

ORDINANCE NO. 99-15

AN ORDINANCE ENACTING CHAPTER 17.14 OF THE CASTLE ROCK MUNICIPAL CODE WHICH ADOPTS A SKYLINE/RIDGELINE PROTECTION OVERLAY ZONING DISTRICT AND IMPOSES RESTRICTIONS AND REGULATIONS ON DEVELOPMENT IN DESIGNATED AREAS WITHIN THE DISTRICT; AND PROVIDING PENALTIES FOR THE VIOLATION THEREOF

WHEREAS, the Town of Castle Rock 2010 Comprehensive Master Plan recognizes the importance of preserving the appearance of key natural landforms and features which give Castle Rock its unique geological character,

WHEREAS, the Town has adopted and administers comprehensive regulations governing zoning, subdivision and construction, but does not currently have in place specific regulations addressing the visual impacts from development in proximity to prominent ridges and other significant landforms,

WHEREAS, absent comprehensive regulations restricting the placement of structures on or adjacent to prominent landforms, the Town Council does not have the legal and practical means to regulate development so as to minimize the degradation of the Town's viewshed,

WHEREAS, the protection of the Town's viewshed is considered by the community of utmost importance if Castle Rock is to maintain its unique natural heritage,

WHEREAS, the Town Council finds the regulation in this area is necessary and proper exercise of the Town's police powers as a home rule municipal corporation,

WHEREAS, the Town retained the services of consultants to assist a citizen study group in assessing the Town's viewshed through computer mapping and analysis of landforms,

WHEREAS, the impact of development of structures on prominent landforms was quantified by computer simulation from select locations, or "viewing platforms", to ascertain the relative impacts of development throughout the Town's viewshed as summarized in the Report entitled "Technical Methodology and Field Observation Report" dated February 25, 1999, introduced into the legislative hearings on this ordinance (the "Report"),

WHEREAS, as indicated in the Report, certain skyline and ridgeline protection areas were identified based on the extent development in such areas would be visible from the viewing platforms as determined by computer simulation and modeling,

WHEREAS, the computer-generated maps of such skyline and ridgeline areas were reviewed by the study group through field observations and revised as appropriate as summarized in the Report,

WHEREAS, based upon the Report the skyline and ridgeline areas requiring development restrictions were identified and mapped,

WHEREAS, the degree of regulation and restriction on development impacting skylines and

ridgelines is directly related to the visual impact of development from the viewing platforms such that most visible areas are subject to the most restrictive regulation and areas of relatively less visibility are subject to less restrictive regulation, and

WHEREAS, the proposed adoption of this ordinance has been noticed and public hearings held before Town Council in accordance with the requirements of the municipal code

NOW, THEREFORE, IT IS ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF CASTLE ROCK, COLORADO AS FOLLOWS:

Section 1. **Adoption.** A new Chapter 17.14 of the Castle Rock Municipal Code is adopted as follows:

Chapter 17.14

Skyline/Ridgeline Protection Regulations

17.14.010. Title and Effective Date.

17.14.020. Purpose and Intent.

17.14.030. Definitions.

17.14.040. Applicability and Compliance.

17.14.050. Adoption of Official Map.

17.14.060. Building Restriction and Visual Impact Mitigation.

17.14.070. Exemptions.

17.14.080. Vested Development Plans.

17.14.090. Variances.

17.14.100. Review of District Regulations.

17.14.110. Violations; penalties.

17.14.010. Title and Effective Date.

This Chapter 17.14 of the Code may be cited as the “Skyline/Ridgeline Protection Regulations” and shall become effective April 5, 1999.

17.14.020. Purpose and Intent.

Within the corporate limits of the Town of Castle Rock there are many significant landforms including mesas with distinct ridgelines, usually at higher elevations. These topographical features distinguish Castle Rock and Douglas County from metropolitan Denver, and accordingly constitute a unique natural resource meriting protection and preservation. Construction of structures in locations on these landforms which are visible from many areas of the Town degrades this natural heritage. The regulations adopted by this Chapter place restrictions on the siting of structures in visually-significant areas and provide mitigation of the visual impact of such development. These regulations are promulgated and applied as a zoning overlay district as a legislative exercise by the Town Council of the police powers of the Town. These regulations apply uniformly to all zoned development encompassing landforms with visually-sensitive areas, while also recognizing pre-existing development rights vested under law and the need to site public facilities at locations optimizing their effectiveness.

17.14.030. Definitions.

As used in this Chapter, the following terms shall have the indicated meanings:

Area means one of the five geographical subsets of the District, Major Ridgeline, Minor Ridgeline, Major Skyline, Moderate Skyline, Minor Skyline.

Building Height as defined in 17.08.060 and 17.08.190 of the Code.

Code means the Castle Rock Municipal Code as amended.

District means the Skyline/Ridgeline Protection District as delineated on the District Map.

District Map means the official map of the District boundaries and the Areas within the District.

District Regulations means the restrictions and requirements on development within the District imposed by this Chapter 17.14 of the Code.

Public Facilities means facilities which are developed by Town or developed by others and conveyed to Town to support the provision of municipal services, including, but not limited to, water production, treatment and storage, parks and recreation, and telecommunications.

Ridgeline Area means an Area delineated on the District Map in which all or part of a permanent structure constructed thereon would be visible from one or more points on a Viewing Platform, but would not be visible along the Skyline when viewed from the same point because of a higher landform located behind the ridge.

- **Major Ridgeline Areas.** Ridgeline Areas with a major visual impact.
- **Minor Ridgeline Areas.** Ridgeline Areas with a minor visual impact.

Skyline means the horizon between land and sky.

Skyline Area means an Area as delineated on the District Map in which all or part of a permanent structure constructed thereon would be visible along the Skyline - i.e., it would extend higher than the highest landform located either in front or behind the structure - when viewed from one or more points on a Viewing Platform.

- **Major Skyline Areas.** Skyline Areas where a 25-foot high structure would be highly visible along the Viewing Platforms.
- **Moderate Skyline Areas.** Skyline Areas where a 25-foot high structure would be visible from several points along the Viewing Platforms.
- **Minor Skyline Areas.** Skyline Areas where a 25-foot high structure would not be visible, but a 35-foot high structure would be visible from several points along the Viewing Platforms.

Viewing Platforms means those portions of major thoroughfares and other selected vantage points within and adjacent to the municipal boundaries from which computer and field observations were used to assess the visual significance of development on prominent landforms.

17.14.040. Applicability and Compliance.

The District is a zoning district under Chapter 17.12 of the Code, which overlays the zoning districts enumerated in 17.12.010 of the Code. The District Regulations apply to all land use applications for which any portion of the subject property is located within the District as delineated on the District Map. District Regulations do not apply to Public Facilities constructed or developed in the District. Any rezoning, subdivision, development or building approval or permit shall be subject to compliance with the District Regulations, irrespective of whether specific reference to the District Regulations is made in the Code sections governing such approval or permit. In the event of an overlapping or conflicting requirements between the District Regulations and other provisions or regulations under the Code, the more restrictive provision shall apply. The District Regulations shall supercede any conflicting development or building standard or regulation contained in any PD zoning regulation (as defined in 17.60.210 of the Code) and the District Regulations shall constitute an amendment thereto.

17.14.050. Adoption of Official Map.

The District Map dated February 25, 1999 designating the Areas in which District Regulations apply is adopted as an amendment to the Zoning District Map maintained by the Town pursuant to 17.12.030 of the Code. The District Map shall be kept in digital form at the offices of the Town's Community Development Department and shall be distributed to the public upon request. In addition, unofficial paper reproductions of the District Map shall be available for review by the public during normal business hours, and for distribution to the public upon request and payment of a fee covering copying costs. In the event of a conflict between the digital District Map and the paper reproduction, the digital District Map shall control. Disputes concerning the boundaries of the District shall be resolved as provided in 17.12.030 of the Code.

17.14.060. Building Restrictions and Visual Impact Mitigation.

- A. **Structures Prohibited.** Within Major Skyline and Major Ridgeline Areas, no primary or accessory structure shall be constructed. Land within such Areas may be included in lots that extend outside such Areas provided that the primary and accessory structures on such lots are located completely outside the Major Skyline and Major Ridgeline Areas. To ensure the placement of structures outside of the Major Skyline and Major Ridgeline Area on such lots, and to provide notice of such restriction, building envelopes shall be designated on the applicable subdivision plat and/or zoning site plan.

- B. **Restrictions on Height.** Within Moderate Skyline Areas, no primary or accessory structure with a Building Height of greater than 25-feet shall be constructed. Within Minor Skyline and Minor Ridgeline Areas, no primary or accessory structure with a Building Height greater than 35-feet shall be constructed.

C. Mitigation of Impacts. Within Moderate Skyline, Minor Skyline and Minor Ridgeline Areas of the District, all primary and accessory structures shall be required to comply with the following measures designated to mitigate the visual impact of the structure prior to occupancy, unless explicitly exempted elsewhere in this Chapter.

1. Colors. All occupied structures and accessory structures shall be constructed and maintained so that predominate exterior wall colors (including the colors of basement walls on the downhill side of the structure) and roof surfacing materials (a) repeat the colors found most commonly in the land and vegetation around the building (earth tone), and (b) have a light reflective value of no more than 40%. Reflective materials and bright colors that contrast dramatically with the colors of the land and vegetation around them shall not be used as predominant colors on any wall or roof surface.
2. Vegetation. The area around each primary structure and accessory structure shall include at least one tree of a species with a mature height of at least 35-feet for each 2,500 square feet of lot or parcel area, provided, however, that this requirement shall not require any single-family residential lot to contain more than eight trees. At least 50% of the total number of trees required on the lot or parcel pursuant to this subsection (2) shall be located within the 50-feet of the primary structure on the side of the primary structure facing the nearest Viewing Platform as so designated by the Community Development Department. The remainder of the trees required on the lot or parcel pursuant to this subsection (2) shall be located within the 50-feet of the primary structure. All trees installed to meet the requirements of this subsection shall be of coniferous species, shall be a minimum of eight-feet tall when planted, and shall be planted before a certificate of occupancy is issued for the primary structure, or if that is not possible due to planting season or weather conditions, then within one month of the planting season for the species. In addition, to the maximum degree feasible, during overlot grading, all existing mature vegetation with a height of more than three feet, other than noxious plants and weeds, shall be preserved. Any existing trees that meet the height requirement are counted towards satisfaction of the tree requirements, regardless of whether they are coniferous or deciduous.
Concurrently with the Final PD Site Plan review and approval process, the property owner submitting such plan may request approval of a vegetation plan in which the vegetation requirements for certain lots or tracts may be increased, decreased or deleted, to reflect the degree of visibility of structures located in various portions of the subdivision. Additionally, such owner may request alternative placement of landscaping on certain lots and tracts if such placement provides adequate mitigation of the visual impact of the roof line of the primary structure. Landscaping required by this section shall be credited against the landscaping requirements imposed by any other section of the Code, or the specific PD development plan. In commercial and multi-family residential areas, vegetation screening required by this subsection shall be limited to the total area required for landscaping under the Code or the applicable PD plan, and therefore only such vegetation screening which can be reasonably accommodated within such areas is required to be planted or maintained.

3. Floodlighting. Floodlights shall not be used to light all or any portion of any primary or accessory structure facade, and all outdoor light sources mounted on poles or buildings or trees to illuminate streets, sidewalks, walkways, parking lots, or other outdoor areas shall use full cutoff light fixtures. For purposes of this section, a “full cutoff light fixture” is one in which no more than 2.5 percent of the total output is emitted at 90 degrees from the vertical pole or building wall on which it is mounted. All such fixtures shall be installed or shielded so that part of the light bulb or light source is not visible beyond the property boundaries.
4. Exposed Basements. On the side of each primary and accessory structure facing the nearest Viewing Platform as so designated by the Community Development Department, no basement wall shall be exposed for more than one-half of its height, unless a vegetated berm at least three feet in height is constructed between such basement and the property line closest to the nearest Viewing Platform.

17.14.070. Exemptions.

Properties that have received final plat approval on or before the effective date of this ordinance shall be exempt from the provisions of Section 17.14.060 A and B, (including replatting) but shall be subject to all other requirements of this ordinance, including without limitation, the provisions of Section 17.14.060 C. Structures that have been built or for which a building permit has been issued, prior to the effective date of this Chapter, shall be exempt from all requirements of this Chapter, provided that an exempt structure may not be remodeled or expanded so as to result in a structure with a Building Height in excess of the limitations of Section 17.14.060. An existing structure exempted from the District Regulations under this section may be rebuilt to a Building Height equal to the greater of: (A) the limitation under Section 17.14.060 or (B) its prior Building Height.

17.14.080. Vested Development Plans.

The District Regulations shall not be applied to any property for which the Preliminary PD Site Plan has been vested pursuant Chapter 15.24 of the Code to the extent such application of the District Regulations is prohibited by section 24-68-105 C.R.S. Irrespective of the inclusion of property subject to a vested development plan in the District, such property shall be exempt from subsections A. and B. of Section 17.14.060.

17.14.090. Variances.

Applicants for land use approval in the District may request a variance from one or more of the provisions of this Chapter pursuant to the procedures and standards described below.

- A. Planning Commission. Applications for variances from the provisions of this Chapter shall be heard by the Planning Commission, and shall be approved, approved with conditions, or denied, after a review of evidence presented by the applicant and any other interested party at a public hearing. The applicant shall have the burden to establish by a

preponderance of the evidence, that a variance is appropriate.

- B. Appeals to Town Council. Any applicant or any party who has testified at a public hearing regarding a variance request may appeal the decision of the Planning Commission to the Town Council. The Town Council shall uphold, reverse, or modify the decision of the Planning Commission, after a review of evidence presented by the applicant and any other interested party at a public hearing.
- C. Grounds for Variance. Any applicant may only request a variance on one or more of the following grounds:
 - 1. A proposed 25-foot high structure in a Major Skyline Area will not be highly visible in the Skyline from the Viewing Platforms in which event the restrictions of the Moderate Skyline Area shall apply; or
 - 2. A proposed 25-foot high structure in a Moderate Skyline Area will not be visible in the Skyline from several points along the Viewing Platforms in which event the restrictions of the Minor Skyline Area shall apply; or
 - 3. A proposed 35-foot high structure in a Minor Skyline Area will not be visible in the Skyline from the Viewing Platforms; or
 - 4. No part of proposed structure in a Major or Minor Ridgeline Area will be visible above the top of the ridge around which the Ridgeline Area is mapped, when viewed from any Viewing Platform; or
 - 5. When viewed from all Viewing Platforms, all views of a proposed structure in a Minor Skyline Area, a Moderate Skyline Area, or a Minor Ridgeline Area will be mitigated effectively through tools and techniques other than those listed in subsection C of 17.04.060.
- D. Standards for Approval. The Planning Commission may only grant a variance if it makes a written finding that one or more of the grounds for variance listed in subsection C, above, has been proven. The Town Council may only grant or uphold a variance on appeal if it makes a written finding that one or more of the grounds for variance listed in

subsection C, above, has been established.

- E. Relief. If the Planning Commission, or the Town Council on appeal, determines that a variance should be approved or approved with conditions, it shall grant only such relief as is necessary to carry out the intent of this Chapter, and may grant a different form of variance than that requested by the applicant.

17.14.100. Review of District Regulations.

Within 24 months after the effective date of this Chapter, the Town Council shall hold at least one public hearing to review the effectiveness and accuracy of this ordinance, including without limitation, the District Map. However, the failure to hold such public hearing shall not thereafter invalidate the District Regulations.

17.14.110. Violations; penalties.

- A. Any person who violates any of the provisions of this Chapter shall be punished by a fine of not more than one thousand dollars (\$1000.00).
- B. Each such person shall be guilty of a separate offense for each and every day during any portion of which any violation is committed, continued or permitted by any such person.
- C. In addition to receiving any fines or other monetary remuneration, the Town shall have the right to seek injunctive relief for any and all violations of this Chapter and all other remedies provided at law or in equity.

Section 2. Amendment. 17.12.010, Established is amended to read as follows:

17.12.010. Established.

In order to carry out the provisions of this Title, the Town is divided into the following zoning districts:

- A. R-1 Single-family residence district;
- B. R-1A Single-family residence district attached;
- C. R-2 Single-family and duplex residence district;
- D. R-3 Multi-family residence district;
- E. POS Parks, recreation and open space district;
- F. MH Mobile home district;

- G. B-1 Highway oriented commercial district;
- H. B-2 Downtown business district;
- I. I-1 Light industrial district;
- J. I-2 General industrial district;
- K. PD Planned development district;
- L. Skyline/Ridgeline Protection District, as provided in Chapter 17.14.

Section 4. **District Map.** A paper reproduction of the District Map as referenced in 17.14.050 of Chapter 17.14 adopted by this Ordinance No. 99-15 dated February 26, 1999, is attached.

Section 4. **Severability.** If any clause, sentence, paragraph, or part of this ordinance or the application thereof to any person or circumstances shall for any reason be adjudged by a court of competent jurisdiction invalid, such judgment shall not affect the remaining provisions of this ordinance.

Section 5. **Safety Clause.** The Town Council finds and declares that this ordinance is promulgated and adopted for the public health, safety and welfare and this ordinance bears a rational relation to the legislative object sought to be obtained.

Technical Methodology and Field Observation Report
Town of Castle Rock
Ridgeline Regulations
February 25, 1999

Prepared by:
Computer Terrain Mapping, Inc.
1401 Walnut Street, Suite C
Boulder, Colorado 80302
phone: 303-444-1670

ERO Resources Corp
1842 Clarkson Street
Denver, Colorado 80218
phone: 303-830-1188

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Introduction

This report begins with a technical description of concepts important to the computer implementation of the skylining algorithm. Viewing platforms are discussed along with program parameters and data sources. A description of the different skyline and ridgeline areas shown on the Official Map follows. Finally, this report ends with some definitions that may prove useful for understanding some of the more technical concepts.

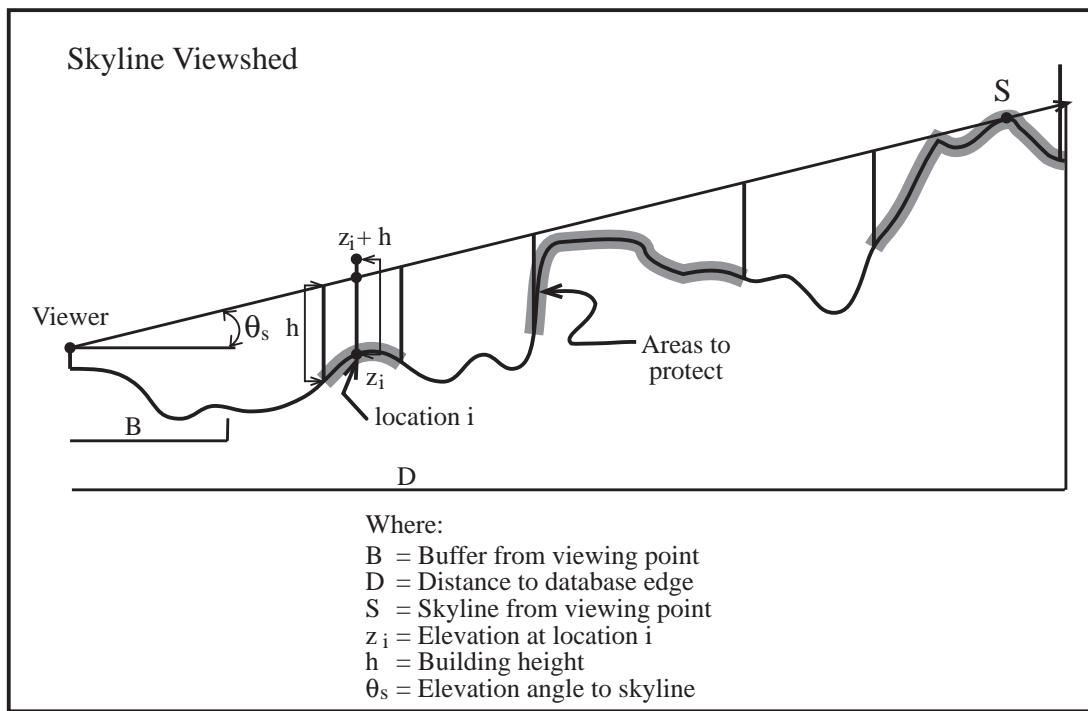
Skylining

Intuitively, the skyline is the interface between land and sky. A structure is skylined if it interrupts this land/sky interface. For the computer implementation, these intuitive concepts must be stated as precisely as possible. A technical description follows.

The skyline of an elevation profile (physical or terrain skyline) occurs at a location s if the elevation angle at s is the maximum for the profile. The elevation angle at s is the angle between the horizontal and the line-of-sight to s and is called θ_s . A structure of height h skylines (or is skylined) at location i (with elevation z_i) if the line-of-sight to $z_i + h$ forms an elevation angle greater than θ_s (Figure 1). So in order to determine the skyline regions for a 35 foot structure (for example), it is first necessary to determine the physical skyline, then perform a second pass to find areas where a structure would break the line-of-sight to the physical skyline.

Only visibility blocks from terrain were considered in this analysis. Specifically, vegetation screening and visibility obstructions caused by buildings or other structures were not considered.

Figure 1



Viewing Platforms

The viewing platforms were selected by the Ridgeline Protection Regulations Study Group (Group) and later modified by the Planning Commission (Figure 2). A location at a high point just west of Butterfield Park was the only isolated viewing platform; all other platforms were located along roadways. For the roadways selected as viewing platforms, individual observation points were selected at 1/8 mile intervals. A total of 232 observation points were used in the analysis.

It was decided by the Group that no special weighting should be applied to roadways. Consequently, an observation point along Gilbert Street is “worth” as much as an observation point along I25, even though I25 sees significantly more traffic.

Program Parameters

Computer code, using the skylining algorithm previously described, was used for the analyses that produced the Official Map. Several important parameters used by the program are presented in table 1. The viewing platform height is the observation height above local terrain. The buffer distance provides a region around the viewing location where structure skyline computations do not occur. This is because structures very close to the viewer almost always skyline. The maximum distance is the distance at which the structure skyline computations stop (the program “looks” to the edge of the terrain database in order to find the physical skyline).

Table 1. Parameters for Skyline Analysis

Parameter	Value
Sample spacing along roadways:	0.125 miles
Observer height above local terrain:	6 feet
Structure heights:	25 feet and 35 feet
Maximum distance for recording skylined areas:	4 miles
Buffer distance:	0.25 miles



Figure 2. Viewing Platforms

Data Sources

The program requires two data files: a viewing platform file and an elevation database. Viewing platforms were originally selected from the U. S. Geological Survey (USGS) 1:100,000 scale Digital Line Graph (DLG) database. The viewing platform locations were later modified to match roadway centerlines or right-of-ways from the Town parcel database. The elevation data file was obtained from the Town for regions in and adjacent to the incorporated area (5 foot contour equivalent). This elevation database was augmented by the 1:24,000 scale USGS Digital Elevation Model (DEM - 20 foot contour equivalent) for regions outside of the Town.

Skyline Area Breakdowns

For the Official Map, skyline computations were performed for buildings of 25 foot and 35 foot height. Regions were broken down by the amount of skylining that occurred. Specifically, regions where structures (of 25 foot or 35 foot) skylined from 16 points or less are not shown. Regions where 35 foot structures (but not 25 foot structures) skylined from 17 to 64 points are shown in cyan and are indicated as “Minor Skyline Areas” on the Map legend. Regions where 25 foot structures skylined from 17 to 64 points are shown in yellow and are indicated as “Moderate Skyline Areas” on the Map legend. Regions where 25 foot structures skylined for 65 points or more are shown in red and are indicated as “Major Skyline Areas” on the Map legend. Major and minor ridgelines (indicated by hatched patterns on the Map legend) were determined by the Group on a field tour and are described below.

Major and Minor Ridgelines

Some members of the Group expressed concern that there may be visually significant ridgelines that were missed by the skyline analysis (minor ridgelines). Also, it was felt that some particularly sensitive skyline areas should be “upgraded” to the highest protection level (major ridgelines). To address these concerns, a field tour was undertaken to determine which ridgelines should be given the minor ridgeline or major ridgeline designation and included on the Official Map.

For this field trip, a physical ridgeline map was produced to show those ridges that were visually significant, but not picked up by the skyline mapping. To determine the physical ridgelines to field check, a watershed utility* was used - the assumption being that the “headwater” regions would delineate the ridgelines. A noise filter was used to eliminate spurious single pixels from consideration. To assess how visually significant each ridgeline was, a viewshed analysis was run. Those ridges that were seen from 16 points or fewer (of the Group’s selected viewing platforms) were removed from consideration. Similarly, those ridges that were already mapped by the skyline analysis, developed, or outside the Town boundary were also discarded. Additionally, the Group named areas of interest that should be field verified. These areas were combined with the physical ridgeline map to determine ridgelines of interest (Figure 3). It should be noted that the ridge regions delineated do not correspond to any particular elevation or distance below the ridge crest.

On November 20, 1998, the Group took this map into the field to view ridgelines visible from Castle Rock first hand. The purpose of the field tour was to determine which ridgelines would be included on the Official Map as well as in the regulations.

Each Group member was provided with a map of the Ridgelines of Interest (Figure 3). The Group followed the route specified on the field tour map (Figure 4). At each stop, the Group looked at the ridgelines of interest and visually determined whether each should be included in the regulations and if so, at what level. Determining factors in the field included the visual prominence of a ridgeline and whether structures, vegetation, or landforms obscured the view of a ridgeline. The Group also reviewed the skylines and upgraded some from “Minor Skyline Areas” or “Moderate Skyline Areas” to “Major Skyline Areas”. Ridgelines designated for inclusion on the Official Map were roughly outlined in the field. Minor ridgelines were digitized using the physical ridgeline map along with the field outlined regions. Considerable interpretation was involved in this process.

Major ridgelines were predominantly regions that had significant expression (at the minor or moderate skyline level) on the skyline map. In order to connect regions along a single ridgeline that were discontinuous on the skyline map, the criterion of skylining at nine points or more at the 25 foot height was used. The lone exception to this rule was the prominent ridgeline north of Highway 86 in the Heritage Farm PD. At the request of the Planning Commission, the major ridgeline boundary was drawn to correspond with the 17 point (at 25 foot height) skyline threshhold.

At subsequent Group meetings, the Group validated the activities of the field tour by deciding to include the physical ridgelines determined in the field to be important for protection. These ridgelines were included on the Official Map and in the regulations.

* The watershed utility in the GRASS (Geographic Resources Analysis Support System) GIS software package was used.

Definitions

Viewing platform: A single point or series of points (for example, a roadway) where the observer is located.

Line-of-sight: The line between an observer and a viewed object (also called sight line).

Viewing ray: A straight line segment emanating from the observer to the edge of the study area.

Elevation profile: The projection of a viewing ray onto the elevation surface. This results in a complex curve.

Digital Elevation Model (DEM): Digital representation of topography. This is usually implemented as a regularly-spaced matrix of values. (Imagine a checkerboard placed over the landscape with an elevation tabulated at each checkerboard square center).