features. All disturbed areas will be reseeded or replanted with native vegetation.

Refueling of all excavation equipment will be restricted to the areas outside the Jurisdictional area and well away from the stream channel.

An archeological survey for cultural resources throughout the project has been completed. However, if any unidentified cultural resources are discovered during construction, all activities will cease until such time as further clearance is given to proceed.

PROPOSED ACTIONS/ASSOCIATED IMPACTS:

Although filling of the channel or floodplain is not the purpose of the project, some discharge will be avoidable during the project. Discharge will occur during the execution of the following activities. All areas referred to in the following descriptions are shown in the aerial photos in Appendix A.

1) CHANNEL RESTORATION:

- a) At “B” an existing headcut will be repaired by installing a low rock weir. The weir will be constructed of native rock and will serve as grade control through the headcut area to minimize future erosion. The top of the structure will remain below floodplain elevation to allow flood flows to spread. Excavation will be completed with a trackhoe and limited to the immediate area around the weir. All disturbed areas will be replanted or reseeded and excess material will be used to fill the headcut or removed from the channel/floodplain area.
- b) Along “C” approximately 250 feet of channel will be realigned to move it 25 feet away from the steep road fill slope. The purpose is to reduce the high sediment loads supplied by the embankment. A trackhoe will excavate a new channel (see Figure 2 for design channel) to design dimensions. Excavated material will be used to construct a floodplain feature along the base of the road embankment. Willows will be planted along the channel to reinforce the bank. All disturbed ground will be reseeded.
- c) Along “D” Some excavation will take place in this area to restore the proper channel dimension to the existing braided channel. Only excavation is expected to be necessary unless there is unsatisfactory substrate beneath the existing channel. In that case appropriate gravel substrate would be brought in to line the channel bottom. The existing channel will be lowered approximately 1.5 feet in elevation to restore a more consistent channel slope and aid sediment transport.
- d) Along “F” a low rock weir will be constructed over an existing pipeline weir. The purpose of the weir will be to recenter stream flow at this point and reduce bank erosion.
- e) The existing channel will be realigned through areas M, N, O, P, & Q. The existing channel runs through relatively thick stands of Ponderosa pine and is often braided and clogged with debris. This almost certainly is not the channels original alignment. It appears that previous filling along Turquoise Drive to the east has forced the channel into the trees. We propose to realign the channel to remain clear of trees and in a more open area. This will entail creating a shallow channel for about 1,000 feet in the new alignment. See Figure 2 for a typical design cross-section. The existing channel will be filled to floodplain elevation using material from the new channel. All disturbed ground will be replanted or reseeded with native vegetation to minimize erosion and sedimentation. This part of the project is included in the urban “Open Space” deeded to the City of Flagstaff.

Associated Effects

Sedimentation Effects: Due to the ephemeral nature of the stream, sedimentation impacts are expected to be short-term and local. All disturbed ground will be replanted or reseeded with native vegetation to minimize erosion and sedimentation.

Machinery Effects: There will be temporary, local disturbance to the projects where excavation takes place. However, these disturbances are the direct result of restoration activities and are designed to improve conditions. All disturbed ground will be replanted or reseeded with native vegetation.

Noise Effects: the use of trackhoes and other machinery will temporarily increase noise levels within the project. However, given the location of the project in a busy urban area, the noise is not expected to be significantly above ambient levels.

Channel Alteration Effects: Excavation and other disturbances along the channel are designed to minimize or eliminate existing impacts. The realignment of the channel will provide a more natural and stable flow of water and sediment. The installation of low rock structures will eliminate erosion and sedimentation at “B” and reduce bank erosion at “F” by centering flow. Overall, channel modifications will remove stressors and restore natural function to the channel.

2) FLOODPLAIN RESTORATION

- a) Along “D” existing spoil piles will be removed and/or reshaped on the floodplain. These piles currently separate the channel from its floodplain and create a split channel during high flows. These actions will restore the floodplain function to this reach. Removal and/or reshaping will be done with heavy machinery and all disturbed areas will be reseeded and/or replanted with native vegetation.
- b) Along “F” existing spoil piles will be removed and/or reshaped on the floodplain. These piles currently separate the channel from its floodplain and create a split channel during high flows. These actions will restore the floodplain function to this reach. Removal and/or reshaping will be done with heavy machinery and all disturbed areas will be reseeded and/or replanted with native vegetation.
- c) Along H, large rock riprap will be selectively removed to aid water/sediment flow and increase aesthetics. Over time large rock has been dumped along banks and floodplain. The rock is much larger than that normally moved by the stream and interferes with water and sediment flow. Individual rocks will be removed by trackhoe stationed outside the channel.
- d) At “N” and “P” existing manholes jut into the active floodplain. Active erosion is occurring around the manholes during overbank flow. The project proposes to fill the area immediately around each manhole to extend the adjacent terrace and reduce erosion. These activities are located away from the active channel. All disturbed areas will be reseeded and/or replanted with native vegetation.

Associated Effects

Sedimentation Effects: These activities will take place outside the active channel. Due to the ephemeral nature of the stream, any sedimentation impacts are expected to be short-term and local. All disturbed ground will be replanted or reseeded with native vegetation to minimize erosion and sedimentation.

Machinery Effects: There will be temporary, local disturbance to the projects where excavation takes place. However, these disturbances are the direct result of restoration activities and are designed to improve conditions. All disturbed ground will be replanted or reseeded with native vegetation.

Noise Effects: the use of trackhoes and other machinery will temporarily increase noise levels within the project. However, given the location of the project in a busy urban area, the noise is not expected to be significantly above ambient levels.

Floodplain Alteration Effects: Excavation and other disturbances along the floodplain are designed to minimize or eliminate existing impacts. The removal of existing spoil piles will restore floodplain function and aesthetics. The removal of large rock will aid in natural fluvial processes. The extension of terraces around manholes will reduce scour and promote better flow across the floodplain. Overall, floodplain modifications will remove stressors and restore natural function to the channel.

3) INSTALLATION OF BRIDGE PIERS.

Four single-pier bridges will be installed at “E”, “G”, “I”, and “K”. The bridges are planned to span the active bankfull stream channel and floodplains. The central pier will be placed within the ACOE jurisdictional area between the active bankfull channel and floodplain. The span between each abutment and the central pier is 15 feet. The 15 feet allows the bridge to completely span the active design channel. The second span will extend maintain the floodplain. The bridges are designed to maintain flow within the natural channel and across the adjacent floodplains (Figure 2). It should be noted that the stream channel is currently constrained at upper and lower ends of the project by passing through existing box culverts and corrugated metal pipe with much less span, clearance, and carrying capacity than the bridges.

Each of the four bridges will require a single pier and footing. Each footing will be approximately 24 inches wide and 30 feet wide. Each footing is approximately 60 square feet in area, the total jurisdictional area to be impacted is 240 square feet. Assuming that the footings will be excavated approximately 3 feet to be below frost and scour depth, the total volume of material would be 3 feet x 240 feet² or 720 feet³ or 26 cubic yards.

Excavation will be accomplished using a trackhoe. Spoil will be removed from the active channel and floodplain areas. All disturbed areas will be replanted and/or reseeded with native vegetation.

Associated Effects

Sedimentation Effects: Due to the ephemeral nature of the stream, any sedimentation impacts are expected to be short-term and local. All disturbed ground will be replanted or reseeded with native vegetation to minimize erosion and sedimentation.

Machinery Effects: There will be temporary, local disturbance to the projects where excavation takes place. However, these disturbances are the direct result of restoration activities and are designed to improve conditions. All disturbed ground will be replanted or reseeded with native vegetation.

Noise Effects: the use of trackhoes and other machinery will temporarily increase noise levels within the project. However, given the location of the project in a busy urban area, the noise is not expected to be significantly above ambient levels.

Channel Alteration Effects: The installation of bridge piers and abutments will maintain the natural bankfull channel width. The width of the existing floodplain will narrow somewhat although the bridge abutments remain outside the ACOE jurisdictional area (Table 2). Although floodprone width is decreased at Bridge #2 & #4, the design width or 30 feet is equal to or greater than many other existing cross-sections. The strong vegetation community and lack of erosion, scour, or other evidence of excess high flow energy in these areas suggests that this width is sufficient to allow flood waters to spread and dissipate.

TABLE 2. BRIDGE SPANS

<u>Bridge Site</u>	<u>Photo Reference</u>	<u>Width of Jurisdictional Area</u>	<u>Floodprone Width</u>
#1	E	27 feet	32 feet
#2	G	27 feet	50 feet
#3	I	29 feet	30 feet
#4	K	32 feet	44 feet

There will be no wetlands filled as a consequence of the project. No perennial waters will be disturbed due to the ephemeral nature of the stream. The jurisdictional area within the project is approximately 125,000 square feet or 2.85 acres. Disturbance within that area due to discharge will cover a maximum area of 4,500 square feet or 0.12 acres. This represents 4.4% of the jurisdictional area within the project. The 90% of the disturbed area (3,860 sq feet) is specifically related to stream restoration activities.

SPECIAL SPECIES IDENTIFICATION:

Sensitive species lists for Coconino County (Table 3) was obtained from the U.S. Fish and Wildlife Service website. A list of species expected to be found in the specific vicinity of the project site (Table 4) was developed through the Arizona Department of Game and Fish Heritage Data Management System. Although a number of endangered species occur in Coconino County, only Mexican spotted owl is likely to be present in the immediate vicinity of the project. The ephemeral flow regime of Switzer Wash eliminates all aquatic species (Apache trout, California Brown pelican, Chiricahua leopard frog, Humpback chub, Kanab ambersnail, Little Colorado spinedace, Razor back sucker, and Gila chub). The project’s urban setting, elevation and habitat needs eliminates several additional species such as Bald eagle (lack of water,

Table 3. Sensitive Species List: US Fish and Wildlife Service

A search of the County Species Lists for Coconino County on the US Fish and Wildlife Service website yielded the following species:

Apache trout	<i>Oncorhynchus apache</i>	Threatened
Bald eagle	<i>Haliaeetus leucocephalus</i>	Threatened
Black-footed ferret	<i>Mustela nigripes</i>	Endangered
Brady pincushion cactus	<i>Pediocactus bradyi</i>	Endangered
California Brown pelican	<i>Pelecanus occidentalis californicus</i>	Endangered
California condor	<i>Gymnogyps californianus</i>	Endangered
Chiricahua leopard frog	<i>Rana chiricahuensis</i>	Threatened
Humpback chub	<i>Gila cypha</i>	Endangered
Kanab ambersnail	<i>Oxyloma haydeni kanabensis</i>	Endangered
Little Colorado spinedace	<i>Lepidomeda vittata</i>	Threatened
Mexican gray wolf	<i>Canus lupus</i>	Endangered
Mexican spotted owl	<i>Strix occidentalis lucida</i>	Threatened
Navajo sedge	<i>Carex specuicola</i>	Threatened
Razor back sucker	<i>Xyrauchen texanus</i>	Endangered
San Francisco Peaks groundsel	<i>Senecio franciscanus</i>	Threatened
Sentry milk-vetch	<i>Astragalus cremnophylax</i>	Endangered
Siler pincushion cactus	<i>Pediocactus sileri</i>	Threatened
Southwestern willow flycatcher	<i>Empidonax trailii extimus</i>	Endangered
Welsh’s milkweed	<i>Asclepias welshii</i>	Threatened
Gila chub	<i>Gila intermedia</i>	Proposed Endangered
Fickeisen plains cactus	<i>Pediocactus peeblesiansus</i>	Candidate Species
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	Candidate Species
<u>Conservation Agreement</u>		
Arizona bugbane	<i>Cimicifuga arizonica</i>	
Paradine plains cactus	<i>Pediocactus paradinei</i>	

Table 4. Sensitive Species List: Heritage Data Management System (Arizona Department of Game and Fish)

A search of the Arizona Department of Game and Fish's (AZGF) Heritage Data Management System indicated that the following species have been documented in the project vicinity. No Critical Habitats are within the project area.

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>	STATUS				
		<u>ESA</u>	<u>USFS</u>	<u>BLM</u>	<u>WSCA</u>	<u>NPL</u>
Northern Goshawk	<i>Accipiter gentilis</i>	SC	S		WSC	
Rusby's milk-vetch	<i>Astragalus rusbyi</i>		S			
Bearded gentian	<i>Gentianopsis barbellata</i>		S			
Allen's big-eared bat	<i>Idionycteris phyllotis</i>	SC		S		
Long-eared myotis	<i>Myotis evotis</i>	SC		S		
Occult little brown bat	<i>Myotis lucifugus occultus</i>	SC		S		
Fringed myotis	<i>Myotis thysanodes</i>	SC		S		
Long-legged myotis	<i>Myotis volans</i>	SC		S		
Rocky Mt. bristlecone	<i>Pinus aristata</i>					SR
Northern leopard frog	<i>Rana pipiens</i>		S		WSC	
Blumer's dock	<i>Rumex orthoneurus</i>	SC	S			HS
Mexican spotted owl	<i>Strix occidentalis lucida</i>	LT	S		WSC	

ESA: Endangered Species Act

- LE: Listed Endangered
- LT: Listed Threatened
- XN: Experimental Noessential population
- PE: Proposed Endangered
- PT: Proposed Threatened
- C: Candidate species
- SC: Species of concern

USFS: US Forest Service

- S: Sensitive

BLM: Bureau of Land Management

- S Sensitive
- P Populations

WSCA: Wildlife of Special concern in Arizona; AZ Game and Fish Dept.

- WSC: Wildlife of Concern

NPL: Arizona Native Plant Law; AZ Dept. of Agriculture

- HS Highly Safeguarded
- SR Salvage Restricted
- ER Export Restricted
- SA Salvage Assessed
- HR Harvest Restricted

urbanized area), Black-footed ferret (requires large open grasslands), Brady pincushion cactus (lower elevation), Navajo sedge (seep springs 5700 - 6000 feet elevation), San Francisco Peaks groundsel (+ 10,900 feet elevation), Sentry milk-vetch (Pinyon-juniper-cliffrose habitat), Siler pincushion cactus (2,800 - 5,400 feet elevation, desert scrub), Southwestern willow flycatcher (dense cottonwood/willow/tamarisk streamside communities), and Welsh's milkweed (desertscrub sand dunes). Information on specific species was collected on the U.S. Fish and Wildlife Service website.

These conclusions are consistent with the database listing from the AZGF Heritage Data Management System (Table 4). That database suggests that Mexican spotted owl may be found near the project. However, a conversation with local biologist (T. Parker, USFS) suggests that due to a lack of small mammal habitat, lack of water, and being located in an open setting within a busy urban area, the project does not contain suitable habitat for the spotted owl. The nearest known owl Potential Action Centers (PACs) are located at Mt. Elden and Dry Lake, both several miles away and are located in non-urban, remote settings associated with water sources.

DETERMINATION OF EFFECTS:

Based on the location of the project within an urban setting and with past human disturbances, it is our conclusion that the Switzer Wash project site does not contain suitable habitat for any Federally listed species and will have “no effect” on any listed species or their habitats.

REFERENCES

Arizona Dept. of Game and Fish, 2002. Heritage Data Management System , 2221 W. Greenway Rd, Phoenix, AZ 85023.

Rosgen, D.L., 1996. Applied river morphology. Wildlands Hydrology, Pagosa Spring, CO.

Parker, T. R., 2002. Personal communication. Wildlife Biologist, U.S.D.A. Coconino National Forest, Flagstaff, AZ.

U.S. Fish and Wildlife Service. Spring 1998. Endangered and Threatened Species of Arizona. 2321 W. Royal Palm Rd., Suite 103, Phoenix, AZ 85021.

Appendix A

Project Activities

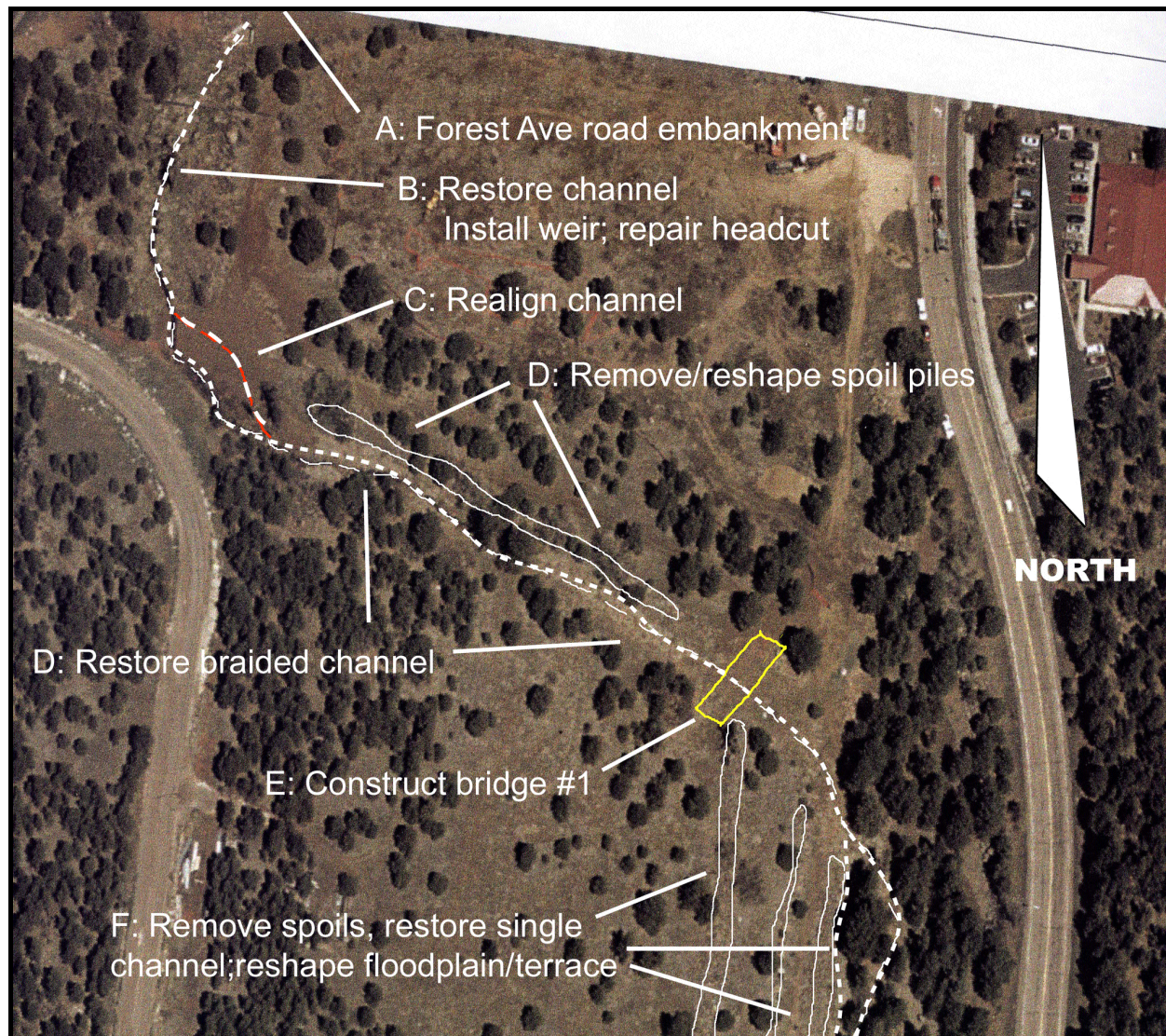


Figure A1. Aerial Photo: North portion of Project Area

- A. Existing box culvert and road embankment at Forest Avenue. Terrace slope to reduce sediment, revegetate with native species. Outside jurisdictional area.
- B. Restore channel dimension to braided channel section resulting from high upstream sediment supply. Install low rock weir and restore channel dimension to headcut/gully (Figure 5).
- C. Realign channel away from high road embankment to reduce sediment impacts (Figure 6). Within jurisdiction.
- D. Remove and/or reshape spoil piles to restore floodplain shape and dimension (Figure 7). Partially within jurisdictional area. Excavate braided channel as needed to restore natural dimension (Figure 7). Recontour and lower channel approximately 1.5 feet at between XS1 and Bridge site #1 (E in Figure 1)) to match channel slopes above and below. There is an existing sewer line that crosses the channel here (see Jurisdictional area report and plan views) and it appears may be responsible for the higher channel thalweg elevation. This task will not result in any additional fill within the jurisdictional area.
- E. Bridge site #1. One or two concrete piers will be constructed as far from bankfull channel as possible. See Figure 9.

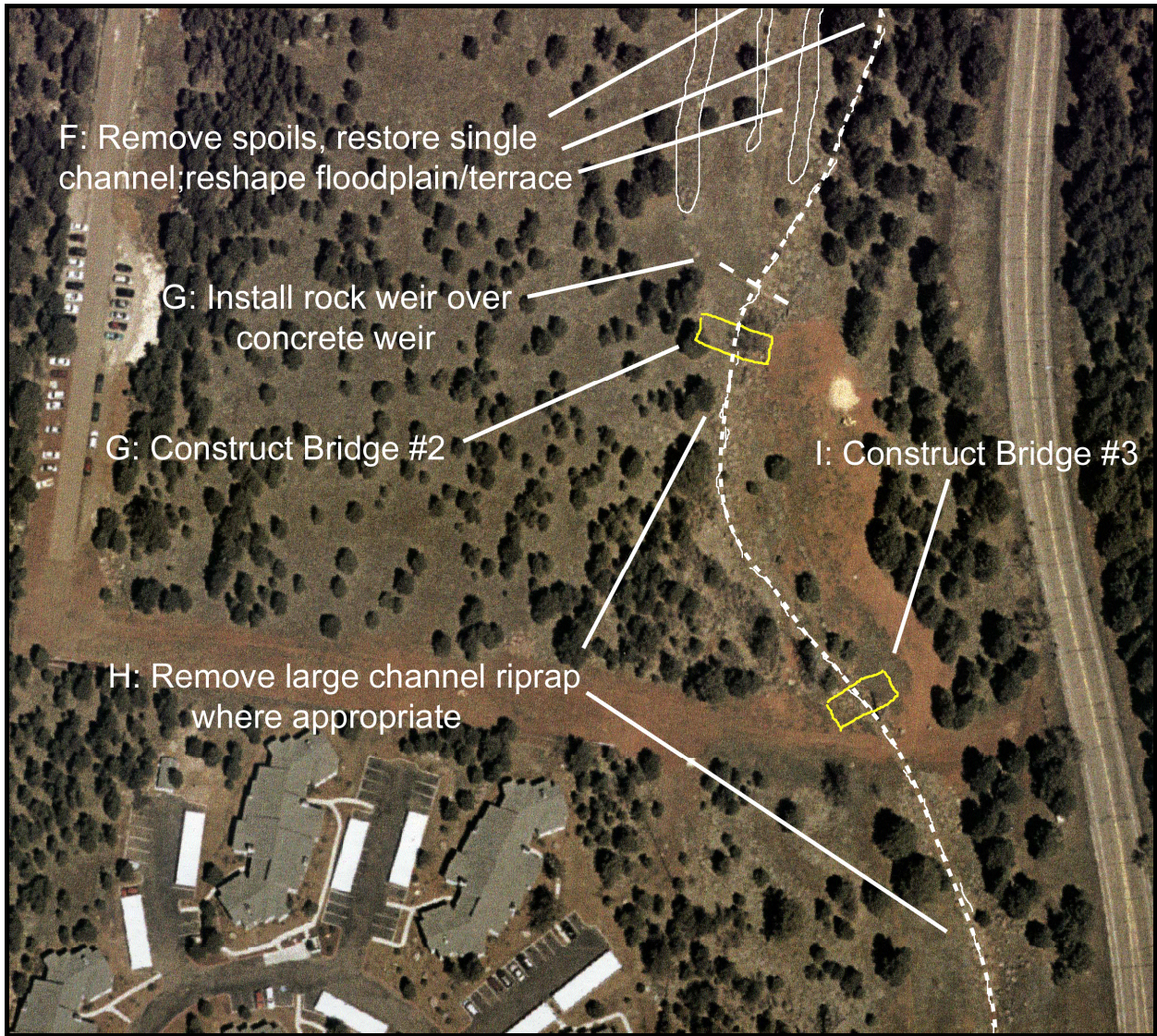


Figure A2. Aerial Photo: North-central portion of Project Area

F. Remove/reshape spoils. Outside jurisdictional area.

G. Bridge site #2. One or two concrete piers will be constructed as far from bankfull channel as possible. See Figure 10.

H. Remove or reshape large rock riprap in channel as necessary, leave smaller material.

I. Bridge site #3. One or two concrete piers will be constructed as far from bankfull channel as possible. See Figure 11.

An existing concrete weir protects a water line that crosses at G just below bridge site #2 (Figure 2). A flat concrete sill has been constructed on top of the water line to protect it from scour. The wide, flat sill widens the channel, disturbs sediment flow, and creates scour upstream. We propose to install a cross-vane rock weir at this point to center the flow and improve sediment transport. Scour holes above the weir will be brought up to channel grade. The structure will rise only to floodplain elevation and have a “V” shape with the point aimed upstream. The design is similar to the weir planned for area A of the project. The weir will be constructed of approximately 5 cubic yards of local native rock.



Figure A3. Aerial Photo: South-central portion of Project Area

- J. Remove or reshape large rock riprap in channel as necessary, leave smaller material. Excavation only.
- K. Bridge site #4. One or two concrete piers will be constructed as far from bankfull channel as possible. Potentially within jurisdictional area. See Figure 12.
- L. Repair terrace where erosion has exposed a large concrete manhole. Revegetate terrace banks. Outside jurisdictional area.
- M. Remove concrete rubble and other trash from terrace edge. Outside jurisdictional area.
- N. Realign channel slightly to west to allow terrace to be extended to enclose tall exposed concrete manhole (see Figure 8). Within jurisdictional area.



Figure A4. Aerial Photo: Southern portion of Project Area

- O. Remove concrete rubble and other trash from terrace edge. Outside jurisdictional area.
- P. Repair terrace where erosion has exposed a large concrete manhole. Revegetate terrace banks. Outside jurisdictional area.
- Q. All along the channel though areas M, N, O, P, & Q the existing channel runs through relatively thick stands of ponderosa pine. In these areas the channel is often braided and clogged with debris. This almost certainly is not the channels original alignment. It appears that previous filling along Turquoise Drive to the east has forced the channel into the trees. We propose to realign the channel to remain clear of trees and in a more open area. This will entail creating a shallow channel for about 1,000 feet in the new alignment. See Figure 2 for a typical design cross-section. The existing channel will be filled to floodplain elevation using material from the new channel. Approximately 500 cubic yards of material will be excavated. We estimate that approximately 300 cubic yards will need to be discharged to fill the existing channel(s). This part of the project is included in the urban "Open Space" deeded to the City of Flagstaff.



Figure A5. Small channel headcut at “B” on site map.



Figure A6. Steep road embankment at “C” adds excessive sediment to stream channel. Proposed action is to realign 150 ft of channel away from embankment. Area “C” on site map.



Figure A7. Large rock spoil piles along the floodplain at “D” on site map. Spoil material will be removed and/or smoothed to restore the floodplain.



Figure A8. Existing manhole lies exposed in floodplain. Left terrace will be extended to include manhole to improve aesthetics and reduce floodplain scour. Area “N” on site map.



Figure A9. Bridge site #1 at Area “E”. Looking downstream.



Figure A10. Bridge site #2 at “G”. Looking downstream.



Figure A11. Bridge site #3 at Area “I”. Photo taken looking upstream.



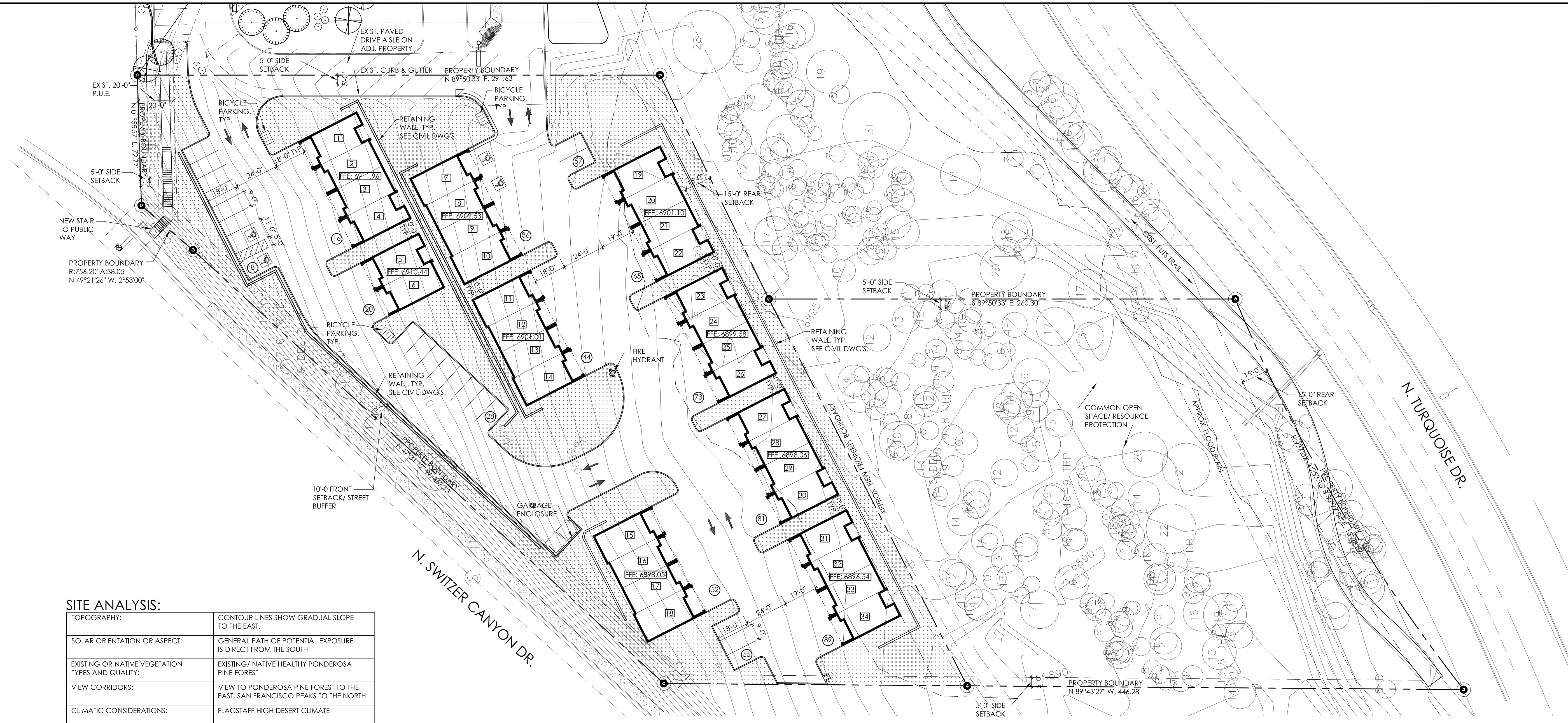
Figure A12. Bridge site #4 at Area “K”. Photo taken looking downstream.

THIS DOCUMENT, THE IDEAS AND DESIGNS HEREIN AS AN INSTRUMENT OF SERVICE, IS THE PROPERTY OF SMITH ARCHITECTS, AND IS NOT TO BE USED IN WHOLE OR PART WITHOUT WRITTEN AUTHORIZATION OF SMITH ARCHITECTS.

PRELIMINARY
NOT FOR CONSTRUCTION OR RECORDING

DRAWN BY: T. SCANTLEBURY
REVIEW BY: R. SMITH
PROJECT NO.:
2020-21
DATE:
FEBRUARY 1, 2022
SHEET:

AS1.1
ARCHITECTURAL
SITE PLAN



SITE ANALYSIS:

TOPOGRAPHY:	CONTOUR LINES SHOW GRADUAL SLOPE TO THE EAST.
SOLAR ORIENTATION OR ASPECT:	GENERAL PATH OF POTENTIAL EXPOSURE IS DIRECT FROM THE SOUTH
EXISTING OR NATIVE VEGETATION TYPES AND QUALITY:	EXISTING/ NATIVE HEALTHY PONDEROSA PINE FOREST
VIEW CORRIDORS:	VIEW TO PONDEROSA PINE FOREST TO THE EAST. SAN FRANCISCO PEAKS TO THE NORTH
CLIMATIC CONSIDERATIONS:	FLAGSTAFF HIGH DESERT CLIMATE
SUBSURFACE CONDITIONS:	UNKNOWN
DRAINAGE SWALES AND STREAM CORRIDORS:	FLOOD ZONES AE AND AE FLOODWAY (SHOWN)
BUILT ENVIRONMENT AND LAND USE CONTEXT:	N: EXIST. YMCA FACILITY S: VACANT LOT E: EXIST. SINGLE FAMILY RESIDENCES W: VACANT LOT

LANDSCAPING CALCULATIONS:

STREET BUFFER @ N. SWITZER CANYON DR.:	PARKING LOT INTERIOR:
395' LINEAR FEET STREET BUFFER	50 SINGLE LOADED PARKING SPACE
REQUIRED: 1 TREE PER 25 LINEAR FEET 2 SHRUBS PER TREE 2 GROUNDCOVERS PER TREE	REQUIRED: 2 TREES PER 8 PARKING SPACES 2 SHRUBS PER TREE 2 GROUNDCOVERS PER TREE
395 / 25 = 16 TREES REQ'D. 16 x 2 = 32 SHRUBS REQ'D. 16 x 2 = 32 GROUNDCOVERS REQ'D.	50 / 8 = 6.5 x 2 = 13 TREES REQ'D. 13 x 2 = 26 SHRUBS REQ'D. 13 x 2 = 26 GROUNDCOVERS REQ'D.
TOTAL PROPOSED: 12 TREES 24 SHRUBS 24 GROUNDCOVERS	TOTAL PROPOSED: 13 TREES 26 SHRUBS 26 GROUNDCOVERS
LANDSCAPING WILL BE LOCATED IN LANDSCAPE PENINSULAS	
BUILDING FOUNDATION: 200 LINEAR FEET PER BUILDING = 1700 L.F.	RESIDENTIAL ZONE BUFFER : 857 LINEAR PERIPHERAL BUFFER
REQUIRED: 1 TREE PER 25 LINEAR FEET 2 SHRUBS PER TREE 2 GROUNDCOVERS PER TREE	REQUIRED: 1 TREE PER DWELLING UNIT 2 SHRUBS PER TREE 2 GROUNDCOVERS PER TREE
1700 / 25 = 68 TREES REQ'D. 68 x 2 = 136 SHRUBS REQ'D. 68 x 2 = 136 GROUNDCOVERS REQ'D.	34 x 1 = 34 TREES REQ'D. 34 x 2 = 68 SHRUBS REQ'D. 34 x 2 = 68 GROUNDCOVERS REQ'D.
TOTAL PROPOSED: 68 TREES 136 SHRUBS 136 GROUNDCOVERS	TOTAL PROPOSED: 34 TREES 68 SHRUBS 68 GROUNDCOVERS

LANDSCAPING NOTES:

1. EXISTING TREES CREDITED TOWARDS LANDSCAPING WILL BE DEFINED AND CALCULATED FOR SITE PLAN APPLICATION

1 ARCHITECTURAL SITE PLAN

SCALE: 1"=30'

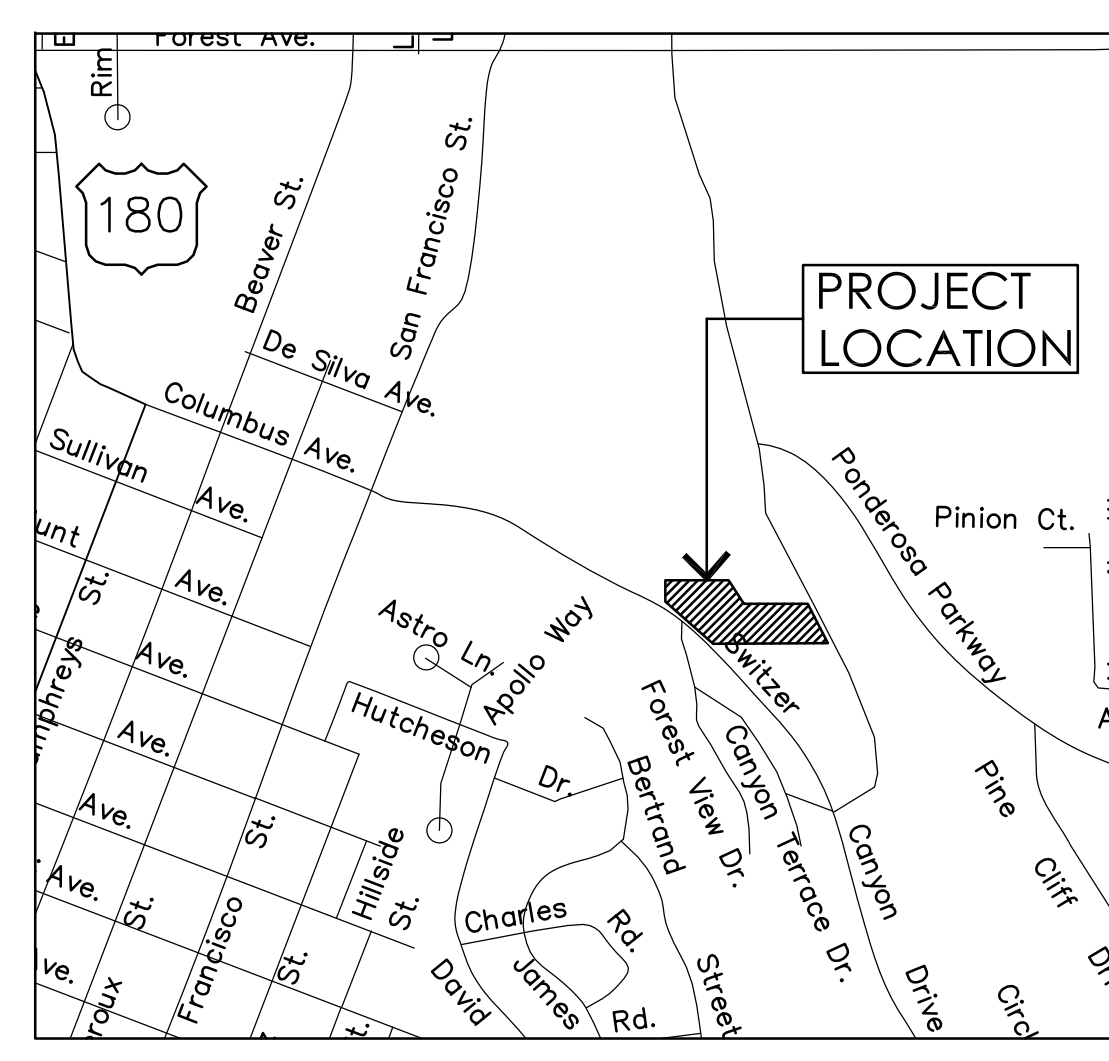
THIS SITE IS LOCATED WITHIN THE RESOURCE PROTECTION OVERLAY ZONE
COORD. w/ CIVIL DRAWINGS PREPARED BY SWI, INC., FOR ALL SITE, & UTILITY IMPROVEMENTS, & RESOURCE PROTECTION, TYP.

SITE PLAN LEGEND

- APPROX. PERIMETER OF NEW BLDG. FOOTPRINT
- APPROX. NEW LANDSCAPE AREA

GENERAL PROJECT DATA

PROJECT DESCRIPTION:	NEW HOUSING DEVELOPMENT CONSISTING OF 34 TOWNHOUSE UNITS AND ASSOCIATED PARKING ON EXIST. VACANT SITE	BUILDING SETBACKS:	FRONT: 10'-0" INTERIOR SIDE YARD: 5'-0" STREET SIDE YARD: 5'-0" REAR: 15'-0"
SITE ADDRESS:	800 N. SWITZER CANYON DRIVE FLAGSTAFF AZ, 86001	ALLOWED BUILDING HEIGHT (MAX.):	60'
PROPERTY OWNER:	AXXO HOLDINGS, LLC 824 W BIRCH AVE. FLAGSTAFF, AZ 86001 CONTACT/ DEVELOPER: MATT PEACE	PROPOSED BUILDING HEIGHT:	36' (30' TO EAVE)
ARCHITECT:	SMITH ARCHITECTS, INC 1503 S. YALE ST., SUITE 200 FLAGSTAFF, AZ 86001 CONTACT: RYAN SMITH	DENSITY (UNITS/ ACRE):	MIN.: 20 UNITS MAX.: 110 UNITS
APN:	101-28-005H	BUILDING AREAS:	UNIT A: 1,225 S.F. UNIT B: 1,039 S.F.
ZONING DISTRICT:	HR	COMMON OPEN SPACE:	REQUIRED: 15% OF GROSS LOT AREA = 13,194 S.F. PROVIDED: = 56,686 S.F.
EXIST. SITE AREA:	3.32 ACRES (144,665 S.F.)	GARBAGE COLLECTION:	(1) NEW DOUBLE DUMPSTER ENCLOSURE
NEW. SITE AREA:	2.0 ACRES (87,965 S.F.)	SIGNAGE:	UNDER SEPARATE PERMIT
PARKING REQUIRED (BEFORE REDUCTIONS):	34 NEW 2-3 BDRM. BLDGS. (2 PER 2-3 BDRM.): = 68 SPACES GUEST PKG.: 25 SP./2+ UNIT: = 8.5 SPACES TOTAL REQUIRED: 77 SPACES	OCCUPANCY GROUP:	R-2
POSSIBLE PARKING REDUCTIONS (IF REQUIRED):	BICYCLE PARKING: * A REDUCTION OF ONE SPACE FOR EACH FOUR BICYCLE SPACES PROVIDED TO A MAX. OF 5% OF THE REQUIRED MOTOR VEHICLE SPACES 12 BICYCLE SPACES PROVIDED 3 PARKING SPACE REDUCTION TOTAL REQUIRED WITH REDUCTIONS 77-3 = 74 SPACES	CONSTRUCTION TYPE:	V-B SPRINKLERED
PARKING PROVIDED:	85 STANDARD VEHICLE SPACES 4 ACCESSIBLE SPACES 89 TOTAL VEHICLE SPACES 12 BICYCLE SPACES		





Northern Arizona Healthcare
Flagstaff Medical Center • Verde Valley Medical Center

1200 North Beaver Street
Flagstaff, AZ 86001
(928) 779-3366 Flagstaff,

Community Development
City of Flagstaff
211 W. Aspen Avenue
Flagstaff, AZ 86001

RE: Zoning Code Text Amendment PZ-22-00021

Dear Tiffany Antol:

Northern Arizona Healthcare (NAH) agrees to remove the Rural Floodplain designation on all NAH owned properties, APNs 101-28-005G and 101-01-020A. NAH further agrees to a Zoning Code Text Amendment (amending the rural floodplain map).

Sincerely,

Steve Eiss

Digitally signed by Steve Eiss
DN: C=US,
E=steven.eiss@nahealth.com,
O="Northern Arizona Healthcare",
OU=VP - Construction & Real
Estate, CN=Steve Eiss
Date: 2022.07.07 14:23:22-07'00'

Steve Eiss
Vice President
Construction & Real Estate Development
Northern Arizona Healthcare

TESTAN PROPERTIES, LLC
12777 W. Maya Way
Peoria, AZ 85383

August 1, 2022

Tiffany Antol
Zoning Code Manager
City of Flagstaff
211 W. Aspen Avenue
Flagstaff, AZ 86001

Re: APN 101-28-013A and 101-28-013B
780 and 796 N. Switzer Canyon Drive

Dear Ms. Antol:

We appreciate your letter of July 6, 2022 suggesting removal of the rural floodplain map designation in the City of Flagstaff Zoning Code for the above-referenced two parcels of property.

Please include our two (2) parcels of land in the text amendment.

If you need any additional instruction of signature, please advise.

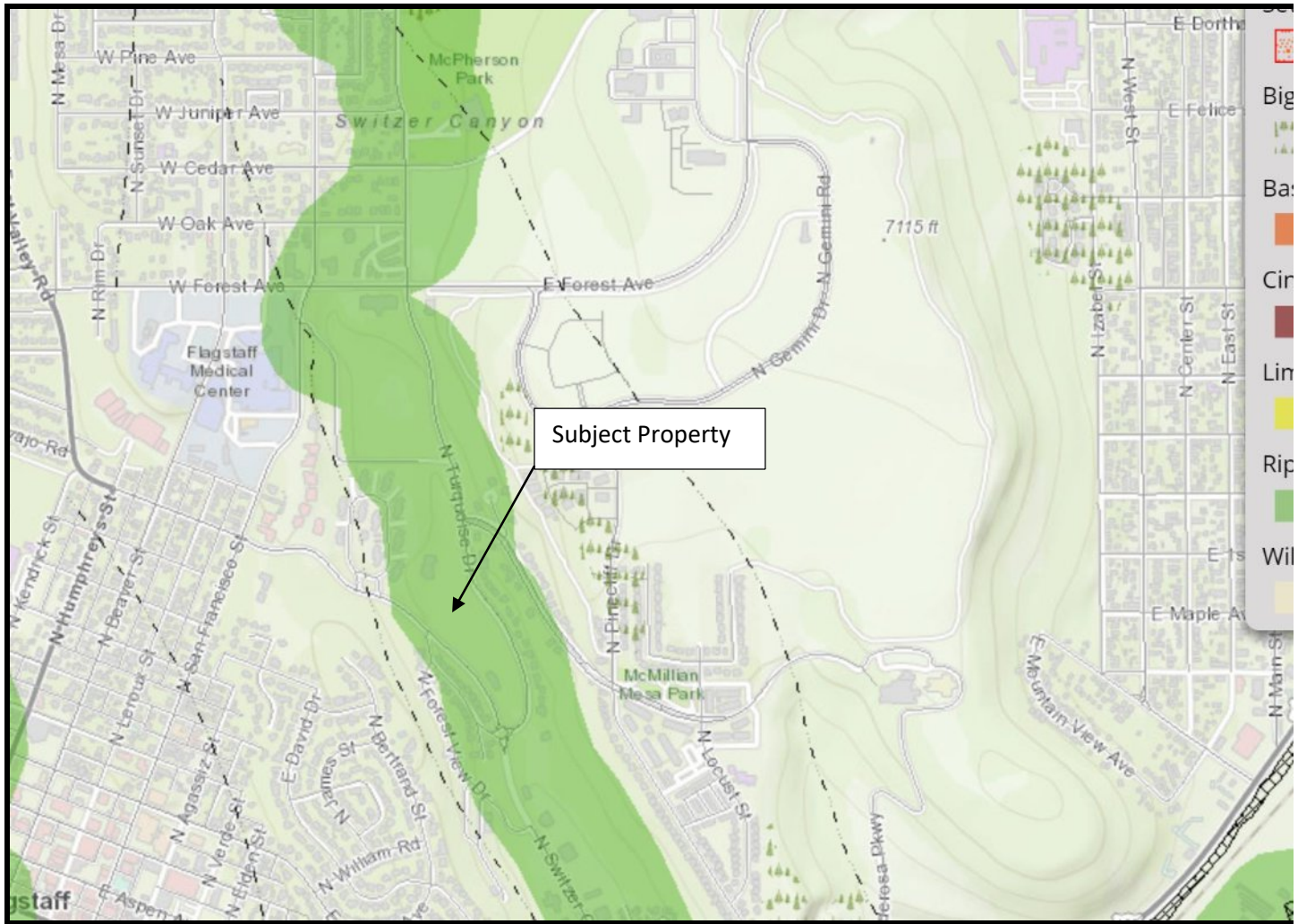
Testan Properties, LLC



Joe Testan, Manager

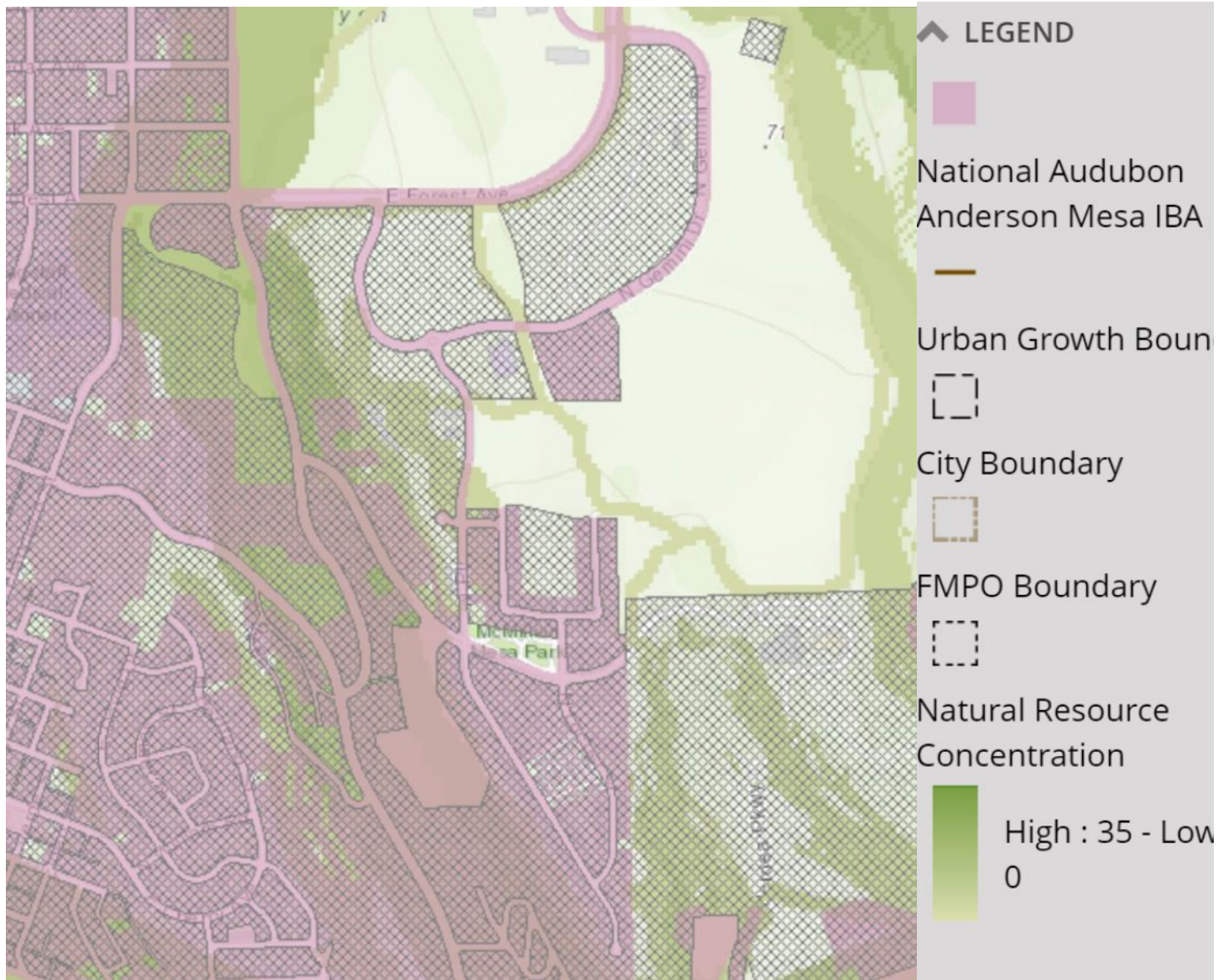
Joe Testan
jtestan@gmail.com
cell 818-389-3327

Michael Mongini
mem@h2m2law.com
cell 928-699-4381



Flagstaff Regional Plan Map 7 – Significant Natural Resources

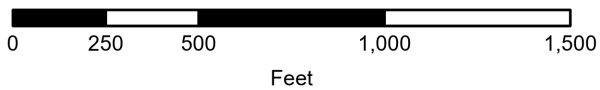
The subject property is identified as “Potential Riparian Vegetation



Flagstaff Regional Plan Map 8 – Concentration of Natural Resources



Urban Floodplain



City of Flagstaff maps and data are updated on a regular basis from data obtained from various sources. The City of Flagstaff endeavors to provide accurate information, but accuracy is not guaranteed. You are strongly encouraged to obtain any information you need for a business or legal transaction from a surveyor, engineer, title company, or other licensed professional as appropriate. Information is provided subject to the express condition that you knowingly waive any and all claims for damages against the City of Flagstaff relating to use of this information.



9/7/2022 9:11 AM



**Neighborhood Meeting and Citizen Outreach Plan
For
800 N Switzer Way
Flagstaff AZ 86001
101-28-005H**

In connection with our application for a Zoning Code Text Amendment, the applicant AXXO LLC is proposing this Neighborhood and Citizen outreach Plan. If you have any feedback, please contact us. This plan is intended to meet the requirements of for the City of Flagstaff's zoning code section 10-20.30-060.

Introduction

AXXO Holdings LLC is requesting a Zoning Code Text Amendment for parcel # 101-28-005H. A major feature of the site is Switzer Canyon Wash, which contains a FEMA designated floodplain and floodway. The floodplain is also designated Rural by the City of Flagstaff, although the same floodplain is designated urban both up and downstream of this stretch. Multiple parcels along this stretch of floodplain have been developed in and along the floodplain by elevating building pads out of the true drainage path. There have also been substantial disturbances by underground utilities including the 15" Switzer Canyon Trunk Sewer and the 16" Switzer Canyon Water Line. And more recently a roadway crossing two parcels to the north that constricts runoff through a culvert, negating any true floodplain characteristics.

A Design Report and Biological Evaluation was completed by Natural Channel Design in 2003 that concluded that due to development and the ephemeral nature of the stream this area does not contain suitable habitat for any federally listed species.

Neighborhood Meeting

A. Purpose

- Encourage AXXO Holdings LLC to allow for informed decision making through the dissemination of proposals and alternatives.
- Ensure that AXXO Holdings LLC pursue early and effective citizen participation in conjunction with their applications, giving them the opportunity to understand and try to mitigate any real or perceived impacts their application may have on the community.

- Ensure that the citizens and property owners have an adequate opportunity to learn about how AXXO Holdings LLC's application may affect them and to work with applicants to resolve concerns at an early stage of the process; and
- Facilitate ongoing communication between the AXXO Holdings LLC, potentially affected citizens and adjacent property owners, City staff and elected officials throughout the application review process.

B. Applicability and Requirements

AXXO Holdings LLC. understands its application will require it to hold a neighborhood meeting and that it is responsible for the costs associated with the meeting. If the Director requires, AXXO Holdings LLC will host additional neighborhood meetings. AXXO Holdings LLC would like to schedule the first neighborhood meeting on: **To be determined.**

C. Neighborhood Meeting Plan

Pursuant to Code Section 10-20.30.060(C)(2), AXXO Holdings LLC's plan for how it intends to conduct the neighborhood meeting must be submitted to and approved by the Director in compliance with the review schedule.

- In anticipation of this requirement, AXXO Holdings LLC's has included the following proposed plan for conducting the neighborhood meeting.
 - The neighborhood meeting will be hosted at a suitable gathering location at 800 N Switzer Canyon Drive. AXXO Holdings LLC will hold the public meeting(s) at the subject site if it is determined to be a suitable location for the meeting(s). While AXXO Holdings LLC has determined the location, date, and time of the neighborhood meeting, it will include such information in its plan sent to the Director in compliance with the review schedule.

AXXO Holdings LLC will, provide notices, via first class mail and email (if available) to the following parties:

- Property owners, citizens, jurisdictions, and public agencies within 300 feet of the proposed project per City Code 10-20.30.060 (c) (2) (a)
- All persons or groups whose names are on the registry of persons and groups described in Code Section 10-20.30.080(B) who are interested in receiving such notice; and
- If required by the Director, to any party falling within an expanded notification area.

Pursuant to Code Section 10-20.30.060(F), after the meeting(s), AXXO Holdings LLC will create a written summary of the meeting(s) and will submit the report to the Director in its next formal submission. The report will include the information specified in Code Section 10-20.30.060(F), including (i) certification, on a form established by the Director, that the meeting was properly noticed and conducted; (ii) dates and locations of all meetings; (iii) a copy of the notices provided, including dates and number of mailings or deliveries; (iv) a copy of the mailing list and

a summary of where residents, property owners, and potentially affected citizens receiving notices were located; (v) the number and names of people that participated in the process and a copy of the 1/8-page advertisement published in the Arizona Daily Sun newspaper.

AXXO Holdings LLC understands the need for community involvement throughout the application process and welcomes the City's input on any of the information and plans we are proposing.

Tiffany,

We have completed the public participation meeting at 800 n Switzer Canyon Drive. Overall we had a large turnout with 24 people from the neighborhood in attendance. I arrived early at 9:30, at 10:15 after many people were present I informed them that I would like to collect their names and contact phone numbers so I could report those in attendance back to the City of Flagstaff. Some agreed to provide that information and attached is the list of the 11 attendees that shared their contact information with me. We gathered on the parcel and I explained to everyone that I was there to collect their feedback and had comment cards and pens ready for anyone who would like to provide written feedback. No one offered to provide their feedback in writing.

We had an open conversation from 10:15 until 11:45 when the last people in attendance left. Many people shared their thoughts and feedback and I did my best to address everyone's questions. I explained to everyone that the goal of the meeting was to hear and collect this feedback and that it would be very difficult for me to accurately take note of all of the feedback I was being presented with. For that reason I highly encouraged everyone to email myself you directly with the feedback.

Though many general concerns about overall development of the parcel were raised I felt the main topics presented in regard to the proposed zoning code text amendment where the following:

- Concerns that a change from Rural to Urban would open the possibility of further channelization of water through the area and prevent it from soaking into the water table that provides our drinking water.
- Concerns that a change from Rural to Urban would create flooding concerns for businesses and residencies downstream from the location.
- Concerns that a change from Rural to Urban would impact wildlife that uses the area as a corridor.

There were many more comments and concerns brought up regarding their preference to leave the area undeveloped as an open space that they have come to enjoy looking at and walking through, I expect that you will receive many emails from attendees about these matters.

I have attached the following:

- List of attendees
- Previous emails communications that have been sent to me and responded to
- Mailing list

Please advise what the next steps for us would be and if there is any further action needed for the public participation plan.



Steven Holloway

Operations

AXXO

 steve@darkskycapital.com

 [928-814-3134](tel:928-814-3134)

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Tiffany Antol

From: Jim McCarthy
Sent: Monday, August 29, 2022 11:48 AM
To: Claire Lears
Cc: Tiffany Antol
Subject: Re: Protect Switzer Canyon Wash Watershed from 100 year Floodplain Development

Claire, if this would require a zoning code text amendment as you note, it would go to council for approval. I assure you that before I approve anything that affects floodplains or the potential for more residential flooding, I will be very careful. Thank you for your note.

Jim McCarthy

From: Claire Lears <claire.lears@gmail.com>
Sent: Monday, August 29, 2022 9:39 AM
To: Mayor and Council <council@flagstaffaz.gov>
Subject: Protect Switzer Canyon Wash Watershed from 100 year Floodplain Development

Some people who received this message don't often get email from claire.lears@gmail.com. [Learn why this is important](#)

Hello,

I live & own a home in Switzer Canyon and our neighborhood/community was recently made aware of a request for a zoning code text amendment to revise the floodplain from Rural to Urban for APN: 10128005H so the property can develop townhomes. This property has both a regulated floodplain as well as a 100 year floodplain (zones AE, AE Floodway, and Zone X (see attached image for parcel view). According to the concept narrative the parcel is approximately 3.35 acres with 1.96 acres in the floodplain and also contains some steep slopes, the plan includes language on building in part of the floodway (if the rural floodplain is changed to urban) and possibly platting off townhomes. I attended a community meeting held by a representative for the property owner (there wasn't anyone from the city there) and it was not very informative and it made me more concerned as there was a comment about how the city may be looking into changing the rural floodplain designation for all of the parcels in that rural floodplain stretch. Those of us at the meeting voiced many concerns some related to the floodplain and also the concept plan and we aren't really sure the best way to voice those concerns to the city as it did not seem like this person was really planning to report them to anybody. I and my neighborhood would like a chance to discuss these concerns prior to a decision on the floodplain and the development being made.

The top of the Switzer Canyon Wash watershed is in the dry lakes and is not in a recent burn scar, the dry lakes watershed storms map identifies areas of potential flooding and the rural floodplain lines up with what is shown on the watershed storm map as having a potential to flood. With all the flooding around town related to burn scars, I think changing the designation from rural to urban is a bad idea as it will allow the developer to build in the 100 year floodplain, as right now it is not allowed due to the rural designation. What happens to the homes built there in the future when there is a 100 year storm event combined with a post wildfire flood scenario?

If the designation is changed from rural to urban I would like to see the floodway protected to prevent future flooding and protect the riparian vegetation. This parcel is identified in the 2030 regional plan as having significant natural resources for riparian vegetation. Also this parcel does not fall into any of the activity or pedestrian sheds identified in the 2030 plan.

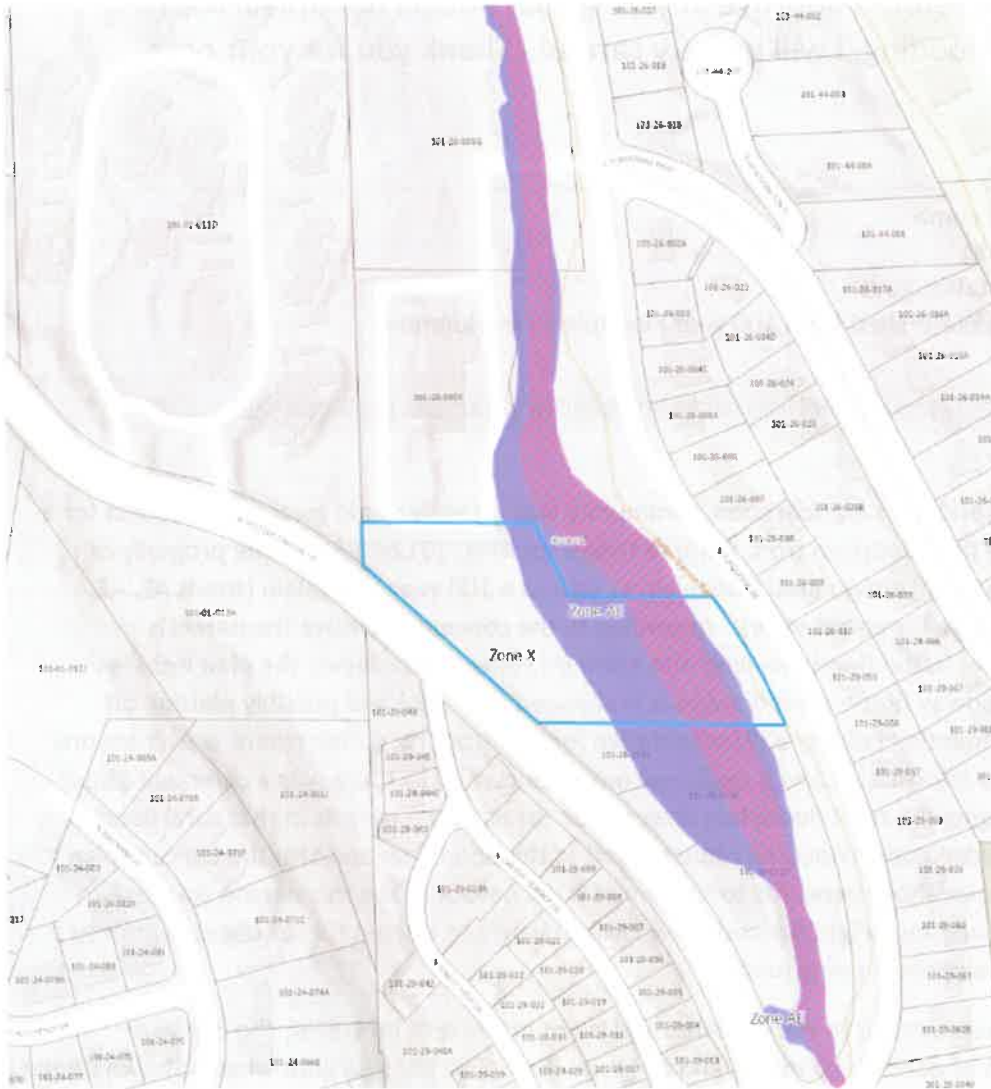
Can a zoning code text amendment for a parcel really be used to revise a rural floodplain?

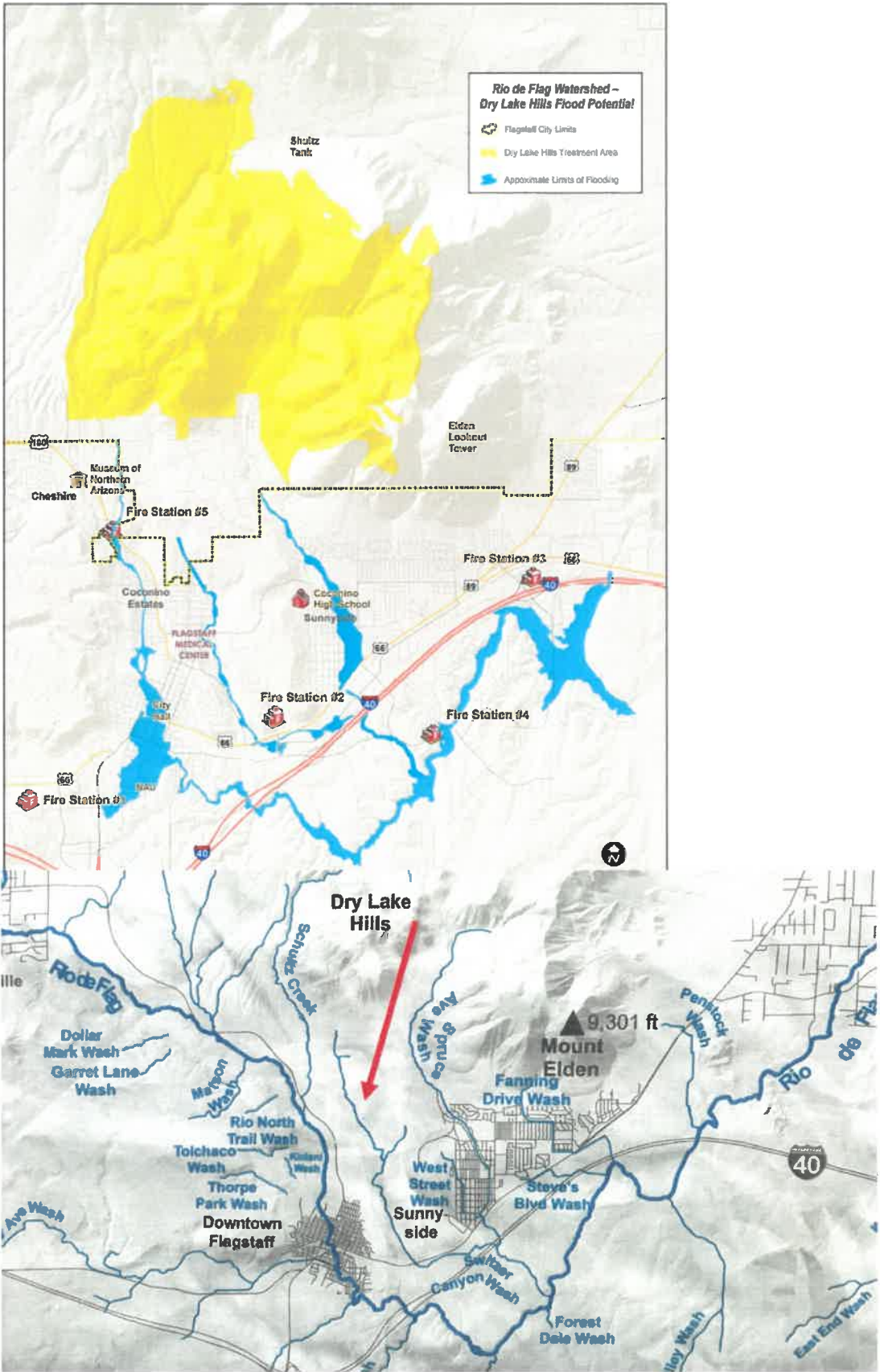
What is the best way for our neighborhood to voice our concerns before it is too late?

Will the council be having any meetings related to this floodplain change in the future?

Thanks,
Claire

<https://flagstaffwatershedprotection.org/wp-content/uploads/2013/04/Dry-Lake-Watershed-Stormwater.pdf>





Tiffany Antol

From: Ryan Brown <rbrown@thefederalsavingsbank.com>
Sent: Wednesday, August 17, 2022 1:51 PM
To: Tiffany Antol
Cc: Michelle J. McNulty
Subject: RE: Notice: Zoning 800 North Switzer Canyon Dr

You don't often get email from rbrown@thefederalsavingsbank.com. [Learn why this is important](#)

Thank you for the quick response.

Does the flood plain need to be changed for the property to be developed? Or can it be developed as is?



RYAN F. BROWN

Senior Vice President NMLS#630438

8800 N. Gainey Center Dr. #205 Scottsdale AZ 85258

Direct (480) 524-0606 | Fax (480) 524-1555 | Cell (602) 318-3041

rbrown@thefederalsavingsbank.com

WWW.THEFEDERALSAVINGSBANK.COM/RYANBROWN

APPLY NOW



From: Tiffany Antol <TAntol@flagstaffaz.gov>
Sent: Wednesday, August 17, 2022 1:20 PM
To: Ryan Brown <rbrown@thefederalsavingsbank.com>
Cc: Michelle J. McNulty <Michelle.McNulty@flagstaffaz.gov>
Subject: RE: Notice: Zoning 800 North Switzer Canyon Dr

[--CAUTION: EXTERNAL EMAIL--]

Good Morning,

The property is zoned High Density Residential. Several of the parcels in this area have a similar floodplain designation including Northland Hospice and the YMCA. The floodplain is only a small portion of the property. The subject of this text amendment is whether or not the existing floodplain meets the standards of rural or urban floodplain. The floodplain will still exist and all FEMA requirements will need to be addressed.

The applicant has indicated that the existing floodplain has been disturbed by existing development and no longer functions as a rural floodplain. Our staff is in concurrence with this analysis based on the application submitted. The final decision on the status of this floodplain will be determined by City Council.

As part of the process the applicant is required to hold a neighborhood meeting to discuss this proposal.

After the neighborhood meeting is complete there will be a work session with Planning & Zoning Commission and then a Public Hearing. Staff will make a recommendation to the Commission and then the Commission will make a recommendation to City Council who will also hold a public hearing and make the final determination on the application.

Both the work session and public hearing noted above are accessible to the public to attend and provide comments.

Please let me know if you need any additional information.

Tiffany Antol, AICP

Zoning Code Manager

City of Flagstaff | Community Development

211 West Aspen Avenue | Flagstaff, AZ | 86001

P: (928) 213-2605

From: Ryan Brown <rbrown@thefederalsavingsbank.com>

Sent: Wednesday, August 17, 2022 9:43 AM

To: Tiffany Antol <TAntol@flagstaffaz.gov>

Subject: FW: Notice: Zoning 800 North Switzer Canyon Dr

You don't often get email from rbrown@thefederalsavingsbank.com. [Learn why this is important](#)

Hello Tiffany,

I am a home owner on turquoise directly in front of the parcel in question.

I assume this change from rural to urban would allow for the parcel to be developed? My initial reaction if that is the case if to not support this as I do not want a development directly in front of my home which is currently wooded.

Can you give me a bit more information on what is projected and how to become active in the process of this?



**THE FEDERAL
SAVINGS BANK**

RYAN F. BROWN

Senior Vice President NMLS#630438

8800 N. Gainey Center Dr. #205 Scottsdale AZ 85258

Direct (480) 524-0606 | Fax (480) 524-1555 | Cell (602) 318-3041

rbrown@thefederalsavingsbank.com

WWW.THEFEDERALSAVINGSBANK.COM/RYANBROWN

APPLY NOW



From: Steve Holloway <steve@darkskycapital.com>
Sent: Wednesday, August 17, 2022 8:41 AM
To: Ryan Brown <rbrown@thefederalsavingsbank.com>
Subject: Re: Notice: Zoning 800 North Switzer Canyon Dr

[--CAUTION: EXTERNAL EMAIL--]

Ryan,
We are proposing to the city to change the flood plain classification from rural to urban. See the attachment for more information.

From: Ryan Brown <rbrown@thefederalsavingsbank.com>
Date: Tuesday, August 16, 2022 at 5:58 PM
To: "steve@darkskycapital.com" <steve@darkskycapital.com>
Subject: Notice: Zoning 800 North Switzer Canyon Dr

Hello,

I have received a notice about a neighborhood meeting in regards to zoning code amendment.

I am a homeowner in the area but currently I am in Phoenix and most likely cannot make the meeting.

Can I get a little color on what's being proposed?



**THE FEDERAL
SAVINGS BANK**

RYAN F. BROWN

Senior Vice President NMLS#630438

8800 N. Gainey Center Dr. #205 Scottsdale AZ 85258

Direct (480) 524-0606 | Fax (480) 524-1555 | Cell (602) 318-3041

rbrown@thefederalsavingsbank.com

WWW.THEFEDERALSAVINGSBANK.COM/RYANBROWN

APPLY NOW



Tiffany Antol

From: Gary <rhett7784@aol.com>
Sent: Tuesday, August 30, 2022 11:13 AM
To: Tiffany Antol
Subject: Zoning code Text amendment to 800 N Switzer Canyon Drive

Hello my name is Gary Butler. My wife Susan and I are both opposed to the zoning change. We live across the street and have always been able to watch a lot of wild life from our deck right in the area that they want to destroy. On Sunday we saw a first in the area. A mother deer with 2 fawn that still had there spots. Very cool. Every summer a red tail hawk nests and has chicks in the trees in said area. The young hawks learn how to live in this area until they mature and move on. There are also raccoon families that live here every year. I could go on. It's sad that this is one of the very few wild areas very close to downtown left, that flourishes with wild life. I understand that money sadly is always the problem. The developers first, then the city that allows it. I get it, the city will make more money from developed property. We think it is very wrong to change the zoning. Sad for the wild life and sad for Flagstaff. It was zoned the way it is for a reason. Thanks, Gary and Susan Butler

Sent from my iPad

Subject: Re: Questions - Zoning amendment to parcel 10128005H
Date: Thursday, August 25, 2022 at 12:18:24 PM Mountain Standard Time
From: Steve Holloway
To: Allison & Detjen Jones
Attachments: image001.png, image002.png, image003.png, image004.png

Good morning and thank you for reaching out. These are all great questions.

- Why is it rural now?

- Flood plains in the City of flagstaff were not categorized as urban or rural until Dec 5th 2011. Through my research I was not able to find anything that specifically referenced why this parcel was categorized a rural. They only list the definition of how they define a rural flood plain.

- Why does it need to be urban?

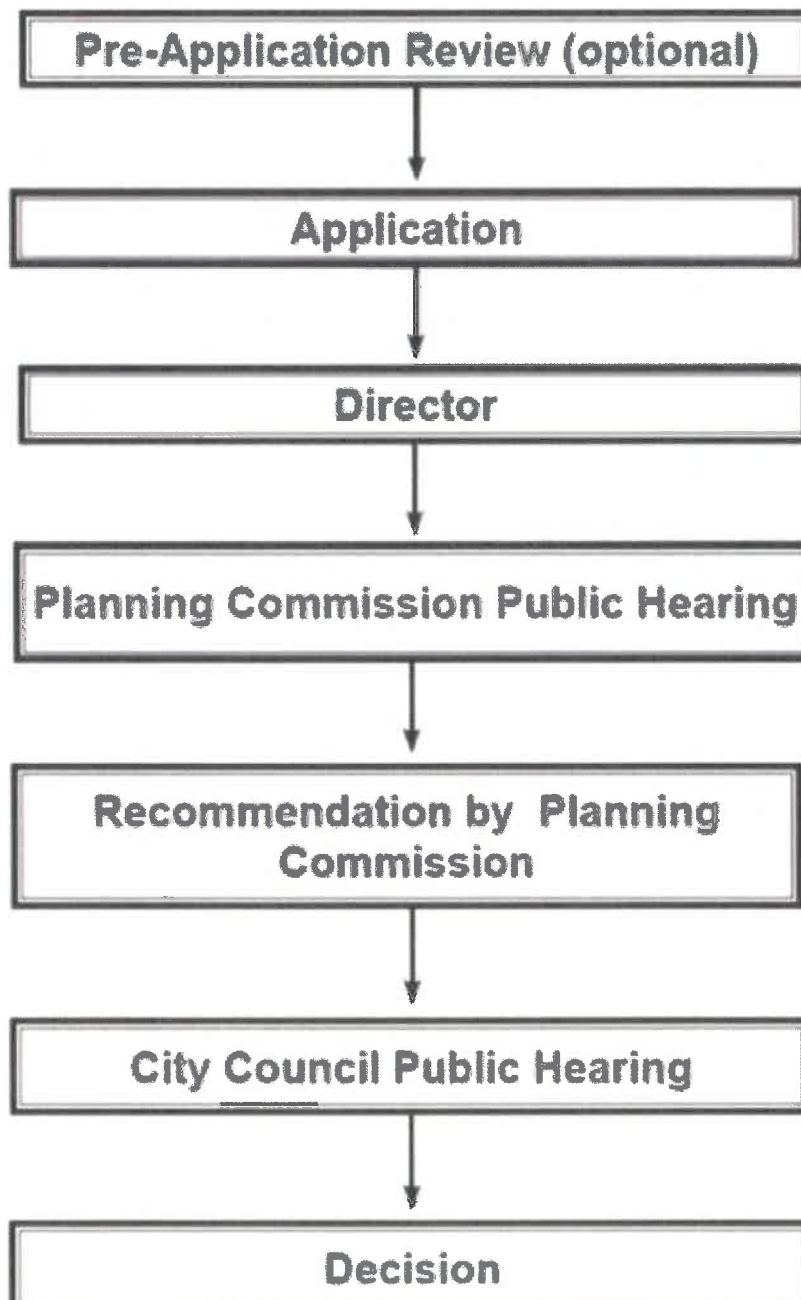
- A Rural flood plain is defined as "Rural floodplains are natural undisturbed open spaces that are unsuitable for development purposes due to periodic flood inundation and the need to preserve the stream corridor for beneficial uses such as the preservation of important ecological resources. Rural floodplains are delineated in Section 10-90.50.030 (Rural Floodplain Map) and defined as areas of delineated 100-year floodplain that cannot be disturbed or developed except for roadway and utility crossings. Rural floodplains cannot be altered through a floodplain map amendment or revision and must remain undisturbed (i.e. 100 percent protection). The extension of rural floodplains beyond the limits of the delineated floodplains, both upstream and laterally, may be required based on more current or extended floodplain studies, master plan documents or other studies or documents related to hydrology, hydraulics, stream geomorphology, wildlife habitat, or wildlife corridors."
- We feel this should be defined as urban due to its central location with in the city's urban development and due to it not meeting the definition of a rural flood plain as defined by the city of flagstaff.

- What development is allowed in a rural vs. urban?

• **1. Urban Floodplains**

All watercourses and associated floodplains not defined as rural floodplains are urban floodplains. Urban floodplains are typically located in urbanized areas and have typically been altered from their natural state by channelization. Urban floodplains may be altered to address conveyance and erosion concerns, provided that all necessary requirements of the City's Stormwater Regulations as administered by the Stormwater Manager are addressed. However, certain urban floodplains that have characteristics conducive to water quality, wildlife habitat, and stream ecology should be preserved. Proposals for any disturbance of these watercourses shall be reviewed by the Stormwater Manager and must address these attributes and provide for mitigation if necessary. Undergrounding of urban floodplains is strongly discouraged and a justification must be provided prior to any approval of undergrounding.

- What happens if the request is approved?
 - There will be an amendment to the City of Flagstaff's current zoning code text to redefine the area as an Urban flood plain.
- Why are property owners being notified?
 - As a part of the application process the city requires that we notify property owners within 300 feet of the parcel.
- What impact will this have on Turquoise and Switzer Canyon?
 - If you are asking about the street themselves this zoning code text amendment would not affect those areas as it only applies to a specific parcel that is not traversed by those roads.
- What needs to happen to approve plans?






Steven Holloway

Operations
AXXO Inc.

 steve@darkskeycapital.com

 [928-814-3134](tel:928-814-3134)

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From: Allison & Detjen Jones <allisondetjenjones@gmail.com>

Date: Wednesday, August 24, 2022 at 6:26 PM

To: "steve@darkskeycapital.com" <steve@darkskeycapital.com>

Subject: Questions - Zoning amendment to parcel 10128005H

Hello,

We live on Turquoise and have questions about the request for a Zoning Code Text amendment to revise the floodplain on parcel 10128005H.

- Why is it rural now?
- Why does it need to be urban?
- What development is allowed in a rural vs. urban?
- What happens if the request is approved?
- Why are property owners being notified?
- What impact will this have on Turquoise and Switzer Canyon?
- What needs to happen to approve plans?

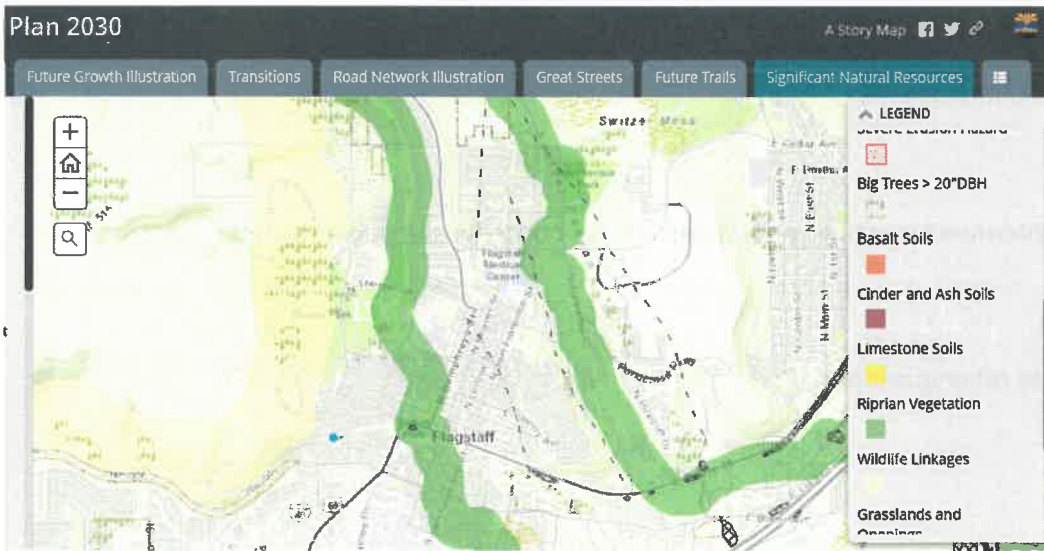
Tiffany Antol

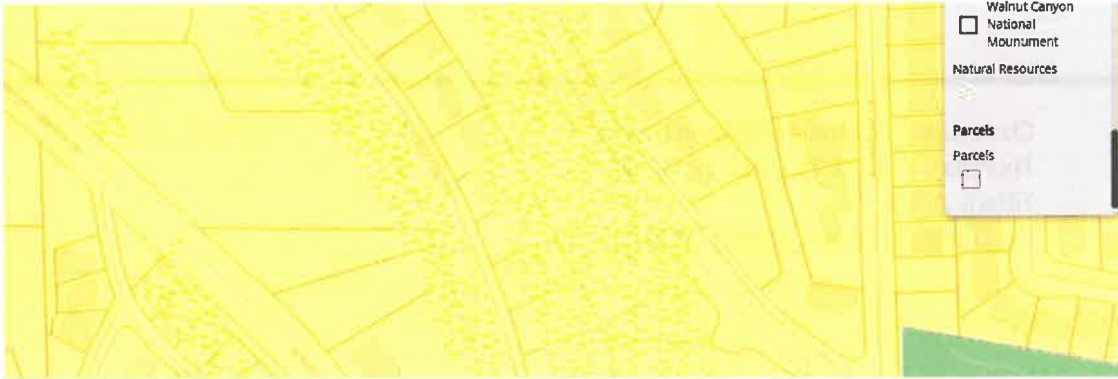
From: Claire Lears <claire.lears@gmail.com>
Sent: Thursday, August 25, 2022 12:50 PM
To: Tiffany Antol
Subject: Re: Questions about zoning code change

Hello,
Can I get a copy of the development plan and application for this property? Also what is the timeline for the city making this change in designation?

Will the city be looking at the regional 2030 plan when making this change? In looking at the regional 2030 plan, it seems this area should remain as it is, as a rural flood plain due to the that area being identified as a significant natural resource riparian area. Also on the regional 2030 plan when looking at the regional growth plan there is also natural resources identified on the western portion of the property that is separate than that of the riparian area on the east side. While the regional plan does state that the presence of natural resources do not preclude private development...leaving the property as it is with the rural designation would allow the property to be developed with the rural designation while still allowing the riparian area to be intact. I believe that it has that rural designation to protect that natural resource. In looking at the regional 2030 plan it seems this area should remain rural and more protected from development in the riparian area.

Thanks,
Claire





On Mon, Aug 22, 2022 at 1:00 PM Tiffany Antol <TAntol@flagstaffaz.gov> wrote:

Good Afternoon Claire,

A portion of the YMCA development is located within the Rural Floodplain area.

The Rural and Urban floodplain designations are specific to the City of Flagstaff and do not impact the FEMA designations. All properties that are developed in and out of floodplain are required to meet our Stormwater regulations.

I will pass along your comments to the applicant.

If you received notice of the neighborhood meeting you will also receive notice for the public hearings.

Please let me know if you have any other questions.

Tiffany Antol, AICP

Zoning Code Manager

City of Flagstaff | Community Development

211 West Aspen Avenue | Flagstaff, AZ | 86001

P: (928) 213-2605

From: Claire Lears <claire.lears@gmail.com>
Sent: Monday, August 22, 2022 11:16 AM
To: Tiffany Antol <TAntol@flagstaffaz.gov>
Subject: Re: Questions about zoning code change

You don't often get email from claire.lears@gmail.com. [Learn why this is important](#)

Thanks for the information.

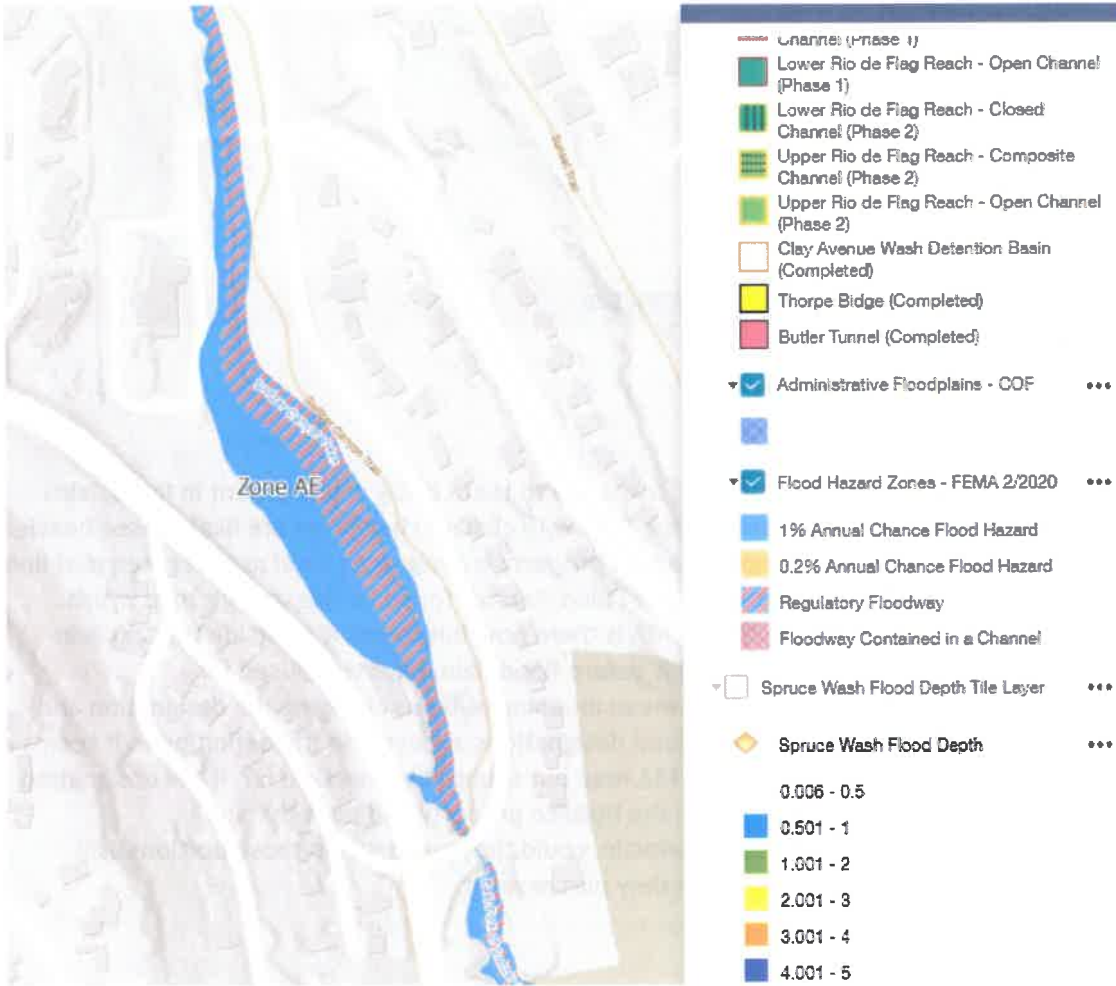
I guess for me it's mostly with all of the recent flooding around town due to there being development in floodplains does it make sense to change a rural floodplain designation, especially with climate change we are likely to see heavier rain and more likely to experience 100 year floods. It looks like that property is designated rural as that green part lines up with the FEMA 2/2020 100 year floodplain (1% Annual Chance Flood Hazard) found on flagstaff gis map which would make it seem like it falls into the rural defintion. The YMCA is there now but seems it's outside the 100 year floodplain leaving just the hospice house which maybe was built before floodplain maps were used for development? Does the 100 year flood designation not really mean anything as far as changing the designation and developing in floodplains? I'm just trying to understand the flood designations as based on the definition as it seems it is not alterable for the property based on the defintion and FEMA map but sounds like maybe it is? If the designation is changed would that impact how the floodplain runs through the hospice property and does that get evaluated? Parts of the property are outside the 100 year floodplain, could they just develop those portions as it seems that they knew about the floodplain designations when they purchased it.

Othwerwise the urban designations are above forest ave and below the circle at the bottom of Turquoise and I would guess those developments were around for awhile, the rest of the space in there is relatively undeveloped and deer are regularly are found in there and even up into the undeveloped space near the first southern baptist church. The urban trail along there is beautiful due to the wash, trees, and wildlife probably due to it being relatively undeveloped but if there is development hopefully the beauty of that part of the FUTS will remain intact and as beautiful as it is now.

As this project moves forward, how can I get updates? I don't know that I will be able to make the meeting Wed due to it falling during working hours. Will there be further community meetings or perhaps ones that are outside of typical working hours? Or is this meeting just to let the community know and essentially the city makes the decision based on it's own criteria.

Thanks,

Claire



On Mon, Aug 22, 2022 at 10:10 AM Tiffany Antol <TAntol@flagstaffaz.gov> wrote:

Good Morning Claire,

Attached please find a map of the subject property that shows the areas (in green) that makes up the boundary of the Rural Floodplain on the subject property.

The property is zoned High Density Residential.

Below is the section of Zoning Code that applies to Urban and Rural floodplains.

A. **Applicability.** Floodplains, as applied in this division, shall be considered as either urban or rural floodplains as described below.

1. **Urban Floodplains.** All watercourses and associated floodplains not defined as rural floodplains are urban floodplains. Urban floodplains are typically located in urbanized areas and have typically been altered from their natural state by channelization. Urban floodplains may be altered to address conveyance and erosion concerns; provided, that all necessary requirements of the City's *Stormwater Regulations* as administered by the Stormwater Manager are addressed. However, certain urban floodplains that have characteristics conducive to water quality, wildlife habitat, and stream ecology should be preserved. Proposals for any disturbance of these watercourses shall be reviewed by the Stormwater Manager and must address these attributes and provide for mitigation if necessary. Undergrounding of urban floodplains is strongly discouraged and a justification must be provided prior to any approval of undergrounding.

2. **Rural Floodplains.** Rural floodplains are natural undisturbed open spaces that are unsuitable for development purposes due to periodic flood inundation and the need to preserve the stream corridor for beneficial uses such as the preservation of important ecological resources. Rural floodplains are delineated in Section [10-90.40.030](#), Rural Floodplain Map, and defined as areas of delineated 100-year floodplain that cannot be disturbed or developed except for roadway and utility crossings. Rural floodplains cannot be altered through a floodplain map amendment or revision and must remain undisturbed (i.e., 100 percent protection). The extension of rural floodplains beyond the limits of the delineated floodplains, both upstream and laterally, may be required based on more current or extended floodplain studies, master plan documents or other studies or documents related to hydrology, hydraulics, stream geomorphology, wildlife habitat, or wildlife corridors.

The applicant's are proposing to develop the parcel with multi-family residential development.

As the City we look to see if the area designated as Rural Floodplain is still as described above. There are several areas where the subject floodplain has been disturbed by development. The rural floodplain is bounded to the north and south by urban floodplain as well.

Please let me know if you have any other questions.

Tiffany Antol, AICP

Zoning Code Manager

City of Flagstaff | Community Development

211 West Aspen Avenue | Flagstaff, AZ | 86001

P: (928) 213-2605

From: Claire Lears <claire.lears@gmail.com>

Sent: Monday, August 22, 2022 9:25 AM

To: Tiffany Antol <TAntol@flagstaffaz.gov>

Subject: Questions about zoning code change

You don't often get email from claire.lears@gmail.com. [Learn why this is important](#)

Hello,

In the mail I got a letter about a neighborhood meeting for a zoning code text amendment for 900 N. Switzer Canyon Drive (APN: 10128005H).

I was wondering what it means to change a parcel from a rural to an urban floodplain. What is the plan for that parcel that they are requesting the change? And what does the city look at when looking into allowing for that request to be granted?

Thanks,

Claire

Tiffany Antol

From: Chad Eickhoff <coacheickhoff@gmail.com>
Sent: Wednesday, August 17, 2022 3:16 PM
To: Tiffany Antol
Subject: Review Application & Development File: APN 10128005H

You don't often get email from coacheickhoff@gmail.com. [Learn why this is important](#)

Good Afternoon Tiffany,

I received a mailing regarding a community meeting for the AXXO Holding LLC proposition for Zoning Code Text amendment to parcel APN 10128005H. My initial reaction is that of concern, as the area seems to meet the intended purposes of a Rural Floodplain - as it serves as an important wildlife habitat and corridor. Changing the zoning to allow for the disturbing/developing of a functioning natural floodplain, in a time when the city has been plagued with flooding challenges (and the always realistic potential of new future flooding challenges), feels like the wrong time.

In the letter it directed me to contact you if we would like to review the application and development file. Could you please provide me with that information?

Thank you,
Chad Eickhoff

Tiffany Antol

From: CD P and Z Commission
Sent: Monday, September 26, 2022 11:58 AM
To: Claire Lears
Cc: Tiffany Antol
Subject: RE: Questions and comments for Case No: PZ-22-00021

Hi Claire

Thank you for your comments, they have been forwarded to the project manager to be delivered to the Commission.

Thanks,
Becky

Becky Cardiff

Development Services Manager
City of Flagstaff
211 W Aspen
Flagstaff, Az 86001
Office-928-213-2618

From: Claire Lears <claire.lears@gmail.com>
Sent: Monday, September 26, 2022 11:42 AM
To: CD P and Z Commission <CDPandZCommission@flagstaffaz.gov>
Subject: Questions and comments for Case No: PZ-22-00021

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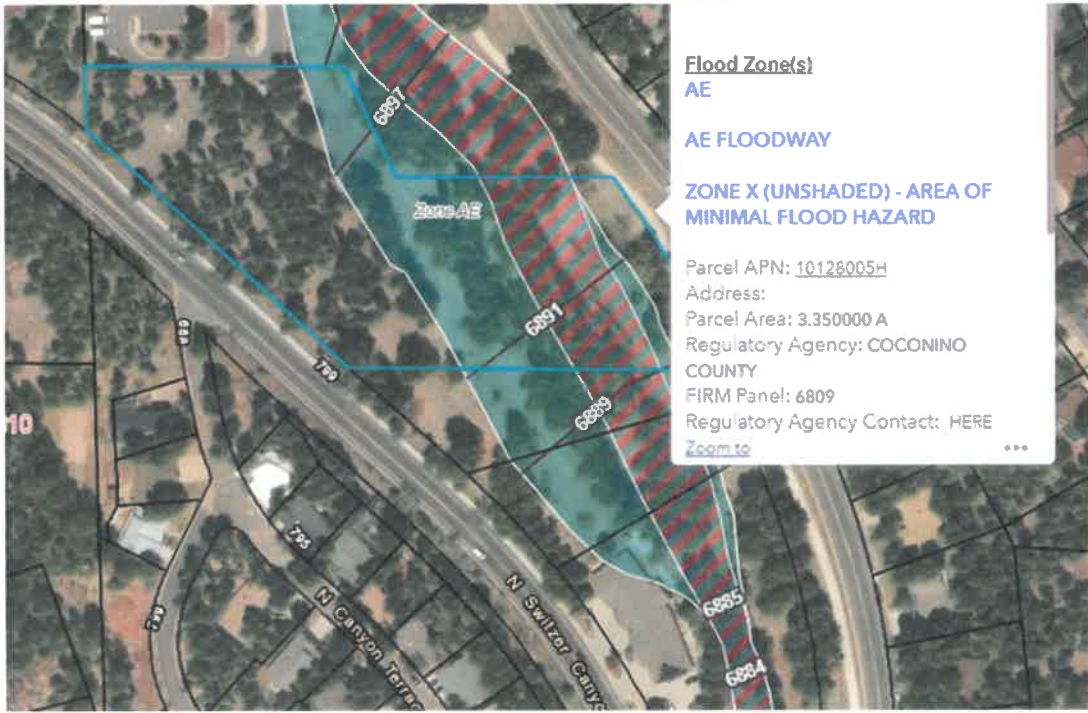
Hello,

I have some questions and comments about the proposal to change the floodplain on parcel 10128005H from a rural to an urban floodplain.

I am concerned about this change as it will result in homes being built in a floodplain that is also identified as being at risk of post wildfire flooding. With the flooding we have seen in the city of Flagstaff over the last few years due to increased 100 year rain events as well as post wildfire flooding it seems wise to not change the floodplain status from rural to urban so a few extra homes can be built in a floodplain. Leave the rural floodplain designation intact and let the developer build on their parcel as it is with homes out of the 100 year floodplain. Some images are below to show the 100 year floodplain and also that it is at risk of post wildfire flooding based on the Rio de Flaga Watershed Dry Lake Hills Flood Potential Map. Have sufficient studies been done to show that changing the floodplain will not result in flooding on new homes in the parcel, downstream, or upstream of the property based on these 2 types of flood events?



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| <p>PPV</p> <ul style="list-style-type: none"> Approximate location based on user input and does not represent an authoritative property location Selected Floodmap Boundary Digital Data Available | <p>SPECIAL FLOOD HAZARD AREAS</p> <ul style="list-style-type: none"> Wetland Base Flood Elevation (BFE) Zone A, X, AE Wetland BFE or Depth Regulatory Floodway Zone AE, X, AE, X, AE 0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with average | <ul style="list-style-type: none"> Cross Sections with 1% Annual Chance Water Surface Elevation Channel Transverse Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary |
|--|---|---|



Flood Zone(s)
AE

AE FLOODWAY

ZONE X (UNSHADED) - AREA OF MINIMAL FLOOD HAZARD

Parcel APN: 10128005H
 Address:
 Parcel Area: 3.350000 A
 Regulatory Agency: COCONINO COUNTY
 FIRM Panel: 6809
 Regulatory Agency Contact: [HERE](#)
[Zoom to](#) ...



<https://flagstaffwatershedprotection.org/wp-content/uploads/2013/04/Dry-Lake-Watershed-Stormwater.pdf>

1) I have questions around if a text code amendment change is this the right way to go about making the change since it impacts more than the owners property? In the code for owner initiation (10-20.50.030) it states that the zoning code text amendment to amend the zone only relates to provisions that directly regulate the owners property. It seems this change is for more than the owner's parcel so is this a valid way of making the change?

2) The same section of code states that if a zoning map amendment is needed that includes property other than that owned by the applicant that they need a petition in favor of the request signed by the real property owners representing at least 75% of the land area to be included in the application. Has this petition been submitted? It seems this is required if it is for the entire rural section. Is there a signed copy of this petition somewhere?

3) Why does the city want to change the designation for the entire rural section, most of the upper parts of the rural stretch are regulated floodways and don't have large floodplains like this property does. Additionally changing the designation from rural to urban seems to conflict with the 2030 regional plan which shows much of this section of the wash and particularly this parcel as having significant natural resources for riparian vegetation and the rural designation will do more to protect that vegetation then the urban designation. I would hope the city would want to maintain the current level of protection for these high natural resources and the rural flood plain designation does this better than an urban one.

4) Is your committee aware that the culvert at the bottom of the rural floodplain section (at the turquoise circle) is for a 1% annual chance flood discharge but the top of the rural floodplain section (culvert under forest ave) contains a 0.2% annual chance flood (500 year flood)? Also the culvert at rt 66 is for the 0.2% annual chance flood. This means the bottleneck for waterflow and most likely location for flooding is in the part of the wash where this parcel is located as it is just upstream of the Turquoise culvert. There is 1 developed property between this parcel and the culvert, has an analysis been done to ensure flooding of that property would not occur if parts of the 100 year floodplain are developed?

https://www.flagstaff.az.gov/DocumentCenter/View/55252/6809G_r3_201210181415539002?bidId=

5) Who is the City of Flagstaffs floodplain expert and will they be speaking to and providing any data that does or does not support the decision to change the floodplain during the working sessions and city council meeting? Who will conduct studies to ensure that developing in the floodplain will not result in flooding to existing properties?

6) Has or will an analysis be run for what would happen to homes built on the property and up and downstream of the property in the event of a 100 year flood event combined with post wildfire flooding?

7) Will the developer be required to have storm water retention to help reduce impacts of runoff from development of the parcel from contributing to flooding as well as to improve the quality of runoff from the development?

8) Is the developers environmental assessment still valid? The information provided in Appendix B of the Concept Narrative was on a much larger parcel back in 2003 and only planned to have some roads crossings over the wash. The environmental document itself states that the development plans were to "protect the wild nature of Switzer Wash by maintaining the open, undeveloped areas around the stream channel and its floodplain." So the environmental document submitted indicates there were no plans to build in the floodplain and as a result the study may not contain the environmental and hydrology studies needed to determine impacts of developing the floodplain.

9) Rural floodplains are delineated in Section 10-90.20.030 (Rural Floodplain Map) and defined as area of delineated 100-year floodplain that cannot be disturbed or developed except for roadway and utility crossings. The area is a 100 year floodplain and the area is relatively undisturbed with the main disturbances being due to roadways and utilities which are allowed per the definition.

10) There are examples in other parts of the city where the floodplain is urban above and below portions or a rural floodplain, for instance in Cheshire so that itself is not a valid argument for changing the floodplain. The top of the rural stretch of the rural section of floodplain in Cheshire seems to be similarly or more possibly even more developed then this rural section of the Switzer wash.

11) The extension of rural floodplains beyond the limits of the delineated floodplain studies may be required based on more current or extended floodplain studies, master plan documents or other studies or documents related to hydrology, hydraulics, stream geomorphology, wildlife habitat, or wildlife corridors. Where is the data and study to show that the city no longer needs the rural floodplain to protect these valuable ecological resources and wildlife habitats and corridors along this entire stretch of the wash?

12) Additionally this parcel does not fall into an activity center which seems to be the preferred location for new high density growth based on the regional plan. People in these homes are not likely to walk to do errands and bus stops are not convenient to the property, maybe some people would bike but I would imagine most will not so it will be putting more vehicles on the roads. So why is there a push to change the floodplain designation to allow for even more development on this particular parcel?

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Switzer Ridge, Flagstaff, 86001

Commute to **Downtown Flagstaff**

🚶 2 min 🚲 7 min 🚗 20 min [View Route](#)

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Walk Score 49	Car-Dependent Most errands require a car
Transit Score 40	Some Transit A few nearby public transit options
Bike Score 62	Bikeable Some bike infrastructure

[About your score](#)

13) Based on the little information in the concept narrative, it seems the preference is for the developer to sell the townhomes, will future homeowners be aware of the risks of owning a home in or adjacent to a floodplain? Will they be made aware that their property is at risk of post wildfire flooding?

In summary, let development on parcels happen with the rural floodplain designation in place. Demonstrate that the city of Flagstaff has learned something from all of the homes that have flooded in recent years. Keep new homes out of areas at high risk of flooding, protect the natural resources in the area, and let the floodplain serve it's purpose in future flood events.

Thanks,
Claire

