



MORAGA HILLSIDES AND RIDGELINES PROJECT

Presentation Overview



- ❑ Project background
- ❑ Final background report
- ❑ Draft landslide hazard maps
- ❑ Key issues identified to date
- ❑ Approach to the next phase of the project



Project Background



Project goals:

- ❑ Reduce community conflicts over hillside and ridgeline development
- ❑ Clarify and educate the community about existing regulations
- ❑ Provide clear, factual, and technically-sound background data to support decision-making
- ❑ Improve existing regulations to better achieve the Town's open space goals and policies

Project Schedule



- ❑ Task A: Project Initiation (completed)
- ❑ Task B: Background Analysis (Late 2014)
- ❑ Task C: Hillside Regulation Options (Early 2015)
- ❑ Task D: Draft Regulations (Mid 2015)
- ❑ Task E: Review and Adoption (Late 2015)

Completed Meetings and Workshops



- ❑ Steering Committee Meeting #1
(April 2014, November 2014)
- ❑ Stakeholder Meetings
(April 2014)
- ❑ Community Workshop #1
(April 2014)
- ❑ Community Workshop #2
(June 2014)
- ❑ Steering Committee Meeting #2
(November 2014)



Final Background Report



- ❑ Draft published in June, 2014
- ❑ Clear, understandable summary of existing regulations, physical conditions, and technical background
- ❑ Revised document incorporates comments solicited from public
- ❑ Final report will be published after review by Town Council

Final Background Report



Revisions to Public Review Draft Report:

- ❑ Added information on the Town values and guiding principles in the General Plan
- ❑ Added discussion of balancing regulations and property rights
- ❑ Presented idea of “smart regulation” to balance different community values
- ❑ Added detail on history of MOSO and MOSO amendments
- ❑ Clarified information on:
 - Calculating density
 - Clustered development
 - Slope calculation
 - Scenic corridors and hillside visibility map

Draft Landslide Hazard Maps



Purpose of Maps

- ❑ Inform update of hillside and ridgeline regulations
- ❑ Represent planning-level data for particular areas of interest in the town
- ❑ Not a substitute for site-specific mapping and analysis
- ❑ Will be used in accordance with direction from Steering Committee and Town Council

Draft Landslide Hazard Maps



Mapping Approach

- ❑ Two maps:
 - Landslide inventory Map (detailed)
 - Landslide Hazard Areas (simplified)
- ❑ Limited to predetermined study area
- ❑ Used stereoscopic aerial photo mapping methods based on 1954 and 2002 data

Draft Landslide Inventory Map



MAP SYMBOLS

-  Topographic break in slope, or scarp, often spoon-shaped and frequently associated with evacuation of landslide debris
-  Landslide deposit with arrows indicating approximate movement direction.
-  Top of Bank
-  Artificial cut slope
-  Mapping of Designated Study Areas
-  Town Boundary

EXPLANATION

EARTH MATERIALS

SURFICIAL DEPOSITS

- AL/SW** Unconsolidated fine to coarse granular materials deposited by streams; includes distal portions of slopewash aprons.
- Qcs** Colluvium (shallow) – Unsorted sand, silt, clay and gravel debris commonly less than 10 feet in thickness; includes amalgamated earthflow debris.
- Qcd** Colluvium (deep) – Unsorted sand, silt, clay and gravel debris commonly more than 10 feet in thickness; includes amalgamated earthflow debris.

ACTIVE SLOPE INSTABILITY

- AEFs** Active Earthflow (shallow) – Earthflow landslide identified as active within the last 60 years, commonly less than 10 feet in depth. This category may include recent debris flows.
- AEFd** Active Earthflow (deep) – Earthflow landslide identified as active within the last 60 years, commonly more than 10 feet in depth. This category may include recent debris flows.
- AESs** Active Earth Slump (shallow) – Rotational or translational landslide involving the displacement of bedrock identified as active within the last 60 years, commonly less than 10 feet in depth.
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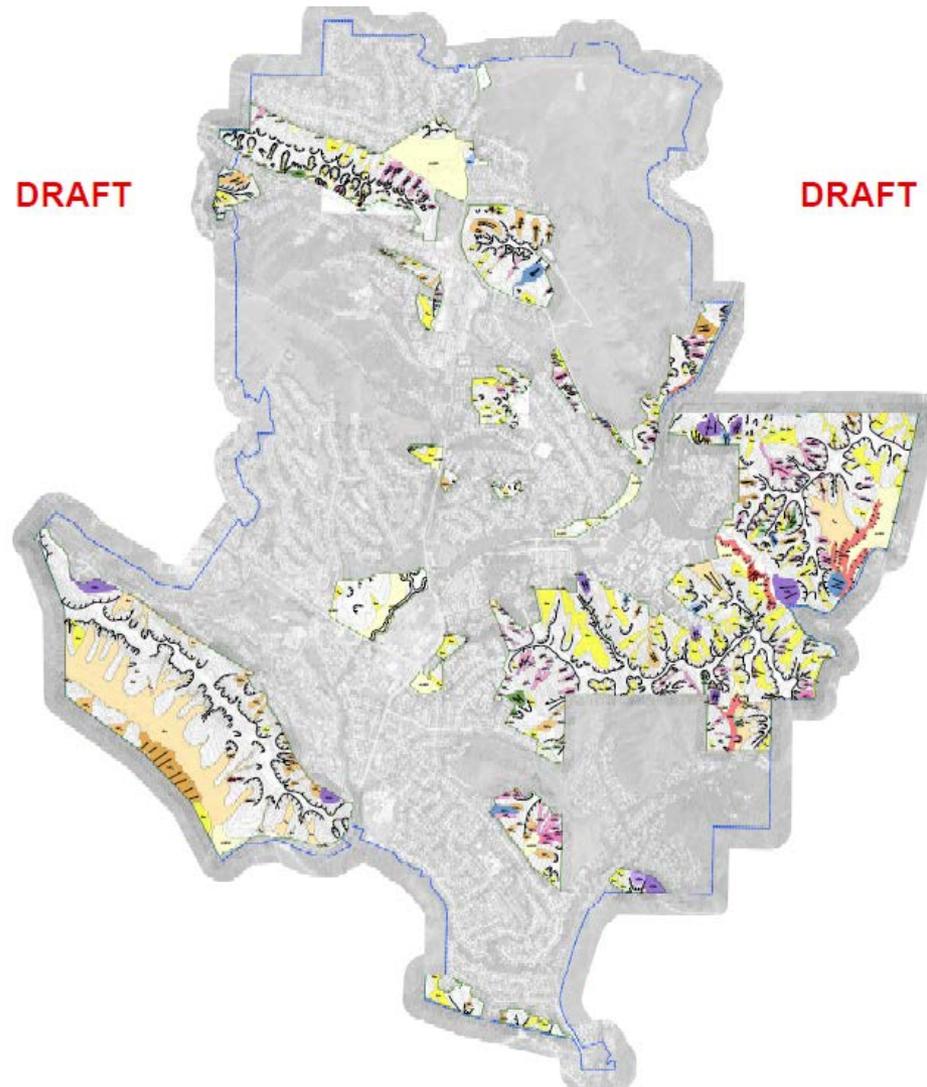
DORMANT SLOPE INSTABILITY

- DEFs** Dormant Earthflow (shallow) – Earthflow landslide estimated to have experienced mass movement between 60 and 200 years ago, commonly less than 10 feet in depth.
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DRAFT



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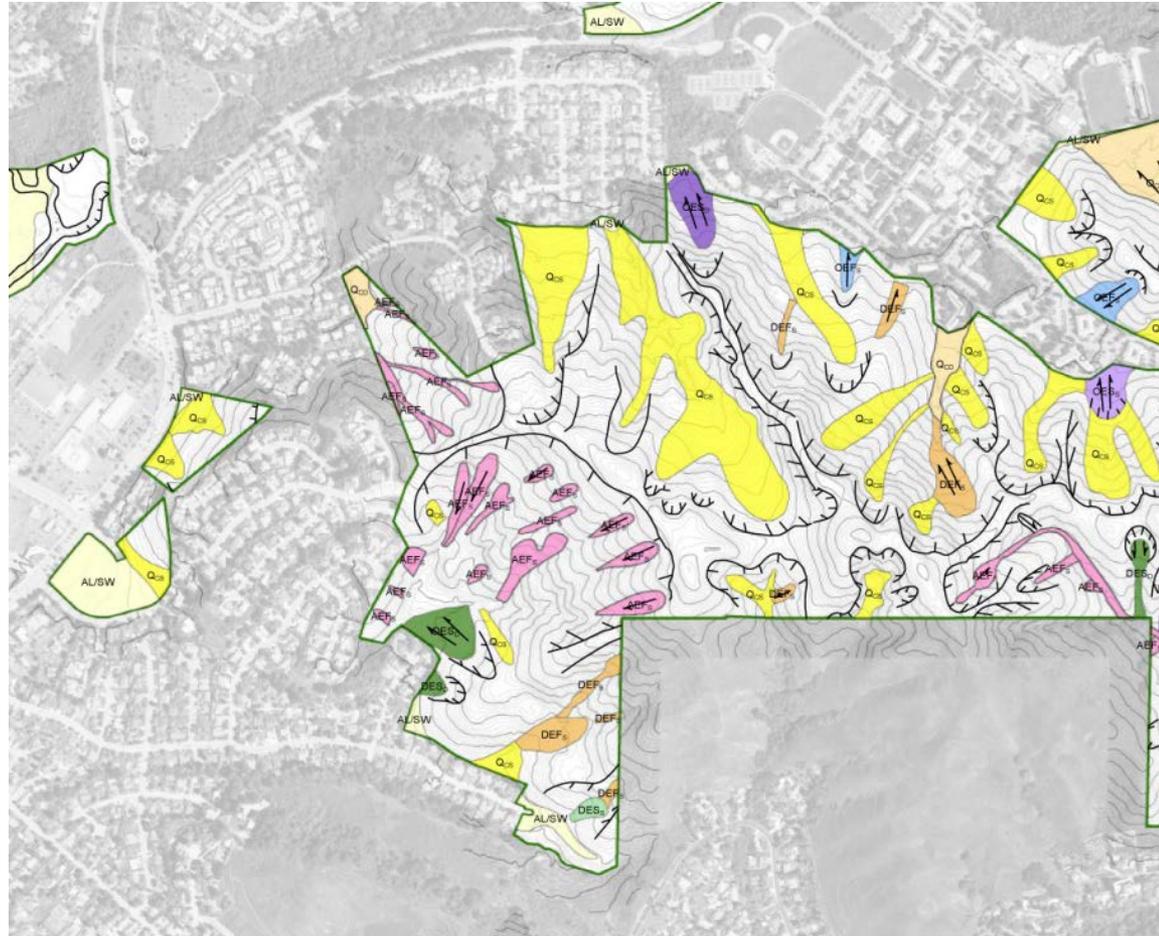
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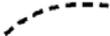
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Draft Landslide Hazard Map



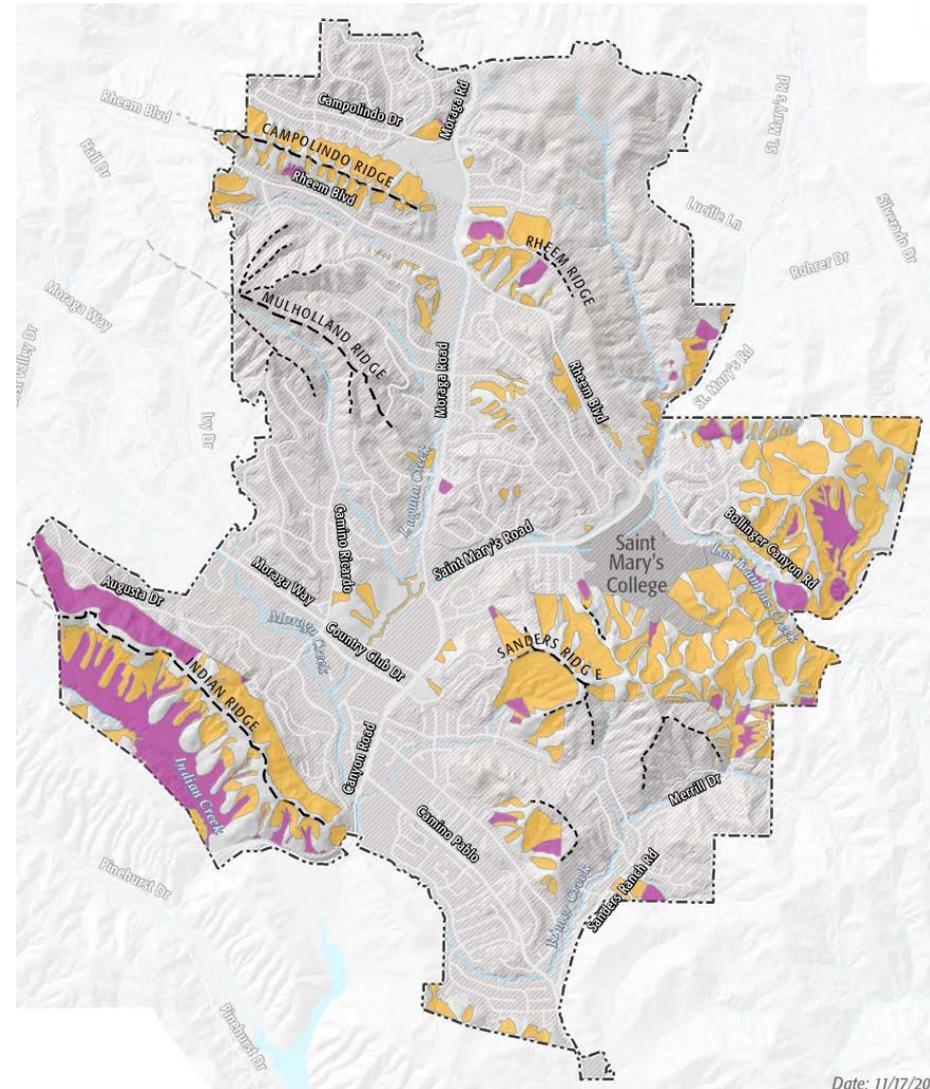
Landslide Hazard Potential

-  Town Boundary
-  MOSO Minor Ridgelines
-  MOSO Major Ridgelines
-  Major/Permanent Stream
-  Minor/Intermittent Stream

 Areas not included in landslide mapping

Areas with Significant Potential for Landsliding

-  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).



Draft Landslide Hazard Map



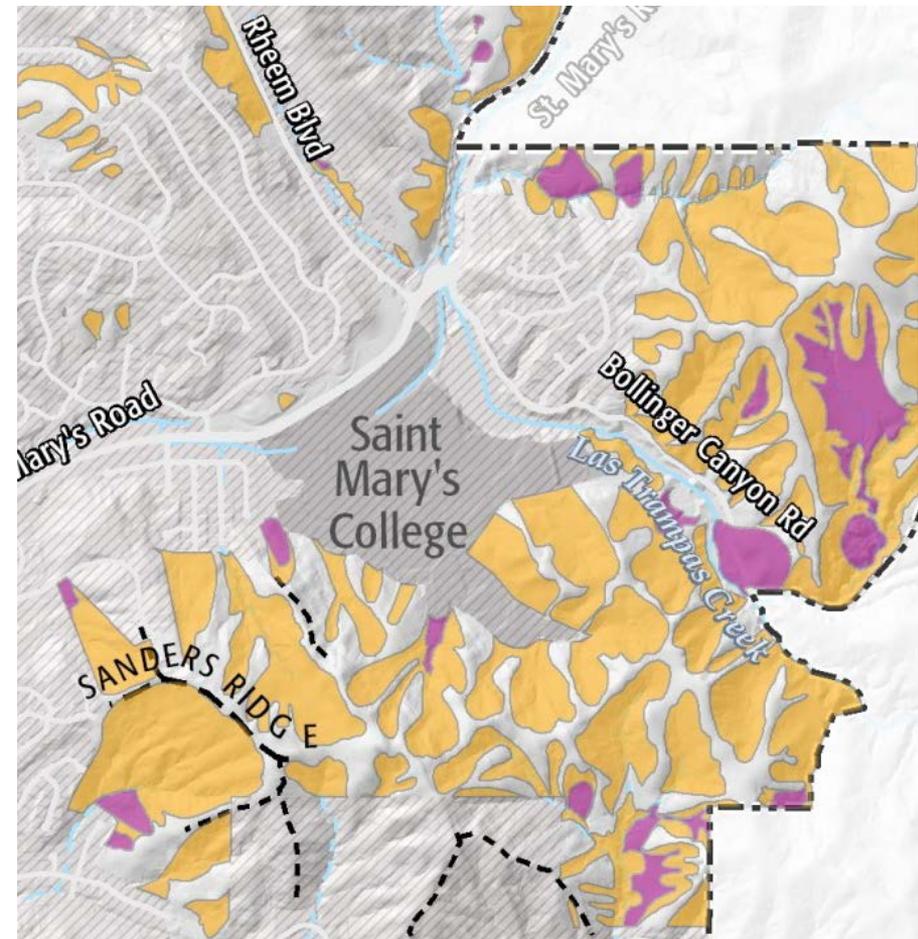
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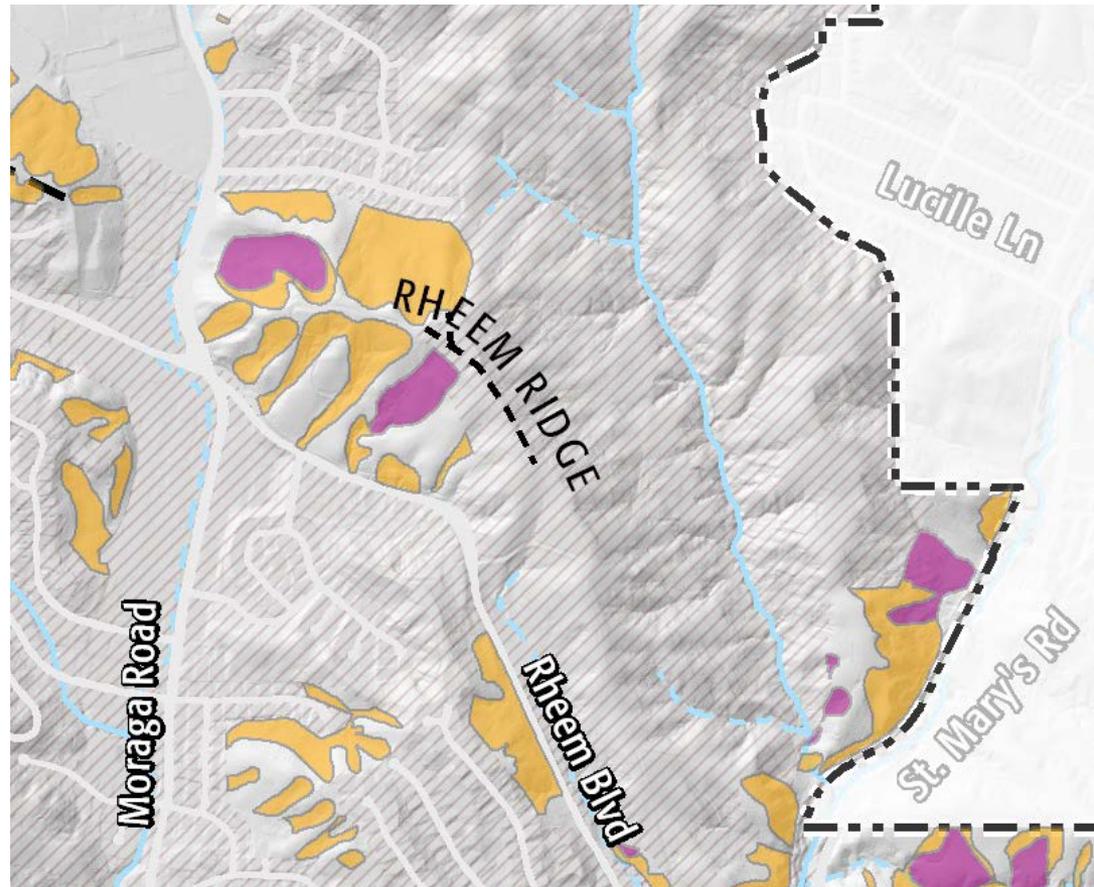
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Landslide Inventory/Hazard



Landslide Hazard Potential



Key Findings



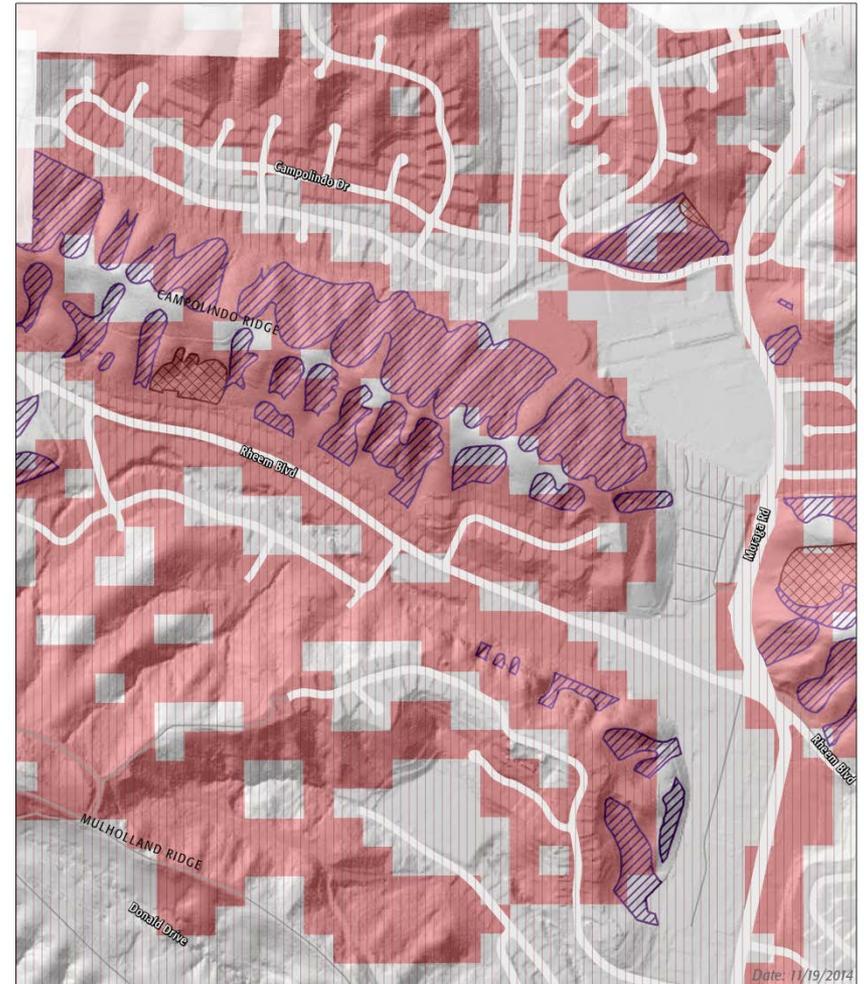
- ❑ More than 50 percent of study area contains landslide hazards
- ❑ Majority of landslide hazards are “shallow, potentially unstable”
- ❑ Deep landslide hazard areas primarily around Indian Ridge
- ❑ Evidence of actively incising creek channels
- ❑ Some discrepancies with MOSO Guidelines Development Capability Map

Draft Landslide Hazard Map



Example Comparison of 1992 Development Capability and 2014 Landslide Hazard Potential Mapping Campolindo Ridge Area

-  <5 - Low capability
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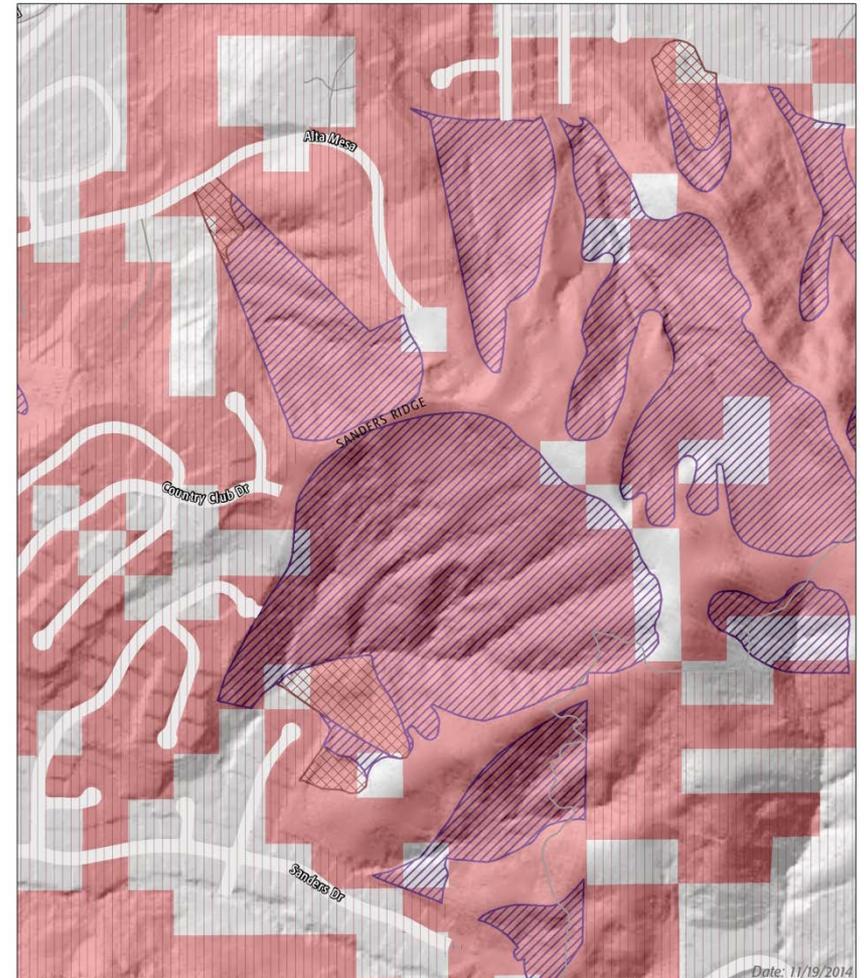
Example Comparison of 1992 Development Capability and 2014 Landslide Hazard Potential Mapping Sanders Ridge Area

 <5 - Low capability

 Areas not included in landslide mapping

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Draft Landslide Hazard Map



Example Comparison of 1992 Development Capability and 2014 Landslide Hazard Potential Mapping Rheem Ridge Area

-  <5 - Low capability
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Future Use of Maps



- ❑ Existing conditions information for Hill-sides and Ridgelines project
- ❑ Options for future use:
 - Basis for new Town-wide landslide hazard map
 - Incorporated into General Plan
 - Supplement or replace existing MOSO Development Capability Map
- ❑ Steering Committee, Planning Commission, and Town Council will provide direction

Key Project Issues



Steering Committee Recommendation for Further Study:

1. **Ridgeline Protection** – How is “protect” defined? What is the breadth/applicability of protections?
2. **Definition of Development** – Do grading and limited surface facilities qualify as “development?”
3. **Development on Steep Slopes** – How do slope limitations address slope variability within parcels and the potential for re-grading?

Key Project Issues



4. **Calculation of Slope** – Should slope calculation methods be revised? If so, how?
5. **Remediation in High Risk Areas** – Can “high risk” areas be remediated to become lower risk areas in which greater development is permitted?
6. **View Protection** – What methodologies and standards should be adopted to protect views?
7. **Hillside Development Permit (HDP)** – Are HDPs redundant? What projects should require HDPs?
8. **High Risk Area Map** – Should the High Risk Area Map be updated? How will it be used in the future?



Key Project Issues

Steering Committee recommended not focusing on the following issues as part of this process:

1. **Balanced Grading** – Should balanced onsite grading be required in all cases?
2. **Grading Standards** – Should grading standards be less proscriptive and allow site-specific flexibility?
3. **Planned Development Process (PDP)** – Should PDP be streamlined and/or simplified? If so, how? Issue will be addressed through separate process.
4. **Broader Issues of Town-wide Growth and Development** – Should the Town change its approach to the Hillsides and Ridgelines Project? Should the project be potentially expanded or incorporated into a broader General Plan Update?

Project Approach Moving Forward



- ❑ Project is now at an important decision point:
 - Move forward as currently scoped
 - Take a different approach
- ❑ Public input suggested desire for more comprehensive General Plan amendments
- ❑ Town Council will decide future approach at January 28, 2014 meeting



Project Approach Moving Forward

Steering Committee-Recommended Approach

- ❑ Continue with the current project scope
- ❑ Address salient issues now, as feasible, rather than deferring to future effort
- ❑ Rely on policy foundation provided by the existing General Plan
- ❑ Prepare targeted General Plan Amendments if needed
- ❑ Consider a more comprehensive General Plan Update when the Hillsides and Ridgelines Project is complete



MORAGA HILLSIDES AND RIDGELINES PROJECT