

# GUIDELINES FOR INTERPRETING AND IMPLEMENTING THE MORAGA OPEN SPACE INITIATIVE

Appendix "A" To Town Council Resolution No. 14-92  
as amended by Town Council Resolution No. 22-18

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## **I. INTRODUCTION**

### **A. Findings**

The Town Council of the Town of Moraga finds that:

1. The Moraga Open Space Initiative Measure A (the Open Space Ordinance) was adopted by the voters of the Town of Moraga at the General Municipal Election held on April 8, 1986. The Ordinance took effect on April 26, 1986.
2. By adopting the Ordinance, the people of Moraga have declared their intent "to protect the remaining open space resources within the Town in the interest of: (1) preserving the feel and character of the community; (2) ensuring the adequacy of recreational opportunities which are contingent on such open spaces; (3) ensuring the protection of local and regional wildlife resources which are dependent on the habitat provided by such open space; (4) ensuring that development does not occur in sensitive viewshed area; (5) protecting the health and safety of the residents of the Town by restricting development on steep or unstable slopes; and (6) ensuring that development within the Town is consistent with the capacity of local and regional streets and other public facilities and does not contribute to the degradation of local or regional air quality." (Ordinance Section 2a1)
3. The Open Space Ordinance directs the Town Council to implement the Ordinance promptly after its enactment. (Ordinance Section 5a)
4. These Guidelines are in partial fulfillment of this mandate and represent implementation. Additional measures to implement the Open Space Ordinance will be presented for adoption as mandated by Section 5 of the Ordinance. As these Guidelines are applied, it may become necessary to amend and supplement them.
5. These Guidelines are not intended to amend or modify a requirement of the Ordinance (Ordinance section 5a)
6. These Guidelines are intended to balance fairly the restrictions on development in open space lands under the Open Space Ordinance consistent with the Town's police power with the rights of owners of open space lands.

### **B. Purpose**

These Guidelines are adopted in order to provide for the interpretation, implementation and application of the Open Space Ordinance.

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<sup>1</sup> Unless stated otherwise all parenthetical references are to sections of the Open Space Ordinance, attached to these Guidelines as Exhibit "G".

## II. INTERPRETATION

### A. Definitions

In these Guidelines unless the context otherwise requires:

1. “building permit” means an entitlement issued under the Uniform Building Code to erect, construct, alter, repair or demolish a building or structure regulated by the Uniform Building Code;
2. “building permit for a development project” refers to the permission given to a development project which on or before April 6, 1986:
  - a. had a final subdivision map approved by the Town; and
  - b. had a fully executed subdivision agreement for completion of tract improvements; (Ordinance Section 4)
3. “centerline of a ridge” or “crest of a ridge” is the line running along the highest portion of a ridge; (Ordinance section 3e)
4. “design review control” is the function of design review prescribed in sections 8-1301 through 8-1341 of the Municipal Code; (Ordinance section 3e)
5. “development” means the placement, discharge or disposal of any material, the grading or removal of any material, the change in the density or intensity of use of the land, the subdivision of land, or the construction or erection of a structure (see exceptions to development prohibitions in Section III.B of these Guidelines)
6. “development envelope” means the area of disturbance of a home or other primary structure on a site and all immediately adjacent improvements, including but not limited to surrounding hardscape, landscaping or graded land, areas used for ancillary uses such as yard areas and access around the home, on-site driveways, and accessory buildings, including but not limited to, sheds and garages.
7. “hearing body” means the Town Council in the case of an application for vested rights exemption and the Planning Commission in the case of an application for status determination;
8. “high risk area” is an area located in Open Space Land determined to be high risk in accordance with Part II D. of these Guidelines; (Ordinance sections 3a, 3c, 3d)
9. “Major MOSO Ridgeline” means the centerline or crest of the ridges known as Indian Ridge, Sanders Ridge, Mulholland Hill, and Campolindo Ridge, where the centerline is located in the lands designated as "public open space study" as shown on the General Plan as it existed on October 16, 1985; (See Exhibit "B"). Major MOSO Ridgeline shall have the same meaning as “Major Ridgeline” and “Major Ridge” as those terms are used and defined in the Moraga Open Space Ordinance.

10. "Minor MOSO Ridgeline" means the centerline or crest of a ridge other than a Major MOSO Ridgeline/major ridgeline, which rises at any point to an elevation of greater than 800 feet above mean sea level; (see Exhibit "B"); (Ordinance sections 3b, 3d). Minor MOSO Ridgeline shall have the same meaning as "Minor Ridgeline" as that term is used and defined in the Open Space Ordinance.
11. "open space land" is any area designated as open space in the General Plan adopted on August 15, 1990. Open Space Land also includes any area designated as "Open Space" by the Open Space Ordinance;  
  
The lands described in GPA 6--Resolution No. 28-83 adopted June 10, 1983, GPA 8--Resolution No. 39-83 adopted September 7, 1983, are included within the term Open Space Land (see Exhibit "A"); (Open Space Ordinance sections 3a, 3c, 3d, 3e, 3f, 5b)
12. "Open Space Ordinance" means Measure A adopted at the Consolidated General Municipal Election held April 8, 1986, a copy of which is attached as Exhibit "G";
13. "parcel" means all land which is contiguous and under one ownership.
14. "project" means a Town approved plan prepared in sufficient detail to permit the completion of physical efforts necessary to accomplish the plan's ultimate objective;
15. "ridge" is the upper portion of a hill which rises to a crest or ridgeline;
16. "ridgeline" is the centerline or crest of a ridge;
17. "slope with grade of 20 percent" or greater refers to land located within open space land which contains an average slope of 20 percent or greater using the slope calculation method set forth in section II.C. of these Guidelines; (Ordinance sections 3b, 3d, 5b)
18. "substantial construction expense" means performing work in good faith reliance on a building permit for the development project. The term refers to expense incurred in actual construction as opposed to expense incurred in planning, engineering or architectural drawings. The existence of substantial construction expense requires a factual determination in each case, taking into account the nature of the project, Town approvals, and time factors. Among the elements to consider are the physical size and substantiality of work performed, the dollar cost of the work performed and liabilities incurred and the percentage of the total project represented by the work and expenditures already undertaken. (Ordinance section 4)

## **B. Reference to Exhibits**

These Guidelines reference the following exhibits:

- Exhibit "A" — Moraga Open Space Ordinance, Open Space Land Use Designations (December 2016) (PlaceWorks)
- Exhibit "B" — Moraga Open Space Ordinance, Ridges Above 800-foot Elevation (December 2016) (PlaceWorks)
- Exhibit "C" — Slope Map, (December 2016) (PlaceWorks)
- Exhibit "D" — Preliminary High Risk Determination Map, (December 2016) (PlaceWorks 2016)
- Exhibit "E" — Methodology to Prepare Preliminary High Risk Determination Map (December 2016) (PlaceWorks)
- Exhibit "F" — Text of Voter Approved MOSO Ordinance

The originals of each exhibit is on file in the office of the Planning Director and are made a part of these Guidelines. A copy of each is attached for reference purposes.

Exhibits "C" and "D" depict only preliminary determination as to slopes and high risk status, respectively. An applicant may submit current information which is more refined and more accurately characterizes the site, in which case that information if accepted by the Town supersedes Exhibit "C" and "D". Exhibit "D" shows preliminary high risk status determinations only for undeveloped open space lands with development potential for which no site specific geologic or geotechnical study had been prepared as of June 2014.

## **C. Slope Calculations – Development Envelope**

### **1. General**

The Moraga Open Space Ordinance states that development is prohibited on "slopes with grades of 20 percent or greater." For the purpose of applying this prohibition to a proposed development project, slope shall be calculated as the average predevelopment slope of a "development envelope" (or "development envelopes," if required by section I.C.3 below) on a site. Development is permitted only within a development envelope (or series of development envelopes if calculation of several development envelopes is required by section I.C.3) with a predevelopment average slope of less than 20 percent. Where a site contains more than one development envelope, average slope is calculated separately for each development envelope, and each individual development envelope shall comply with the predevelopment average slope requirement.

A development envelope shall be delineated as the area of disturbance for a home (or other primary structure) on a site. The development envelope shall contain the footprint of the home (or other primary structure) and all immediately adjacent improvements,

including but not limited to surrounding hardscape, landscaping or graded land (including areas of remedial grading), areas used for ancillary uses such as yard areas and access around the home, on-site driveways, and accessory buildings such as sheds and garages.

## **2. Calculation of Average Predevelopment Slope**

Average predevelopment slope within a development envelope shall be calculated consistent with Section 8.04.020 (Definitions) of the Town's Zoning Ordinance, using minimum 2-foot contours.

## **3. Development Envelope Size**

The maximum size of a development envelope is 10,000 square feet. A development envelope that would exceed 10,000 square feet shall be divided into two or more development envelopes, each of which may not exceed 10,000 square feet, and each of which shall have an average predevelopment slope less than 20 percent.

## **4. Development Envelopes for Contiguous and Non-Contiguous Improvements on a Single Lot**

All contiguous improvements in an area less than 10,000 square feet shall be contained in a single development envelope. For example, the area containing a home connected to an accessory structure with a graded walkway shall be delineated as a single development envelope. Contiguous improvements within an area exceeding 10,000 square feet shall be contained within multiple development envelopes contiguously arranged so as to utilize the smallest number of development envelopes reasonably practicable.

Non-contiguous improvements shall be calculated as separate development envelopes. For example, an accessory structure that is not connected to the primary home through a graded walkway or other site improvements shall be delineated in a development envelope separate from the primary home.

The development envelope delineation does not include intervening areas between the development envelopes. When two or more development envelopes are created for a single lot, development envelopes may not overlap. Public or private streets that serve a property are not included in development envelope calculation.

## **5. Subdivisions**

For subdivisions creating two or more lots, average slope is calculated separately for the development envelope(s) on each lot, rather than for the subdivision as a whole. See Figure 3.

The development envelope delineation does not include intervening areas between the development envelopes. When two or more development envelopes are created for a single project, development envelopes may not overlap.

## 6. Streets

Public or private streets that serve a subdivision of two or more properties are not included in development envelope calculation. A street is allowed if the area of disturbance to accommodate the street does not exceed an average slope of 20 percent, with no limitation on the maximum size of this area.

## 7. Development Envelope Exceptions

- a. Provided that it makes the finding noted in Section 7.b below, the Town Council may grant an exception to the following development envelope requirements in this Section C:
  - i) Development envelope size (Section II.C.3).
  - ii) Development envelope requirements for contiguous and non-contiguous improvements (Section II.C.4).
  - iii) Development envelope requirements for subdivisions (Section II.C.5).
- b. The Town Council may grant the exceptions described in Section 7.a to avoid a taking of property under the Constitutions of the United States and the State of California. However, the applicant bears the burden of proof to demonstrate to the satisfaction of the Town Council, with clear and convincing evidence, that the exception is necessary to avoid a taking. If such an exception is granted it shall be granted so as to allow only the minimum deviation necessary to avoid a taking.

## D. Determining High Risk Areas

### 1. Preliminary Identification of High Risk Areas

The Preliminary High Risk Determination Map (Exhibit "D") identifies areas that have been **preliminarily** determined by the Town to be areas that fall within the "high risk" category set forth in the Moraga Open Space Ordinance. The **preliminary** high risk determination is based upon an evaluation of the four criteria set forth in the Moraga Open Space Ordinance (landslide hazard, slope, accessibility, and drainage conditions). Exhibit "E" describes the methodology used to prepare the Preliminary High Risk Determination Map. The preliminary high risk determination identifies open space areas that should be developed at a maximum density of one (1) dwelling unit per twenty (20) acres without regard to whether construction on that land could be rendered less risky by remediation.

The Preliminary High Risk Determination governs only until and unless more accurate data are submitted to and approved by the Town in a Final Determination as set forth in Section 2 below.

### 2. Final Determination of High Risk Areas

The final determination of a high risk area shall be made at the time of the Town's first discretionary land use decision on a proposed development project or under the procedure provided for a status determination in Section IV.B.1. and in accordance with the criteria and standards described in this section.

a) Criteria/Process:

- (1) A property owner may submit a request for a Final Determination of High Risk Area in an application for the Town's first discretionary land use decision on a proposed development project or at the time of application for a status determination as described in Section IV.B.1.
- (2) The property owner's request shall be based on an analysis of development constraints prepared by a California-certified engineering geologist or geotechnical engineer. The analysis shall consider the nine conditions listed below in Section II.D.2.b, whether the site is adversely affected by an off-site landslide or other off-site geological and topographical conditions, and any other conditions deemed relevant by the engineering geologist or geotechnical engineer.

The analysis is not required to replicate the methodology used for the preliminary high risk determination described in Appendix E, but shall include information explaining any deviations in methodology from that described in Appendix E.

- (3) Neither the opportunity or willingness of an applicant to remediate geological hazards on a site, nor the completion of such remediation, shall be considered as a condition which is relevant to a final determination to designate any portion of a site as a high risk area. Risk shall be assessed based on the condition of the property before the occurrence of any remediation..
- (4) The applicant's analysis prepared under subsection (2) above shall be peer reviewed and approved or denied by the Town's consulting geologist. If the Town's consulting geologist denies the findings of the applicant's analysis, such denial shall include alternative findings and a technical description of the reasons for the alternative findings.
- (5) Once the Town's consulting geologist's review is complete, both the applicant's analysis and the Town's consulting geologist's report shall be considered by the Town's decision-making bodies as part of either the Town's first discretionary land use decision on the proposed development project or at the time of action on the status determination as described in Section IV.B.1.
- (6) If an applicant for the Town's first discretionary land use decision on a proposed development project does not request a final high risk determination within 30 days after the Town deems the application for such discretionary land use decision to be complete, all areas within the

subject property shown as high risk in the Preliminary High Risk Determination Map (Exhibit "D") shall be determined by the Town to be "high risk."

- b) Conditions Relevant to Final Determination: The conditions that determine final classification as a high risk area include but are not limited to:
- (1) Whether the area has the potential to be adversely impacted by a landslide, unstable soil, soil with a history of slippage or a slope subject to severe surface erosion or deterioration;
  - (2) Steepness of slope that could contribute to hazardous conditions
  - (3) Ability to provide safe vehicle access to the site, including emergency vehicle access
  - (4) Whether the area serves as a natural drainage way or swale, with a drainage basin of 50 acres or more or crossed by a perennial or ephemeral (intermittent) drainage channel;
  - (5) Whether the area is located within 50 feet of a known active or dormant fault trace;
  - (6) Whether the area contains a regular or intermittent spring or adverse ground water conditions;
  - (7) Whether the area is located within 100 yards upstream or 500 yards downstream of a reservoir, detention basin or pond of one acre or more in surface area;
  - (8) Whether the area is located within an area subject to enhanced seismically induced ground shaking or a seismically induced ground failure such as a landslide, lateral spread, rockfall, ground lurching, liquefaction, soil settlement, differential compaction and compression;
  - (9) Whether the area is located within an area subject to the effect of seismically induced flooding and/or dam or stock pond failure.
- c) Subsequent Processes:
- (1) The final determination that an area is classified as high risk does not preclude subsequent remediation to eliminate or prevent a condition determined by the Town to be a menace to life, limb, or property or that adversely affects the safety, use or stability of a public way or drainage way or channel.
  - (2) An area which has been finally classified as a high risk area through the application of the foregoing criteria may not be changed from that classification as a result of any physical alteration of the area, whether

performed as part of a development project or pursuant to II.E.2.

- (3) After the Town makes a final determination that an area is high risk the maximum permitted density in that area shall remain 1 unit per 20 acres, regardless of any remediation of geologic hazards that may end up occurring on the site either as part of the development project or pursuant to II.E.2.
- (4) For sites containing both high risk areas and non-high risk areas, the total permitted density of the site shall be calculated as the sum of the permitted density in the high risk area (1 unit per 20 acres) plus the permitted density of the non-high risk area as determined in accordance with Section III.C and IV.B of these Guidelines.
- (5) Within high risk areas, grading is allowed to accommodate development at 1 unit per 20 acres, to accommodate development in other areas adjacent to the high risk area, to protect the community from geological hazards, and for other purposes provided the grading complies with all applicable Town regulations. Grading in high risk areas to accommodate adjacent development in non-high risk areas shall be the minimum possible to accommodate the development.
- (6) Within a single parcel, one area may be determined to be high risk area and another area may not. If a high risk area exists on a parcel, the average lot size within non-high risk areas of the parcel shall be at least 10,000 square feet. Individual lots may be less than 10,000 square feet where such lot sizes would be for the purpose of clustering development in less constrained or environmentally sensitive portions of the site. The procedure for determining density in open space land which is not classified as high risk is prescribed in III.C. and IV.B.

#### **E. Roads Crossing Ridgelines**

Newly constructed roads are generally not allowed to cross a Ridgeline. A newly constructed road may cross a Major MOSO Ridgeline or a Minor MOSO Ridgeline only in unique circumstances as allowed by Zoning Ordinance Section 8.128.060 (Roads).

### **III. RESTRICTIONS ON DEVELOPMENT IN OPEN SPACE LAND**

#### **A. Prohibition of Development**

Development is prohibited in the following areas:

1. Property situated within open space land (Exhibit "A") as follows:
  - a) On a slope within open space land where the slope has a grade of 20% or greater (See Part II.C- Slope Calculations);

- b) Within 500 feet of a Major MOSO Ridge line (Exhibit "B");
  - c) On the crest of a Minor MOSO Ridgeline (Exhibit "B") and
2. Property situated on a Minor MOSO Ridgeline immediately adjacent to open space land, where slopes on the property immediately adjacent to the minor ridgeline exceeds twenty percent (20%) and elevation of said ridges is greater than 800 feet above mean sea level.

## **B. Exceptions to Development Prohibitions**

The following structures and improvements are allowed in areas where development is otherwise prohibited by Section III.A:

1. Work necessary to eliminate or prevent a condition which is determined by the Town to be a menace to life, limb or property or adversely affects the safety, use or stability of a public way or drainage way or channel;
2. Establishment of a fire trail approved by the Moraga-Orinda Fire Protection District;
3. Open fences and movable equipment used for animal grazing and agricultural activities;
4. Trails for public access to open space.

## **C. Density in Open Space Land**

1. In a high risk area, the maximum permitted density is one dwelling unit per 20 acres, which may not be increased after the Town's final determination of high risk status is made.
2. In open space land other than a high risk area, density is one dwelling unit per 20 acres unless density is increased as provided in III.C and IV.B of these Guidelines.
3. Density may be transferred from open space land to another residential area located in a land use district other than an open space land use district. Density may be transferred from a high risk area to a non-high risk area on the same parcel, but density may not be transferred for any reason to a high risk area. (Ordinance section 3d(a))

## **D. Increase in Density in Open Space Land**

1. The Planning Commission may approve an increase in density in open space land other than a high risk area from one unit per 20 acres to not more than one unit per 5 acres based upon findings that a proposed development is consistent with the following criteria:
  - a. The site is physically suitable for the type of development and requested density;

- b. The development is not likely to cause environmental damage;
  - c. The development is not likely to cause public health problems;
  - d. The distance and relationship to high risk areas is sufficient so that development will not cause undue risk to the subject and surrounding properties and will not increase risk to the public health, safety and welfare;
  - e. The dwelling units in the proposed development can be substantially concealed from scenic corridors by vegetation or the terrain;
  - f. Public benefit will result from the dedication of open space lands, trails or park and recreational facilities beyond those otherwise required for development;
  - g. The distance of development from ridgelines is such that the view of ridgelines from all scenic corridors is protected;
  - h. The project is in compliance with Goal CD85 and related policies of the Community Design Element of the General Plan;
  - i. The proposed development is consistent with the information provided regarding development capability (See II.D.)
2. The procedure for determining density in open space land which is not classified as high risk is prescribed in IV.B.

## **E. Design Review**

Development on land located on a Major or Minor MOSO Ridgeline is subject to design review control.

## **IV. DETERMINING APPLICABILITY OF THE OPEN SPACE ORDINANCE**

### **A. Application for Vested Rights Exemption (Section 4)**

1. *Restrictions on development unless vested rights exemption applies.* The restrictions on development set forth in these Guidelines apply to "...A person who, as of [April 8, 1986] has not (a) obtained a building permit for the development project and (b) incurred substantial construction expenses in good faith reliance on such building permit...". (Ordinance section 4)
2. *Certificate of vested rights exemption.* A person seeking an exemption under section 4 of the Open Space Ordinance may apply to the Town for a vested rights exemption.
3. *Application for vested rights exemption.* A person seeking a vested rights exemption shall apply to the Planning Director setting forth:
  - a) The status of the project and amount of construction work completed as of

April 8, 1986;

- b) A statement of the construction expenses incurred for grading, subdivision improvements and structures as of April 8, 1986;
  - c) The percentage of the total project represented by the work and expenditures in (1) and (2) above; and
  - d) Other information required by the Director which in his opinion is necessary to determine entitlement to a vested rights exemption.
4. *Scope of Vested Rights Exemptions.* A vested rights exemption does not exempt the person receiving the exemption from a permit approval, or requirement other than that imposed by the Open Space Ordinance. Further development on land within a development project for which a person has obtained a vested rights exemption is not subject to the requirements of the Open Space Ordinance.

## **B. Determining Applicability of the Open Space Ordinance to Open Space Land**

### *1. Status Determination*

A person whose property is governed by the Open Space Ordinance may apply to the Town for a status determination.

The property owner may apply for a status determination at any time and need not await determination until a development plan is submitted. The application may request a determination as to whether the property is subject to the Open Space Ordinance and if so may request a finding of:

- a) The slope calculation of the property;
- b) Whether or not located in a high risk area; and
- c) The maximum permitted density, applying the criteria set forth in II.D. and III.C.1 of these Guidelines

### *2. Application for Status Determination*

The application for status determination shall be on a form provided by the Town and shall include all materials and information deemed necessary by the Planning Director for the Town to act on application. At a minimum, the application shall be accompanied by:

- a) A map showing:
  - (1) the size and location of the property
  - (2) the present general plan and zoning designations
  - (3) the location of Major and Minor MOSO Ridgelines

- (4) the area within 500 feet (measured horizontally in plan view) of each Major MOSO Ridgeline;
- b) A slope analysis map with a scale of no smaller than 1 inch equals 100 feet showing:
  - 1) The boundaries of each parcel
  - 2) Contour elevations at intervals of no more than two feet
  - 3) The average slope for each development envelope throughout the parcel, See Part II C (Slope calculation)
  - 4) The actual slope for each portion of the parcel when the slope is 20% or greater
- c. A map identifying all applicable geologic and topographic conditions set forth in section II.D. (characteristics of a high risk area) of these Guidelines;
- d. Visual simulations, three-dimensional models, and/or other graphic modeling techniques demonstrating project visibility and potential visual impacts from neighboring properties, scenic corridors, and other public places.
- e. Soils, geologic, geotechnical or other study or information which the developer believes, or the Planning Director determines, is necessary to aid the Planning Commission in its determination. In cases where a final determination of high risk is requested, this shall include the geotechnical report described in Section II.D.2.a.2.

## **C. Hearing, Determination and Appeal**

### *1. Fixing hearing and giving notice.*

#### *a. Procedure in the case of vested rights exemption.*

- (1) *Preliminary exemption determination.* Upon the filing of an application for a vested rights exemption, the Planning Director shall determine from the application and the Town's records whether the applicant, in the Director's opinion, is entitled to an exemption.
- (2) *Director's recommendation.* If the Director concludes that the applicant is entitled to an exemption, he shall so advise the applicant and have the recommendation placed on the agenda of the first available meeting of the Town Council. No other notice need be given.
- (3) *Town Council action on recommendation.* The Town Council shall act on the Director's recommendation at the earliest practicable time and



- (2) incurred substantial construction expenses in good faith reliance on the permit.
- b) *Status determination.* In its decision on a status determination, the Planning Commission shall make findings to support its decision with specific reference to the criteria applicable to the request:
  - (1) as to slope calculation, see II C (Slope Calculation)
  - (2) as to high risk areas, see II D (High Risk Areas)
  - (3) as to density see III C (Increase in Density in Open Space Land)

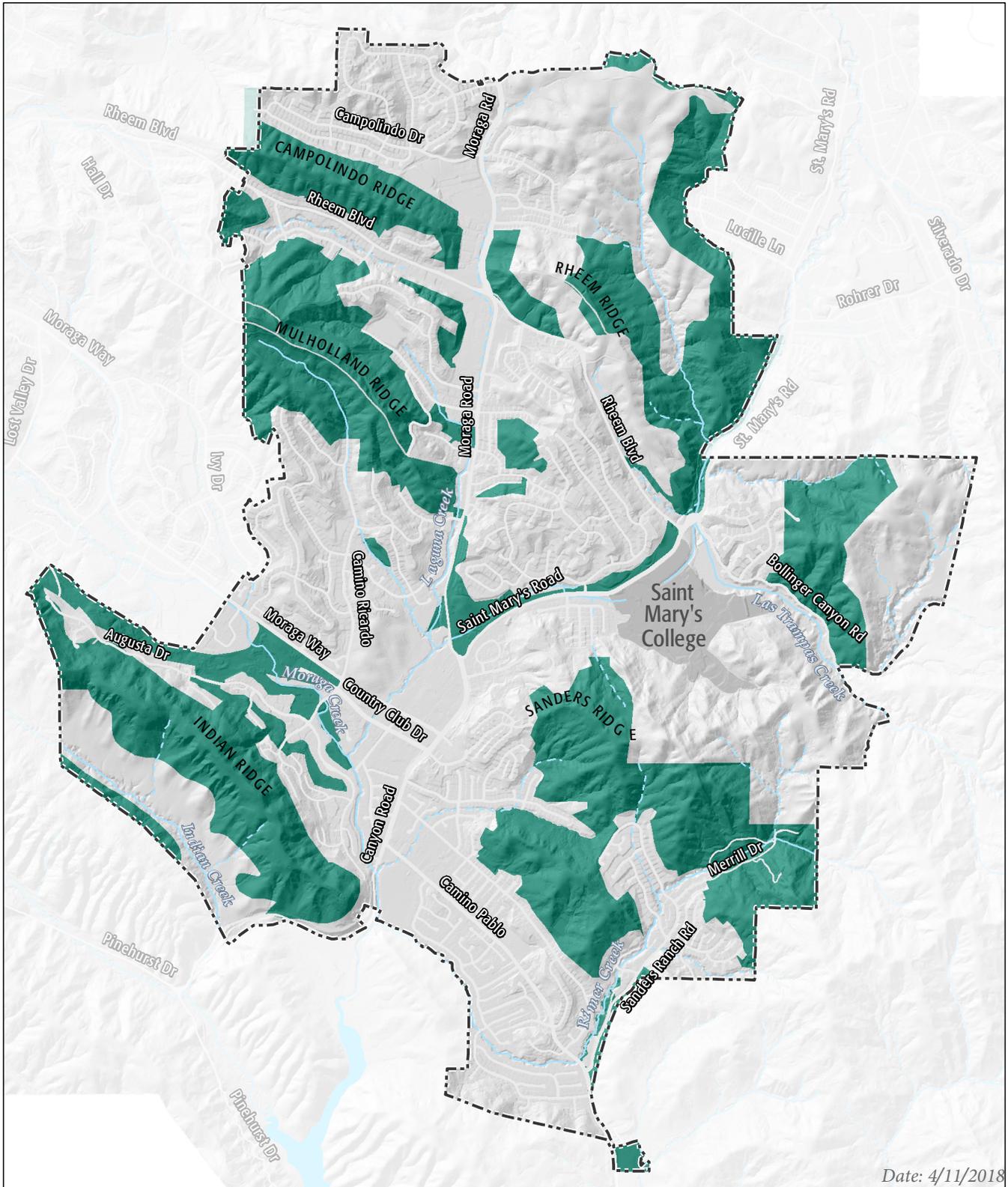
The Planning Commission decision shall, to the extent practicable, advise the applicant (1) which areas of the property may and may not be developed and (2) the maximum density permitted on the site.

The density determination may be modified based upon new information developed for a specific project and environmental studies conducted for that project, except that density determination modifications are not allowed for areas with a final high risk classification.

- 7. *Appeal of Status Determination.* A person desiring to appeal the status determination decision of the Planning Commission to the Town Council shall file a written notice of appeal with the Planning Director within 15 days of the date of the Planning Commission decision. The Town Council shall make its decision on the appeal within 60 days of the date of the notice of appeal.
- 8. *Supplemental rules and procedures.* The Planning Commission may adopt additional rules and procedures governing its proceedings under these Guidelines provided such rules and procedures are consistent with these Guidelines.

#### **D. Miscellaneous Provisions**

- 1. *Fees.*
  - a. The fee for filing an application for a vested rights exemption or a status determination is the same as the fee fixed for filing an application for a conditional use permit prescribed by Council Resolution No. 39-91 or as subsequently amended by Resolution of the Town Council.
  - b. The fee for appealing a status determination of the Planning Commission is the fee fixed for an appeal of a Planning Commission decision prescribed by Council Resolution No. 39-91 or as subsequently amended by Resolution of the Town Council.
  - c. The Town's direct costs for preparation of reports by the Town's consulting geologist or other consultants shall be borne directly by the applicant.



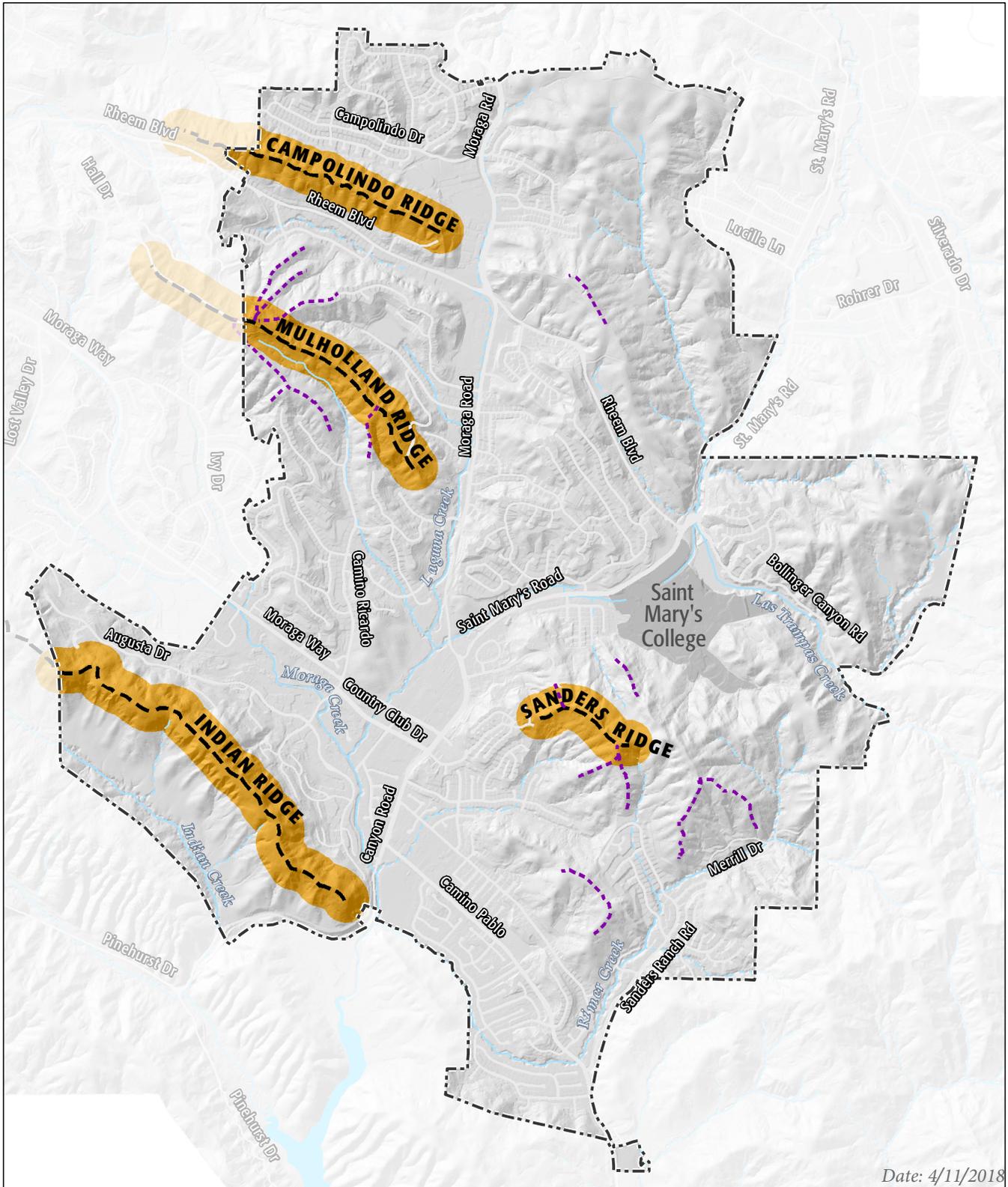
Date: 4/11/2018

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2013; PlaceWorks, 2014.

-  Town Boundary
-  Major/Permanent Stream
-  Minor/Intermittent Stream
-  MOSO Open Space Landuse Designation

**EXHIBIT A  
MOSO OPEN SPACE LAND USE DESIGNATIONS**





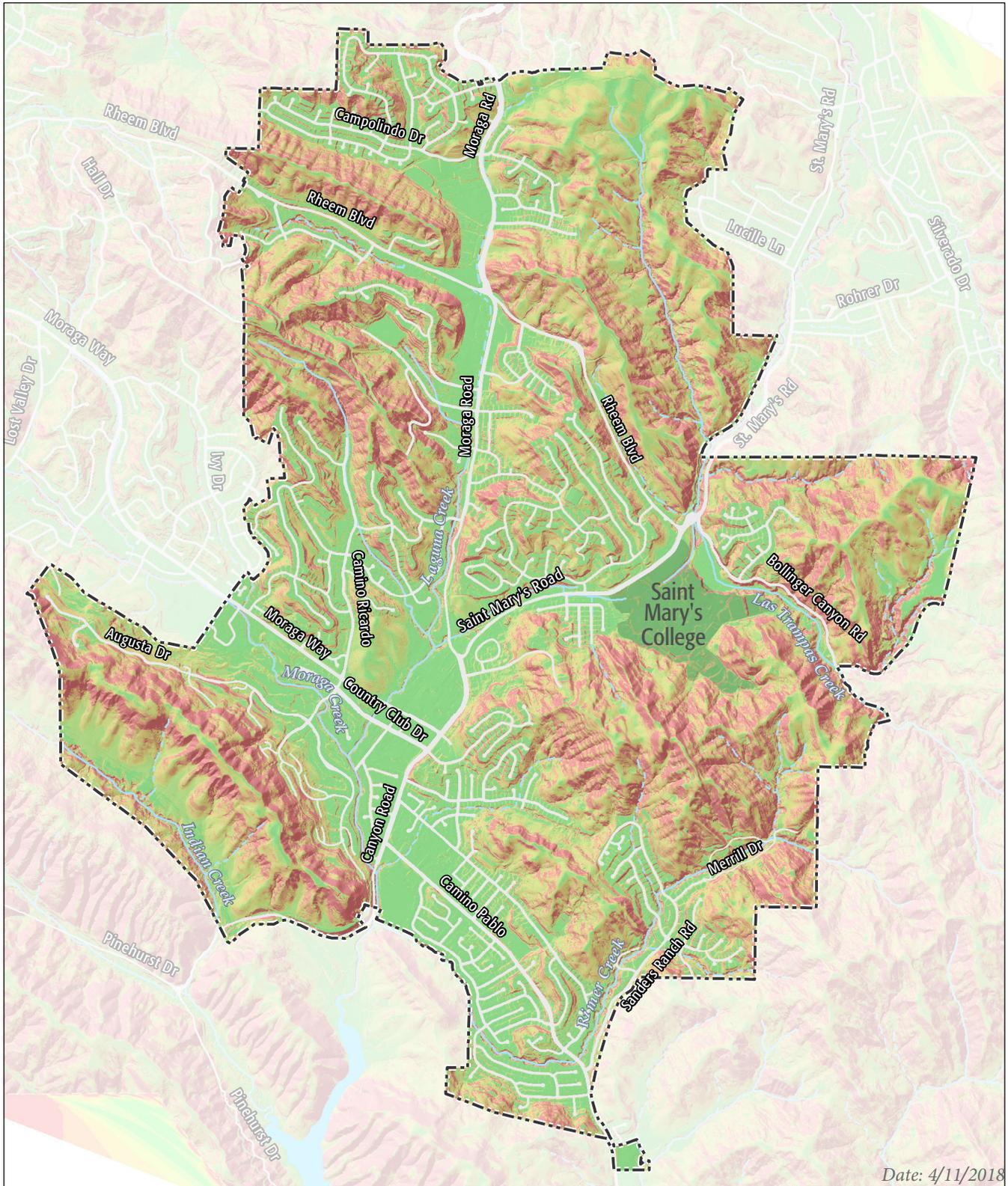
Date: 4/11/2018

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

-  MOSO Minor Ridgelines
-  500-Foot Buffer of MOSO Major Ridgelines
-  MOSO Major Ridgelines
-  Major/Permanent Stream
-  Minor/Intermittent Stream
-  Town Boundary

**EXHIBIT B  
MAJOR AND MINOR MOSO RIDGELINES**





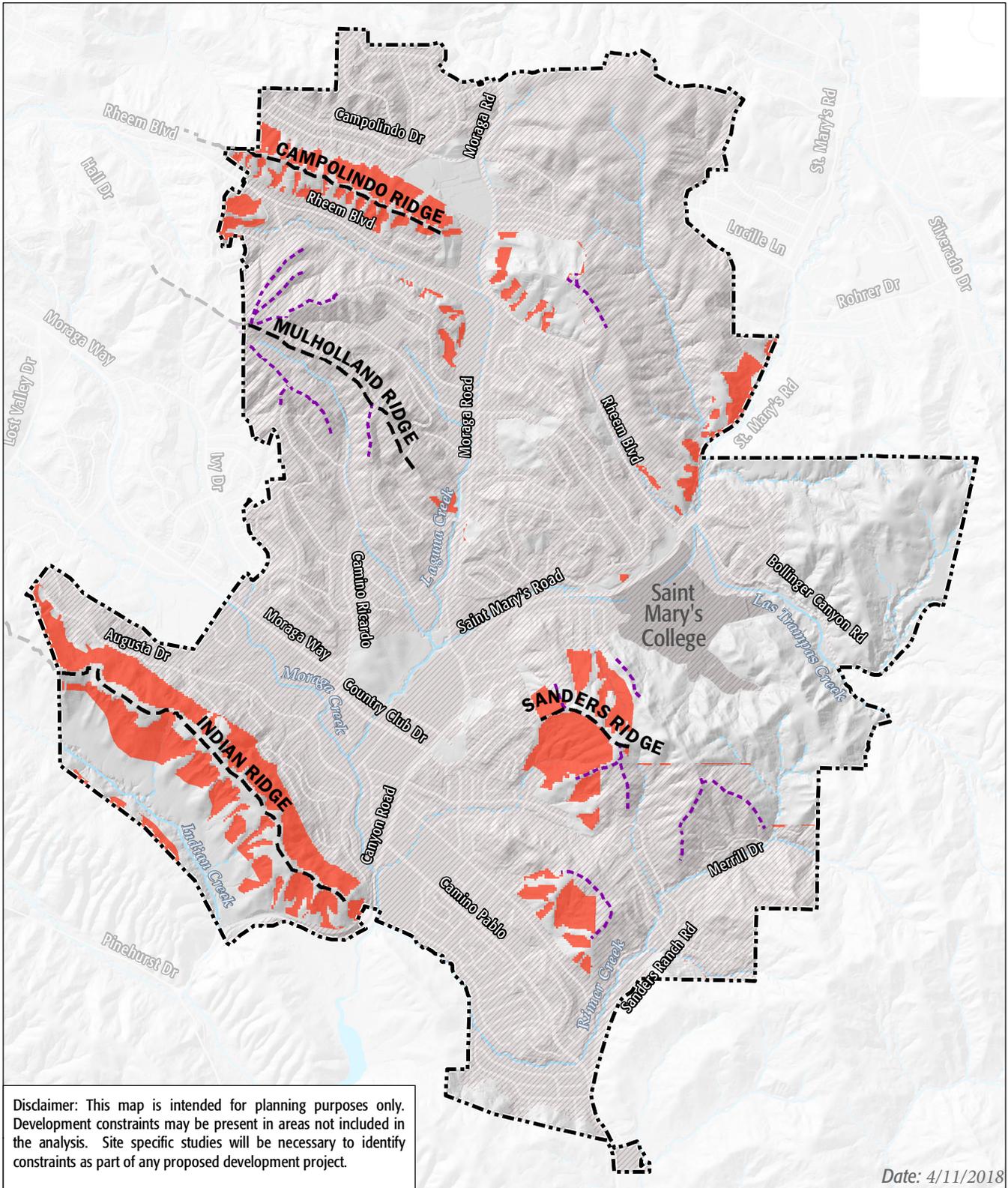
Date: 4/11/2018

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2013; PlaceWorks, 2014.

Town Boundary	<b>Slope</b>	15% to 20%
Major/Permanent Stream	Less than 5%	20% to 25%
Minor/Intermittent Stream	5% to 10%	Over 25% slope
	10% to 15%	

**EXHIBIT C  
SLOPE**

0 0.5 1 Miles



- Town Boundary
- MOSO Minor Ridgelines
- MOSO Major Ridgelines
- Major/Permanent Stream
- Minor/Intermittent Stream
- Preliminary High Risk Area
- Excluded from Analysis

EXHIBIT D  
**PRELIMINARY HIGH RISK DETERMINATION MAP**



## MORAGA OPEN SPACE ORDINANCE GUIDELINES : EXHIBIT E

### Preliminary High Risk Determination Map Methodology

To create the preliminary high risk determination map, PlaceWorks prepared a “weighted raster overlay model” using GeoPlanner, a Geographic Information System (GIS) tool. This document explains the components and functionality of the model and how it was used to create the preliminary high risk determination map.

The “study area” for this analysis was limited to areas that include the remaining large development sites within the Moraga Open Space Ordinance (MOSO) open space lands (i.e. “MOSO Open Space”). To help understand the model, please note the following definitions and key concepts:

- » The layers described below are the criteria that were used in the analysis. Within each layer, every location in the study area was assigned a score based on development risk, as described below.
- » The individual layer scores assigned to each location were tallied up in the model, so that each location has a final score that accounts for all layers. The final score for each location was compared to a threshold value to determine whether the location is considered a preliminary high risk area.
- » The model assigns a weight to each layer, which is a percentage of the total score; together they add up to 100 percent. This allows the model to place higher or lower emphasis on different criteria.

The preliminary high risk determination map uses only the criteria outlined in the MOSO Initiative: soil stability, history of soil slippage, slope grade, accessibility, and drainage conditions. The layers and scoring used in the model are described below. Scores ranging from 1 to 9 were assigned to each location in the study area; higher scores indicate increased risk. For each layer, the description below also indicates how it was weighted in the model.

To create the final map of preliminary high risk areas, locations with a final score of 6 and above were considered to be preliminary high risk areas; locations with a final score below 6 were considered to not be high risk areas.

### **Soil Stability/Landslide Susceptibility**

This layer addresses the soil stability and history of soil slippage criteria from the MOSO Initiative.

#### *Data Source*

Landslide hazards mapping prepared by Cotton, Shires & Associates. This data identifies areas with significant potential for landsliding, including:

- » Shallow unstable, unconsolidated material on gentle to steep slopes, commonly less than 10 feet in thickness, subject to shallow landsliding (includes identified shallow landslides and potentially unstable colluvium).
- » Deep unstable, unconsolidated or detached materials on moderate to steep slopes, commonly more than 10 feet in thickness, subject to more significant landsliding (includes identified deep landslides and earth materials susceptible to deep failure).

## *Scoring*

Based on whether in a shallow unstable area or deep unstable area:

- » Locations outside of mapped unstable areas = 1 (i.e., minimal risk)
- » Locations within shallow unstable areas = 5 (i.e., medium risk)
- » Locations within deep unstable areas = 9 (i.e., highest risk)

## *Weighting*

This layer was weighted at 60 percent of the total score.

## **Slope**

This layer addresses the slope grade criterion from the MOSO Initiative.

## *Data Source*

Slope based on Contra Costa County data, modified by PlaceWorks. The slope was calculated in GIS Spatial Analyst using a Digital Elevation Model (DEM). Slope was calculated by finding the ratio of the “vertical change” to the “horizontal change.” The DEM was converted into 2-foot contours, Spatial Analyst was run to determine slope, and the outcome was then classified as shown below.

## *Scoring*

Reflects steepness; scores increase as steepness increases, contributing to increased risk. Slopes over 25 percent were rated as high risk based on the MOSO Guidelines and the Town’s Grading Ordinance, which establish a 25-percent slope threshold:

- » 0-5% slope = 1 (i.e., very low steepness)
- » 5-10% slope = 2 (i.e., low steepness)
- » 10-15% slope = 3 (i.e., medium low steepness)
- » 15-20% slope = 4 (i.e., medium steepness)
- » 20-25% slope = 6 (i.e., medium high steepness)
- » 25-35% slope = 7 (i.e., high steepness)
- » 35-50% slope = 8 (i.e., very high steepness)
- » Greater than 50% slope = 9 (highest steepness)

## *Weighting*

This layer was weighted at 15 percent of the total score.

## **Accessibility**

This layer addresses the accessibility criterion from the MOSO Initiative.

## Data Source

Using roadway data from Contra Costa County, PlaceWorks created concentric buffers around all roadways using the buffer tool in ArcGIS for the buffer distances shown below. All classes of roadways were used.

## Scoring

Reflects accessibility based on distance from roadway centerlines:

- » 0-250 feet from road centerline = 1 (i.e., highest accessibility)
- » 250-500 feet from road centerline = 2 (i.e., very high accessibility)
- » 500-750 feet from road centerline = 3 (i.e., high accessibility)
- » 750-1,000 feet from road centerline = 4 (i.e., medium high accessibility)
- » 1,000-1,250 feet from road centerline = 5 (i.e., medium accessibility)
- » 1,250-1,500 feet from road centerline = 6 (i.e., medium low accessibility)
- » 1,500-1,750 feet from road centerline = 7 (i.e., low accessibility)
- » 1,750-2,000 feet from road centerline = 8 (i.e., very low accessibility)
- » More than 2,000 feet from road centerline = 9 (i.e., lowest accessibility)

## Weighting

This layer was weighted at 10 percent of the total score.

## Hydrology

This layer addresses the drainage conditions criterion from the MOSO Initiative.

## Data Source

Using hydrology data from Contra Costa County, PlaceWorks created concentric buffers around major and minor streams using the buffer tool in ArcGIS for the buffer distances shown below.

## Scoring

Based on proximity to major/permanent streams and to minor/intermittent streams:

- » Major Streams:
  - More than 400 feet from major stream = 1 (i.e., lowest proximity)
  - 300-400 feet from major stream = 3 (i.e., low proximity)
  - 200-300 feet from major stream = 5 (i.e., medium proximity)
  - 100-200 feet from major stream = 7 (i.e., high proximity)
  - 0-100 feet from major stream = 9 (i.e., greatest proximity)
- » Minor Streams:

- More than 80 feet from minor stream = 1 (i.e., lowest proximity)
- 60-80 feet from minor stream = 3 (i.e., low proximity)
- 40-60 feet from minor stream = 5 (i.e., medium proximity)
- 20-40 feet from minor stream = 7 (i.e., high proximity)
- 0-20 feet from minor stream = 9 (i.e., greatest proximity)

### *Weighting*

This layer was weighted at 15 percent of the total score.

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# MOSO GUIDELINES EXHIBIT F

## TEXT of the MORAGA OPEN SPACE ORDINANCE (MOSO)

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The people of the Town of Moraga DO ORDAIN as follows:

### SECTION 1. Short Title.

This ordinance shall be known as the "Moraga Open Space Ordinance".

### SECTION 2. Findings.

The people of the Town of Moraga find and declare the following:

- a. The character and feel of the Town of Moraga is contingent upon the preservation of a substantial amount of open space, the protection of the scenic views of major and minor ridgelines, and the regulation of development in sensitive open space areas.
- b. The Town has experienced significant development pressures in recent years which threaten the amount and quality of open space resources of the Town and which adversely affect the capacity of the Town's public facilities, such as drainage and traffic facilities, and are otherwise altering the character of the community.
- c. It is the intent of the people of the Town to protect the remaining open space resources within the Town in the interest of: (1) preserving the feel and character of the community; (2) ensuring the adequacy of recreational opportunities which are contingent on such open spaces; (3) ensuring the protection of local and regional wildlife resources which are dependent on the habitat provided by such open space; (4) ensuring that development does not occur in sensitive viewshed areas; (5) protecting the health and safety of the residents of the Town by restricting development on steep or unstable slopes; and (6) ensuring that development within the Town is consistent with the capacity of local and regional streets and other public facilities and does not contribute to the degradation of local or regional air quality.
- d. It is the purpose of this Ordinance to revise and augment the policies of the Town recorded in the General Plan and the ordinances of the Town relating to the preservation of open space and protection of ridgelines. This Ordinance is consistent with and implements the policy in General Plan Amendment 3, enacted November 18, 1981, which established a policy of minimum lot size designations of twenty (20), ten (10), and five (5) acres in some open space areas.
- e. In addition to the reasons described above, this Ordinance is necessary to promote the general health, safety and welfare of the residents of Moraga.

### SECTION 3. Protection of Open Space

- a. The following policy is added to Goal 1 of the Open Space Element of the General Plan:

"3) Any use of or development on lands designated in the General Plan or by this Ordinance as 'Open Space Private' or 'Public Open Space-Study' (hereinafter 'Open Space Lands') shall be limited to a maximum density of one (1) dwelling per twenty (20), ten (10), or five (5) acres, but in no case shall density on such lands exceed one (1) dwelling unit per five (5) acres. Areas

identified as 'high risk' areas, as defined in this Ordinance, shall be limited to a maximum density of one (1) dwelling unit per twenty (20) acres. Density transfers from Open Space Lands to other lands shall be encouraged; provided that in no event shall dwelling units be transferred to Open Space Lands or to 'high risk' areas. The Town Council shall identify 'high risk' areas after taking into account soil stability, history of soil slippage, slope grade, accessibility, and drainage conditions."

- b. Policy Number 1 of Goal 4 of the Open Space Element of the General Plan is revised to read as follows:

"1) Development shall be prohibited on slopes with grades of twenty percent (20%) or greater and on the crests of minor ridgelines. The Town Council shall reduce the allowable densities on slopes of less than twenty percent (20%) through appropriate means such as requiring proportionally larger lot sizes or other appropriate siting limitations. For the purposes of this paragraph, the term 'minor ridgeline' means any ridgeline, including lateral ridges, with an elevation greater than 800 feet above mean sea level, other than a major ridgeline."

- c. The following policy is added to Goal 1 of the Land Use Element of the General Plan:

"8) Notwithstanding any other provision of the General Plan, any development on lands depicted in the General Plan or by this Ordinance as 'Public Open Space-Study' or 'Private Open Space' shall be limited to a maximum density of one (1) dwelling per twenty (20), ten (10), or five (5) acres, but in no case shall density on such lands exceed one (1) dwelling unit per five (5) acres. Areas identified as 'high risk' areas, as defined in this Ordinance, shall be limited to a maximum density of one (1) dwelling unit per twenty (20) acres."

- d. Section 8-3805 is added to chapter 38 of the Zoning Ordinance of the Town of Moraga as follows:

"Section 8-3805. Open Space Density.

"(a) Notwithstanding any other provision of the ordinances of the Town of Moraga: (1) all land within the Town of Moraga designated 'Public Open Space-Study' or 'Private Open Space' (hereinafter referred to as 'Open Space Lands') in the Moraga General Plan as such Plan existed on October 16, 1985, or which is designated such by this Ordinance is hereby zoned 'Open Space' ('OS'); and (2) any development on such Open Space Lands shall be limited to a maximum density of one (1) dwelling unit per twenty (20), ten (10), or five (5) acres, but in no case shall density on such lands exceed one (1) dwelling unit per five (5) acres. Areas identified as 'high risk' areas, as defined in this Ordinance, shall be limited to a maximum density of one (1) dwelling unit per twenty (20) acres. The Town Council may authorize density transfers from Open Space Lands to other lands pursuant to the procedures set forth in Chapter 47 herein; provided that in no event shall dwelling units be transferred to Open Space Lands or to high risk areas. In determining the appropriate density transfer credit applicable to any such Open Space Lands, the Town Council may authorize the transfer of a net density of no greater than one (1) dwelling unit per ten (10) acres.

"Development shall be prohibited on slopes with grades of twenty percent (20%) or greater and on the crests of minor ridgelines. The Town Council shall reduce the allowable densities on slopes of less than twenty percent (20%) through appropriate means such as requiring proportionally larger lot sizes or other appropriate siting limitations. For the purpose of this

Ordinance, the term 'minor ridgeline' means any ridgeline, including lateral ridges, with an elevation greater than 800 feet above mean sea level, other than a major ridgeline.

"(b) Development shall be prohibited on minor ridgelines immediately adjacent to and extending into Open Space Lands if slopes exceed twenty percent (20%) and elevation of said ridges is greater than 800 feet above mean sea level."

- e. Section 8-5702 of Chapter 57 of the Zoning Ordinance of the Town of Moraga is amended as follows:

"(a) Development shall be prohibited within 500 feet of the centerline of a major ridge (as defined in subsection (b)) located in an area designated on the General Plan as 'Private Open Space' or 'Public Open Space-Study' and development shall be subject to strict design review control in all other ridge areas. A road, together with the attendant underground utilities, may cross a ridge, if the Planning Commission finds that the crossing is necessary for the orderly development of the Town and does not otherwise conflict with the Municipal Code.

"(b) For the purpose of this section, the centerline of a major ridge is the line running along the highest portion of the ridge located within those areas designated on the General Plan as 'Private Open Space' or 'Public Open Space 'Study.'"

- f. Without limiting the generality of the Moraga Open Space Ordinance, General Plan Amendments No. 6, adopted in resolution No. 28-83 on June 15, 1983, and No. 8, adopted in Resolution No. 39-83 on September 7, 1983, are hereby repealed and are of no further force or effect. Such lands as were affected by those amendments are hereby given a General Plan designation of "Public Open Space-Study" and are zoned "Open Space" as provided in Section 3d above.

#### SECTION 4. Applicability.

The provisions of this Ordinance shall apply to any person who, as of the date of the election has not (a) obtained a building permit for the development project, and (b) incurred substantial construction expenses in good faith reliance on such building permit.

#### SECTION 5. Implementation; Interim Development Controls; Interpretation.

- a. Promptly after the enactment of this Ordinance, the Town Council shall adopt such revisions to the General Plan and the Zoning Ordinance as may be necessary to fully implement the Moraga Open Space Ordinance or to ensure the internal consistency of the General Plan or the consistency of the Moraga Open Space Ordinance with the General Plan; provided that the Town Council shall not amend or modify any requirement of this Ordinance without approval by the electorate at a general election.
- b. Until the full implementation of the Moraga Open Space Ordinance as contemplated by subsection (a) or until January 1, 1987, whichever occurs first, the Town Council, or any other reviewing authority, shall not issue any permit or otherwise authorize or approve any use or development, including but not limited to divisions of land, with a density greater than one (1) dwelling unit per twenty (20) acres on: (1) any lands designated in the General Plan or by this Ordinance as "Open Space", "Public Open Space-Study" or "Private Open Space", or (2) major or minor ridgelines, or on slopes greater than twenty percent (20%), or on slopes which are unstable or subject to erosion or deterioration. Nothing in this subsection is intended to

authorize issuance of any permit or approval of any development except in compliance with Section 3d above.

- c. In the event of any conflict between the Moraga Open Space Ordinance and the Zoning Ordinance, the provisions of the Moraga Open Space Ordinance shall prevail.

**SECTION 6. Severability.**

If any section, subsection, paragraph, subparagraph, clause or phrase of this Ordinance, or any amendment or revision of this Ordinance is, for any reason, held to be invalid or unconstitutional, the remaining sections, subsections, paragraphs, subparagraphs, clauses and phrases shall not be affected, but shall remain in full force and effect.