Gaddis, Nicollee <ngaddis@blm.gov>

Visual Resources

1 message

Leslie, Stephen <sleslie@blm.gov> Thu, Apr 12, 2018 at 9:32 AM
To: Eric Jacobson <eric.jacobson@eolusvind.com>
Cc: "Gaddis, Nicollee" <ngaddis@blm.gov>, "Augrelio (Herman) Pinales" <apinales@blm.gov>, Eric Benavides <ebenavides@blm.gov>

Eric,

To complete the project Visual Contrast Rating for the proposed project, your contractor should follow the guidance provided in BLM Manual 8431 - Visual Contrast Rating (attached)

For the photos, I suggest the following:

- A high resolution (>12 megapixels) digital single lens reflex camera used in conjunction with a 50-millimeter focal length equivalent lens.
- The photo locations (key observation points) should be recorded using a mapping grade global positioning system.

In addition, here is what information I will be looking for during my review of the project photo simulations:

- Date
- Orientation of view
- Distance to the closest and farthest feature within the proposed project
- Map or diagram illustrating the KOP(s) orientation to the project limits
- Coordinates
- Elevation of KOP
- Height of camera
- Horizontal and vertical field of view
- Viewing diagram/ instructions illustrating/ explaining how far to stand away from simulation to get the right effect
- Name and company name of visualization creator
- Brand name and type of camera
- Lens type and angle
- Any other relevant information

You may have your contractor send me their proposed protocol to review in advance.

Thanks,
Steve

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Manual 8431 - Visual Resource Contrast Rating

Table of Contents

I. Introduction.

A. Overview. The contrast rating system is a systematic process used by the Bureau of Land Management (BLM) to analyze potential visual impact of proposed projects and activities. It is primarily intended to assist Bureau personnel who are not formally trained in the design arts to apply the basic principles of design in the resolution of visual impacts. It is not intended to be the only means of resolving these impacts. It should be used as a guide, tempered by common sense, to ensure that every attempt is made to minimize potential visual impacts. The basic philosophy underlying the system is: The degree to which a management activity affects the visual quality of a landscape depends on the visual contrast created between a project and the existing landscape. The contrast can be measured by comparing the project features with the major features in the existing landscape. The basic design elements of form, line, color, and texture are used to make this comparison and to describe the visual contrast created by the project. This assessment process provides a means for determining visual impacts and for identifying measures to mitigate these impacts.

II. Steps in the Contrast Rating Process.

A. Obtain Project Description**.** To effectively evaluate the visual impacts of a proposed project, a detailed project description is needed. Appendix 1 provides guidance on the type of information needed. The level of detail required in the description should be commensurate with the type of project proposed. This information is usually supplied by the project sponsor for BLM-initiated projects or by the applicant for non-Bureau of Land Management initiated projects.

B. Identify VRM Objectives. Use the RMP generated objectives when available. Where there are no RMP approved objectives, interim Visual Resource Management (VRM) classes will be developed using the guidelines in Handbook H-8410-1 except: (1) The inventory will be limited to the area affected by the project; and (2) the VRM classes will reflect the management decision made in existing RMP's. An RMP amendment is not required unless the project that is driving the evaluation requires an amendment.

C. Select Key Observation Points (KOP's**).** The contrast rating is done from the most critical viewpoints. This is usually along commonly traveled routes or at other likely observation points. Factors that should be considered in selecting KOP's are; angle of observation, number of viewers, length of time the project is in view, relative project size, season of use, and light conditions (see Section IIID2b for a more detailed description of these factors). Linear projects such as power lines should be rated from several viewpoints representing:

- Most critical viewpoints, e.g., views from communities, road crossings
- Typical views encountered in representative landscapes, if not covered by critical viewpoints.
- Any special project or landscape features such as skyline crossings, river crossings, substations, etc.

D. Prepare Visual Simulations. Visual simulations are an invaluable tool in effectively evaluating the impacts of a proposed project (see Illustration 1). Simulations are strongly recommended for potentially high impact projects. The level of sophistication should be commensurate with the quality of the visual resource and the severity of the anticipated impact. Simulations are extremely important to portray the

relative scale and extent of a project. They also help public groups visualize and respond to development proposals, making public participation in the planning process more effective. The BLM publication Visual Simulation Techniques should be consulted for the appropriate simulation methods.

E. Complete the Contrast Rating. Complete contrast rating from key observation point(s) using Bureau Form 8400-4 - Visual Contrast Rating Worksheet (see Illustration 2).

III. Requirements for Completing the Contrast Rating Worksheet.

A. Project Information (Section A). Complete the background information requested. It is important to precisely record the location of the KOP. A sketch of the KOP/project location should be shown in the "location" block. If several different key observation points are used for the project evaluation, give each viewpoint a separate number for reference purposes.

B. Descriptions (Section B and C). To properly assess the contrasts between the proposed and existing situation, it is necessary to break each down into the basic features (i.,e., landform/water, vegetation, and structures) and basic elements (i.e., form, line, color, and texture) so that the specific features and elements that cause contrast can be accurately identified. When describing the project, be sure to include approved mitigating measures. Refer to Illustrations 3, 4, 5, and 6 for the suggested vocabulary for describing characteristic landscapes and the proposed projects.

C. Categorizing Projects Under Features (Sections B and C). It is sometimes difficult to determine which type feature a project fits under. Use the following as a guide to categorize projects:

Landform/Water Features	**Vegetative Features**	**Structural Features**
Roads	Timber Harvests	Transmission Lines
Mining	Grazing Systems	Generation Plants
Gravel Pits	Vegetative Manipulations	Oil and Gas Developments
Landfills		Recreation Facilities
Water Impoundments		Water Tanks
		Microwave Stations
		Buildings

D. Contrast Rating (Section D). The actual rating should be completed in the field from the KOP(s). It can be done as a team effort or individually, depending on the sensitivity and impacts of the project and the availability of personnel (see Manual Section 8431.12). If done as a team, it is best to do the ratings individually and then compare ratings. A simulation should be available to show scale, relative placement of disturbing features, and other important information necessary to complete an objective rating.

1. Selecting the Timeframe. Projects may be rated on either a short-term or long-term basis. Short-term is through the first 5 years and long-term is through the life of the project. If the project has significantly different short-term and long-term effects, two contrast ratings should be completed using two separate forms. Check the appropriate block under section D on the rating form to indicate the term of the rating.

2. Rating the Degree of Contrast (Section D1). Using the matrix provided in section D of the form, rate the degree of contrast. Be sure to include the proposed mitigating measures and standard stipulations in the rating. The rating is completed by determining the degree of contrast (i.e., strong, moderate, weak, or none) for each element. Use the following general criteria and factors when rating the degree of contrast:

a. Degree of Contrast Criteria.

Degree of Contrast	**Criteria**
None	The element contrast is not visible or perceived.
Weak	The element contrast can be seen but does not attract attention.
Moderate	The element contrast begins to attract attention and begins to dominate the characteristic landscape.
Strong	The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

b. Factors to be considered. Consider the following factors when applying the criteria (see also Illustrations 3, 4, 5, and 6):

(1) Distance. The contrast created by a project usually is less as viewing distance increases.

(2) Angle of Observation. The apparent size of a project is directly related to the angle between the viewer's line-of-sight and the slope upon which the project is to take place. As this angle nears 90 degrees (vertical and horizontal), the maximum area is viewable.

(3) Length of Time the Project Is In View. If the viewer has only a brief glimpse of the project, the contrast may not be of great concern. If, however, the project is subject to view for a long period, as from an overlook, the contrast may be very significant.

(4) Relative Size or Scale. The contrast created by the project is directly related to its size and scale as compared to the surroundings in which it is place (see Illustration 7).

(5) Season of Use. Contrast ratings should consider the physical conditions that exist during the heaviest or most critical visitor use season, such as snow cover and tree defoliation during the winter, leaf color in the fall, and lush vegetation and flowering in the spring.

(6) Light Conditions. The amount of contrast can be substantially affected by the light conditions. The direction and angle of lighting can affect color intensity, reflection, shadow, from, texture, and many other visual aspects of the landscape. Light conditions during heavy periods must be a consideration in contrast ratings.

(7) Recovery Time. The amount of time required for successful revegetation should be considered. Few projects meet the VRM management objectives during construction activities. Recovery usually takes several years and goes through several phrases (e.g., bare ground to grasses, to shrubs, to trees, etc.). It may be necessary to conduct contrast ratings for each of the phases that extend over long time periods. Those conducting contrast rating should verify the probability and timing of vegetative recovery.

(8) Spatial Relationships. The spatial relationship within a landscape is a major factor in determining the degree of contrast (see Illustration 8).

(9) Atmospheric Conditions. The visibility of projects due to atmospheric conditions such as air pollution or natural haze should be considered.
(10) Motion. Movement such as waterfalls, vehicles, or plumes draws attention to a project.

c. General Guidance for Accessing Contrast.

(1) Form. Contrast in form results from changes in the shape and mass of landforms or structures. The degree of change depends on how dissimilar the introduced forms are to those continuing to exist in the landscape.

(2) Line. Contrasts in line results from changes in edge types and interruption or introduction of edges, bands, and silhouette lines. New lines may differ in their subelements (boldness, complexity, and orientation) from existing lines.

(3) Color. Changes in value and hue tend to create the greatest contrast. Other factors such as chroma, reflectivity, color temperature, also increase the contrast.

(4) Texture. Noticeable contrast in texture usually stems from differences in the grain, density, and internal contrast. Other factors such as irregularity and directional patterns of texture may affect the rating.

3. Determining Whether VRM Objectives are Met (Section D2). Compare the contrast ratings with the objectives for the approved VRM Class (see Appendix 2 for definitions of VRM classes). For comparative purposes, the four levels of contrast (i.e., none, weak, moderate, and strong) roughly correspond with classes I, II, III, and IV, respectively. This means that a "strong" contrast rating may be acceptable in a class IV area but probably would not meet the VRM objectives for a class III area. In making these comparisons, one must also look at the cumulative effect of all the contrast ratings. Certain combinations of ratings may indicate there is a stronger overall contrast that the individual ratings show. For example, several "moderate" ratings when viewed in combination may warrant an overall "strong" rating. This is a judgmental call that must be documented on the back side of the form. If the rater checks the "no" block on the form, indicating the VRM objectives are not met, the reasons for not meeting the objectives must also be documented on the back of the form.

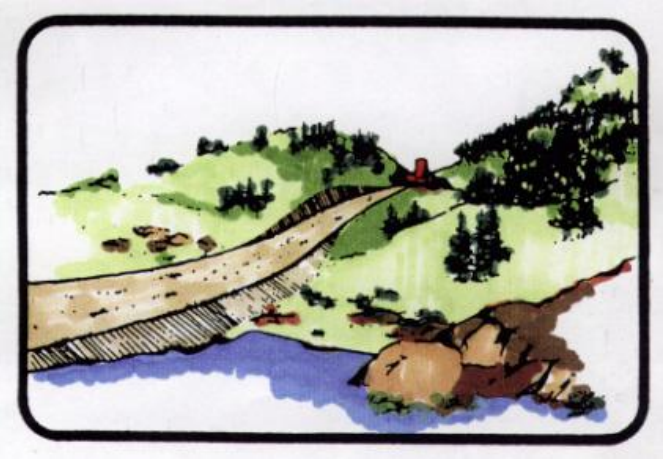
4. Developing Additional Mitigating Measures (Section D3). Since the overall VRM goal is to minimize visual impacts, mitigating measures should be prepared for all adverse contrasts that can be reduced. This includes reduction of contrast in projects which have met the VRM objectives. Mitigating measures should be written so they can easily be extracted and used as stipulations in leases, permits, contracts,

etc. When preparing mitigating measures, keep in mind the concepts of strategic location (in less visible and less sensitive areas), minimizing disturbance, and repetition of the basic elements (form, line, color, and texture). Also make sure that mitigating measures are realistic (i.e., do not propose revegetation where the probability of success is very low). Other suggestions for reducing contrast are shown in Appendix 3. The publications listed in the bibliography of Manual Section 8400 also provide additional guidance on mitigating measures.

Illustration 1 - Example of Visual Simulation Technique

Existing Site

Proposed Project



Project Modified

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date

District

Resource Area

Activity (program)

SECTION A. PROJECT INFORMATION

1. Project Name

2. Key Observation Point

3. VRM Class

4. Location
Township _____
Range _____
Section _____

5. Location Sketch

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			
LINE			
COLOR			
TEX-TURE			

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM			
LINE			
COLOR			
TEX-TURE			

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None
Form												
Line												
Color												
Texture												

2. Does project design meet visual resource management objectives? ☐ Yes ☐ No (Explain on reverse side)

3. Additional mitigating measures recommended ☐ Yes ☐ No (Explain on reverse side)

Evaluator's Names Date

Rel. 8-30
1/17/86

Form 8400-4
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

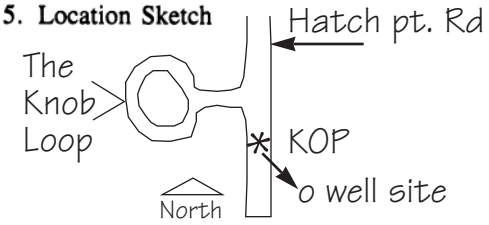
Date: Aug. 15, 1985
District: Moab
Resource Area: Grand
Activity (program): Oil & Gas

SECTION A. PROJECT INFORMATION

1. Project Name: Well Site #136
2. Key Observation Point: #15 on Hatch Pt. Rd.
3. VRM Class: Class II

4. Location
Township: 27S
Range: 21 E
Section: 24

5. Location Sketch



SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat to rolling terrain	simple forms created by vegetative patterns	
LINE	horizontal & diagonal	weak & undulating	
COLOR	dark tans to orange	light to dark green, mottled	
TEXTURE	smooth	smooth to course	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	flat	geometric & linear forms created by clearings	cylindrical, geometric, & angular
LINE	horizontal (pad) curved (road)	strong irregular lines created by edge effect of clearings & roads	vertical, horizontal, & angular
COLOR	tan	light green	tan
TEXTURE	fine to smooth	patchy	course

SECTION D. CONTRAST RATING ☐ SHORT TERM ☐ LONG TERM

1. DEGREE OF CONTRAST

ELEMENTS	FEATURES: LAND/WATER BODY (1) Strong	Moderate	Weak	None	VEGETATION (2) Strong	Moderate	Weak	None	STRUCTURES (3) Strong	Moderate	Weak	None
Form			√				√				√	
Line		√				√					√	
Color			√				√				√	
Texture			√				√				√	

2. Does project design meet visual resource management objectives? ☐ Yes ☑ No (Explain on reverse side)

3. Additional mitigating measures recommended ☑ Yes ☐ No (Explain on reverse side)

Evaluator's Names: Bob Tumwater, Russ Grimes, Pete Jordan
Date: Aug. 15, 1985

Rel. 8-30
1/17/86

SECTION D. (Continued)

Comments from item 2.

The strong line created by the clearing for the road and the drill pad creates a contrast that will attract attention.

Additional Mitigating Measures (See item 3)

1. Relocate access road off from ridge

2. Revegetate the edge of the drill pad with random clumps of trees and shrubs to break up the flat horizontal line.

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Illustration 3 - Description of the element FORM

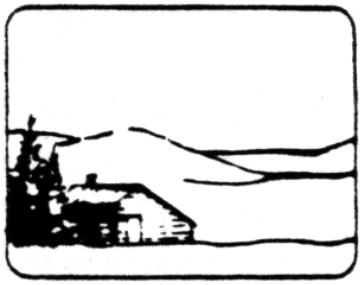
Definition

The mass or shape of an object or of objects which appear unified.

Types

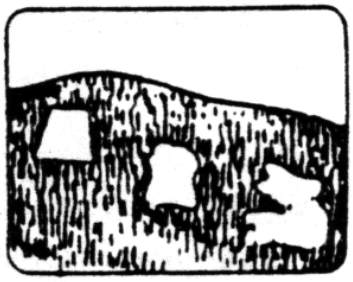
2-Dimensional Shape - the presence of an area or areas which contrast in color and/or texture from adjacent areas creating a two-dimensional shape in the landscape.

3-Dimensional Mass - the volume of a landform, natural object, or manmade structure in the landscape.



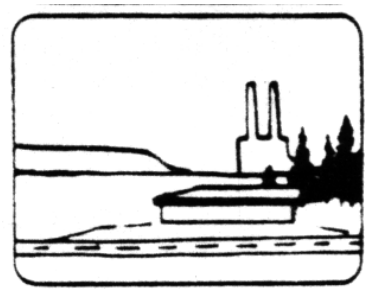
Subelements

Geometry - the extent to which a form approaches a standard geometrical figure of two or three dimensions e.g., square, circle, triangle, cube, sphere, cone, etc.



Complexity - the degree of simplicity or intricacy of a form, Simpler forms tend to be regular, and complex forms to be irregular.

Orientation - the relationship of the form to the horizontal axis of the landscape (e.g., vertical, horizontal, diagonal, non-directional), or to the points of the compass (e.g., north-south, ENE WSW).



Suggested Vocabulary

Bold/definite/indistinct
Prominent
Flat/rolling/rugged
Rounded/angular
Rough/smooth
Jagged/domed/flattened
Steep/moderate/gentle
Solid/transparent
Simple/complex
Amorphous/geometric
Regular/irregular
Narrow/wide
Long/short/tall
High/low

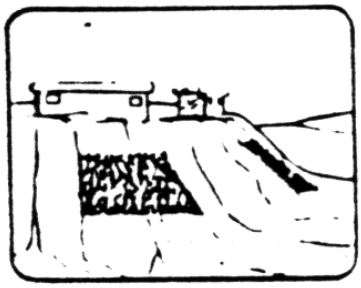
Diverse/numerous/few
Large/small
Convex/concave
Circular/oval
Square/rectangular/rhomboid
Triangular/trapezoid
Linear/parallel/curving
Conical/cylindrical/cubic
Pyramidal/spherical
Contrasting/compatible
Vertical/horizontal/diagonal
Nondirectional
Symmetrical/asymmetrical
Strip/block/patch

Dominance

Forms that are bold solid or vertical tend to be dominant in the landscape

Variable Effects

Viewing Angle - the visual proportions of forms change with the direction and angle of viewing, due to perspective effects. Two-dimensional forms become foreshortened with lower observer positions and oblique viewing angles. Three-dimensional forms appear to diminish towards the horizon, especially with oblique viewing angles.



Lighting – front lighting and back lighting tend to flattened three-dimensional forms. Backlighting may emphasize two-dimensional silhouettes. Side lighting enhances three-dimensional effect.

Movement - the eye is attracted to movement in the landscape, e.g., such changing forms as waterfalls, steam from cooling towers, or smoke plumes

Illustration 4 - Description of the element LINE

Definition

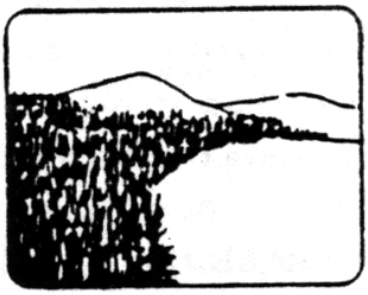
The path, real or imagined, that the eye follows when perceiving abrupt differences in form, color, or texture or when objects are aligned in a one-dimensional sequence. Usually evident as the edge of shapes or masses in the landscape.

Types

Edge

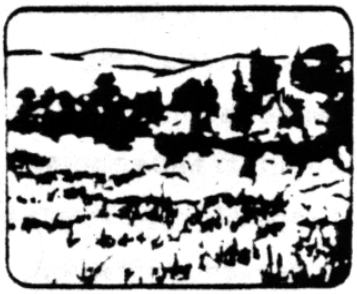
The boundary along which two contrasting areas are related and joined together - - the outline of a two-dimensional shape on the land surface.

Butt Edge - the simple sharp edge between two contrasting areas

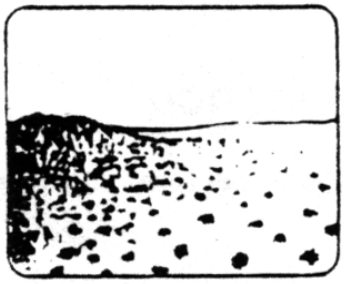


Digitate Edge - the complex indented edge between two interlocking and contrasting areas.

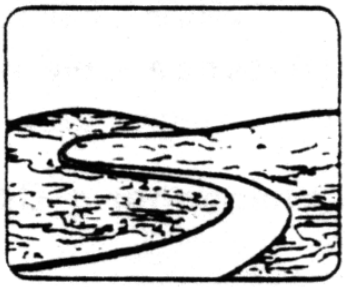
Transitional Edge - the presence of one or more band(s) connecting two contrasting areas, forming a transitional stage between the two.



Diffuse Edge - soft edge formed by a gradation between two contrasting areas.



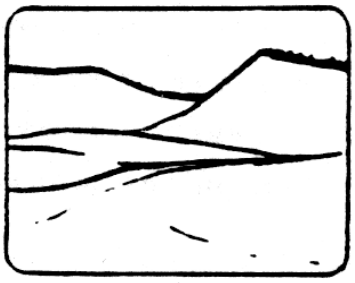
Band - contrasting linear form with two roughly parallel edges dividing an area in two.



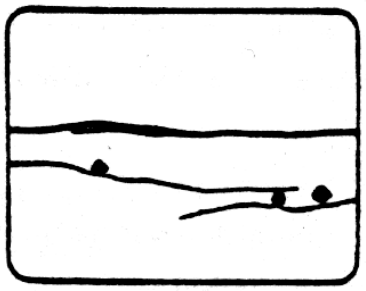
Silhouette-line - the outline of a mass seen against a backdrop. The skyline is the silhouette-line of the land against the sky.

Subelements

Boldness - the visual strength of a line. Smooth, long and sweeping lines are stronger than lines formed by the overlapping of numerous forms, e.g., treetops; edges between strongly contrasting colors, e.g., skylines are bolder than those between similar colors.



Complexity - the degree of simplicity or intricacy of a line, determined by the variety of directions it follows: skylines in ruffed terrain are more complex than on flat plains.



Orientation - the overall relationship of the line to the (horizontal) axis of the landscape or to compass bearings.

Orientation - the overall relationship of the line to the (horizontal) axis of the landscape or to compass bearings.

Suggested Vocabulary

Bold/weak
Complex/simple
Regular/irregular
Soft/hard
Straight/curving
Broken/continuous
Diagonal/horizontal/vertical
Concave/Convex
Angular/subangular
Converging/diverging
Jagged/rugged/smooth
Parallel/perpendicular
Undulating/flowing
Geometric/circular/semicircular

Dominance

Bold vertical lines which interrupt the skyline tend to dominate weak horizontal lines.

Variable Effects

Distance - the strength of a line can decrease with distance due to atmospheric haze.

Atmospheric Conditions - clouds, fog, haze, snow can obliterate skylines.
Lighting – front lighting flattens form and reduces line strength. Often only the skyline remains evident (e.g., mountain ranges). Side lighting accentuates the silhouette-lines of separate forms. Backlighting blends together forms of equal distance into one outline. In mountain ranges, the ridgelines delineate overlapping flat silhouettes.

Illustration 5 - Description of the element COLOR

Definition

The property of reflecting light of a particular intensity and wavelength (or mixture of wavelengths) to which the eye is sensitive. It is the major visual property of surfaces.

Subelements

Hue - the aspect of color which we know by particular names, e.g., red, blue, orange, and which forms the visible spectrum. A given hue or color tint is caused by a particular wavelength.

Value - the degree of lightness or darkness, caused by the intensity of light being reflected, ranging from black to white.

Chroma - the degree of color saturation or brilliance, determined by the mixture of light rays. It is the degree of grayness in a color, ranging from pure (high chroma) to dull (low chroma).

Suggested Vocabulary

- Hues - red, yellow, brown, olive gray, reddish brown, etc. (See Munsell color books for precise terms.)
- Primary colors - red, blue, yellow
- Secondary colors - green, orange, violet
- Tertiary colors - mixtures of secondary colors.
- Value - dark to light
- Chroma - brilliant, pure, saturated, dull, grayish.
- Color temperature - warm to cold, temperature is caused by hue.
    - Red, yellow, brown, and orange are considered warm and sunny.
    - Blues and green are cool and shady.
- Vivid color - usually primary or secondary colors, with high chroma.
- Subtle color - colors or mixtures which are delicate, usually tertiary or low chroma colors.
- Luminous color - emitting its own light.
- Glare - reflection of high intensity light (very high value).
- Pastel color - delicate "soft" color of high value but low chroma.
- Monotone - the sameness or uniformity of color.
- Color harmony - the assortment of combinations of colors which readily and pleasantly blend with each other.

Dominance

With other things equal, light, warm, bright colors in a scene will "advance" and tend to dominate dark, cool, dull colors which "retreat." Dark next to light tends to attract the eye and become a visual focal point.

Variable Effects

Distance - atmospheric perspective, due to scattering of light by dust particles, makes colors become paler, lower in chroma, and bluer as viewing distance increases. High value colors tend to remain most recognizable over great distances.

Atmospheric Conditions - haze, fog, dust, rain, etc., may cause atmospheric perspective to become extreme, even over short viewing distances. Compared with sunshine, clouds reduce value and chroma.

Lighting Direction - objects which are front lighted (i.e., illuminated from the front, behind the observer) appear paler and brighter than those which are backlit (i.e., illuminated from behind).

Time of Day – illuminated surfaces tend to become paler during midday sun and to become darker and redder early and late.

Illustration 6 – Description of the element TEXTURE

Definition

The aggregation of small forms or color mixtures into a continuous surface pattern; the aggregated parts are enough that they do not appear as discrete objects in the composition of the scene.

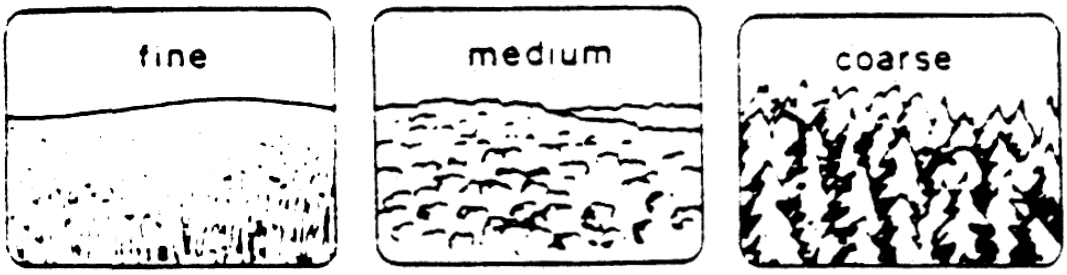
Type

Color Mixture (motting) - intrinsic surface color contrasts of very small scale in relation to the perceived may be due to hue, chroma, or value, alone or in combination.

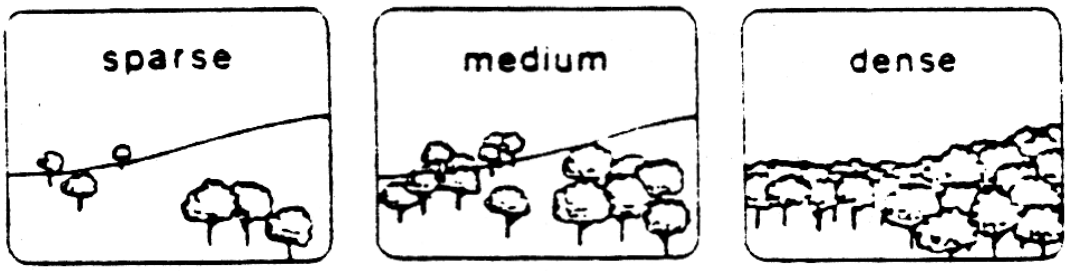
Light and Shade - the color contrast particularly in value, created by differences in lighting on a varied surface or repeated forms. It consists of the repetition of a lit side, shaded side, and the shadow cast.

Subelements

Grain - the relative dimensions of the surface variations, ranging from large (coarse texture, e.g., coniferous forest) to small (fine texture, e.g., grassland).

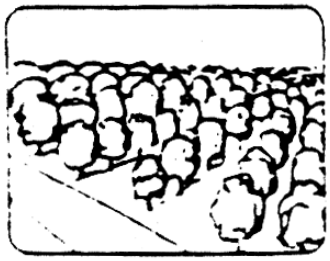


Density - the spacing of surface variations creating the texture

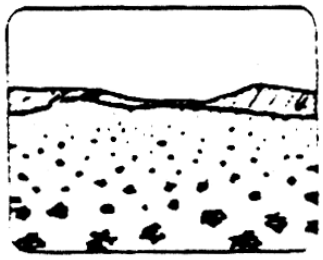


Regularity - the degree of uniform recurrence and symmetrical arrangement of the surface variation. Based on density distribution (uniform vs. variable) and spatial arrangement (ordered vs. random).

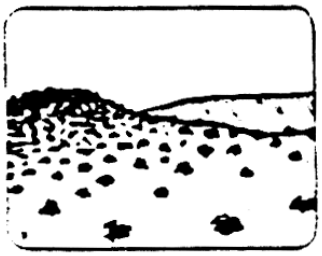
uneven/random



even/ordered



even/random



gradation

Internal Contrast - the degree of contrast in colors or values creating the texture

Suggested Vocabulary

Coarse/medium/fine	Glossy/matte
Smooth/rough	Striated
Uniform/patchy/gradational	Scattered
Directional/nondirectional	Dotted
Discontinuous/continuous	Clumped
Random/ordered	Striped
Contrasty/subtle	Stippled
Dense/sparse	Granular

Dominance

Coarse and contrasty textures tend to dominate fine-grained textures of low internal contrast.

Variable Effects

Distance - internal contrast and the apparent grain of the texture is lessened with distance - - coarse textures of coniferous forest may remain visible at up to 8-10 miles, while fine textures of grassland may disappear within 1/4 mile of the observer.

Atmospheric Conditions - haze, cloud, dust, etc., reduce the distance at which textures disappear and lose internal contrast.

Illumination - light and shade textures are most obvious in side-lighting and when light intensity is strong, casting distinct dark shadows. Strong side-lighting increases distance-range within which textures remain visible

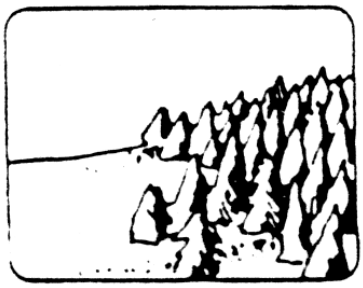


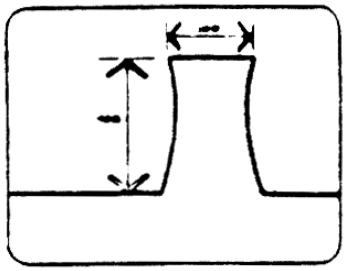
Illustration 7 - Description of the element SCALE

Definition

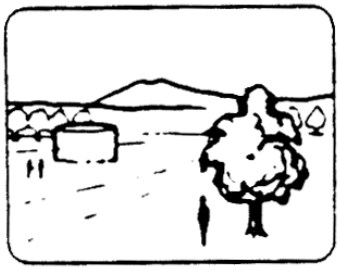
The proportionate size relationship between an object and the surroundings in which it is placed

Types

Absolute Scale - the absolute size of an object obtained by relating the size of the object to a definitely designated standard, (i.e., measurements).



Relative Scale – the relative size of objects, the apparent size relationship between landscape components and their surroundings.



Subelements

Proportion of landscape setting (scale dominance) - the scale of an object relative to the visible expanse of the landscape which forms its setting.

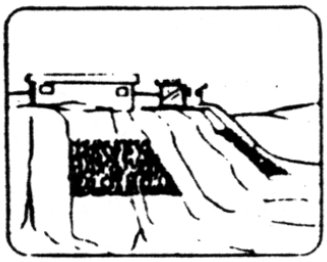
Scale contrast - the scale of an object relative to other distance objects or areas in the landscape

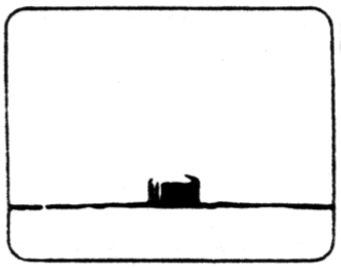
Proportion of field-of-view - the scale of an object relative to the total field-of-view accepted by the human eye or camera.

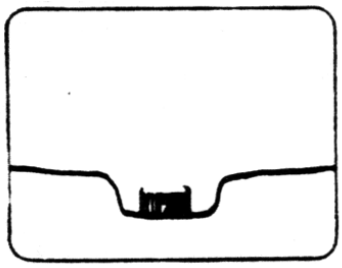
Variable Effects

Distance - the apparent size of an object decreases with distance from the observer.

Spatial Enclosure - the size of the enclosing space inversely affects an object's relative scale - - small spaces make objects appear larger.



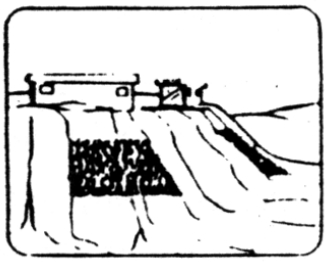




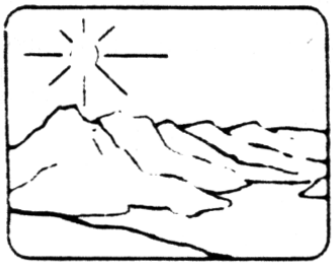
Viewing Angle - the apparent scale of an object in the landscape is affected by the observer's angle of view in two ways:

(1) perspective foreshortening reduces the apparent size of surfaces of areas or objects, when seen obliquely or at low viewing angles.

(2) by increasing an object's elevation in relation to the observer's position, the objects's relative scale tends to increase.



Atmospheric Conditions - increased haziness may increase the apparent scale of the landscape's space by obscuring its boundaries.



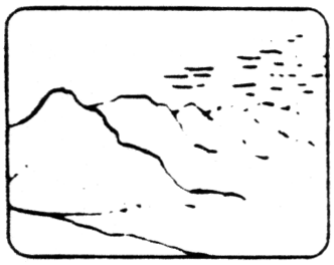


Illustration 8 - Description of the element SPACE

Definition

The spatial qualities of a landscape are determined by the three-dimensional arrangement of objects and voids.

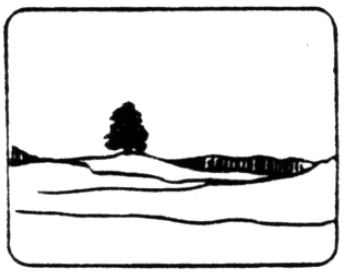
Subelements

Landscape Composition - the arrangement of objects and voids in the landscape can be categorized by their spatial composition:

Panoramic - a broad horizontal composition, with no apparent limits to the view. Includes plains, expanses of water, and distant mountain ranges. Sky and foreground elements may occupy much of the scene.

Feature - a composition dominated by a distance object or cluster of objects such as a waterfall, prominent landform, or tree.

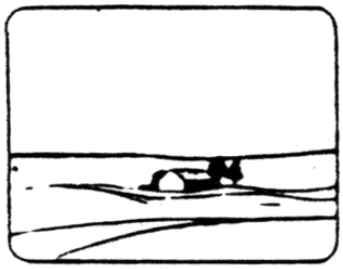
Focal - converging lines in the landscape or progressions of aligned objects lead the eye to a focal area in the scene.



Canopied - the scene within or at the edge of a forest, where branches and foliage above eyelevel create a canopy or "ceiling."

Some compositions, especially those which are distinctly focal, enclosed, or feature-oriented, are more vulnerable to modifications than others, depending upon how strongly the spatial configuration draws the eye to certain locations.

Spatial Position - the elevation and location of objects in the landscape relative to topography affect their prominence: high and exposed positions are more prominent than low obscured positions.

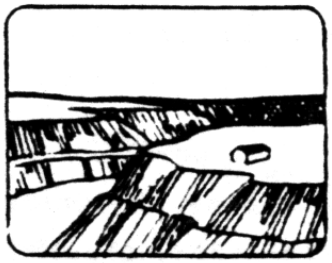


Plain

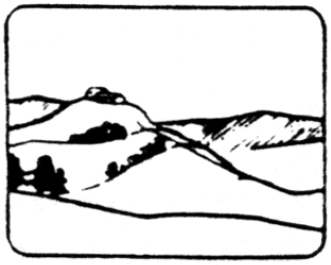
Valley Floor

Slope-toe

Side-slope



Plateau/bench

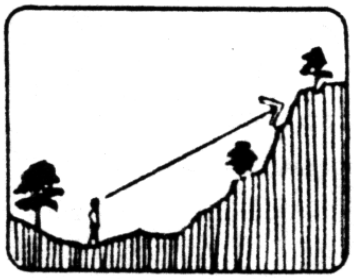


Ridge-top

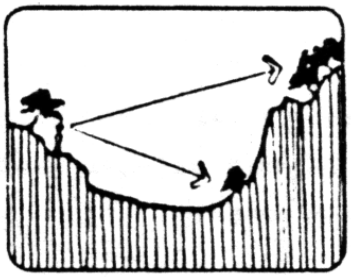
Backdrop - the backdrop against which an object is seen affects its visual contrast. Modifications seen against the sky or water are usually more prominent than against a land backdrop.

Variable Effects

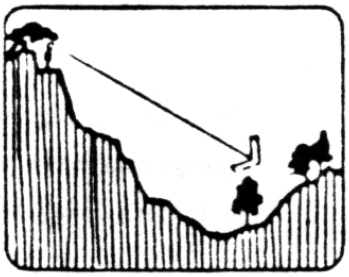
Observer Position - the position of the observer relative to the landscape may be described as:



Inferior (below)



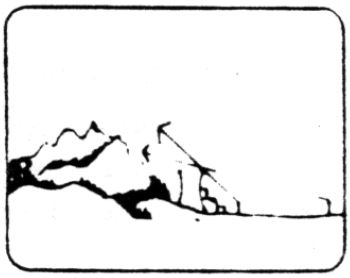
Normal



Superior (above)

A change in position can affect the observer's perceptions of degree of enclosure on an object's degree of spatial dominance. Inferior positions may increase both apparent degree of enclosure and spatial dominance.

Distance - the observer's proximity to elements will affect perception of their spatial importance. Longer viewing distances tend to reduce the impression of spatial enclosure and dominance.



Appendix 1 - Project Description Guidelines

Project proposals, whether site-specific, corridor, or large-scale, must be described using plans, sketches, simulations, or narratives in sufficient detail so that the expected changes in the landscape features (landform/water, vegetation, and structu4es) can be visualized. If a proposal does not contain sufficient detailed information, it must ve obtained or the assumptions clearly documented. Use the following checklist as a guide when identifying the information needed for each proposal:

1. General
    a. Type of project.
    b. Specific location(s).
    c. Proposed methods of operation form preplanning and design through project completion.
    d. Size and magnitude.
    e. Time period of operation, including specific phasing and discrete operation.
    f. Specific committed standard operational procedures of proposal.
    g. Projected ultimate land use and adjacent land use..
2. Specific.
    a. Feature: Landform and Water.
        1. Exact location of undertaking, and depth of excavation and fill (horizontal, vertical, and slope).
        2. Color of the exposed soils, subsoils, bedrock, overburden, or fill material when major excavations or fills are anticipated.
        3. Anticipated water coloration where reservoirs, tailing areas, etc. are planned.
        4. Timing and duration of exposed excavation or fill.
        5. Methods of operation, how long each phase of the operation will last.
        6. Reshaping after use, including final landform appearance (grades, slopes, drainage patterns).
        7.Anticipated ultimate use.
    b. Feature: Vegetation.
        1. Exact location and method of vegetative manipulation (extent of clearing and modification).
        2. Size and magnitude of change.
        3. Type, location, method, quantity, and timing of replacing and/or receding.
    c. Feature: Structures.
        1. Exact locations where structures are to be placed withing the project areas.
        2. Design of structures.
            a. Size and type.
            b. Form.
            c. Texture(s) and color(s) of exterior material and construction method to be used).
        3. Life expectancy.
        4.Operations and maintenance (schedule and methods).

Appendix 2 - VRM Class Objectives

Class I Objective. The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

Class II Objective. The objective to this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Class III Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should bot dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Class IV Objectives. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Appendix 3 - A Sample List of Design Techniques for Mitigating Visual Impacts

A. LANDFORM/WATER BODY.

1. Reduce Size of Cut and Fill Slopes. Consider:
    a. relocating to an area with less slope.
    b. changing road width, grade, etc.
    c. changing alignment to follow existing grades.
    d. prohibiting dumping of excess material on downhill slopes.
2. Reduce Earthwork Contrasts. Consider:
    a. rounding and/or warping slopes.
    b. retaining rocks, trees, drainage, etc.
    c. toning down freshly broken rock faces with asphalt emulsion spray or with gray point.
    d. (dding mulch, hydromulch, or topsoil.
    e. shaping cuts and fills to appear as natural forms.
    f. cutting rock areas so forms are irregular.
    g. designing to take advantage of natural screens (i.e., vegetation, land forms).
    h. grass seeding of cuts and fills.
3. Maintain the Integrity of Topographic Units. Consider:
    a. locating projects away from prominent topographic features.
    b. designing projects to blend with topographic forms in shape and placement.

B. VEGETATION.

1. Retain Existing Vegetation. Consider:
    a. using retaining walls on fill slopes.
    b. reducing surface disturbance.
    c. protecting roots from damage during excavations.
2. Enhance Revegetation. Consider:
    a. mulching cleared areas.
    b. controlling planting times.
    c. furrowing slopes.
    d. planting holes on cut/fill slopes.
    e. choosing native plant species.
    f. stockpiling and reusing topsoil.
    g. fertilizing, mulching, and watering vegetation.
3. Minimize Impact on Existing Vegetation. Consider:
    a. partial cut instead of clear cut.
    b. using irregular clearing shapes.
    c. feathering/thinning edges.
    d. disposing of all slash.
    e. controlling construction access.
    f. utilizing existing roads.
    g. limiting work within construction area.
    h. selecting type of equipment to be used.
    i. minimizing clearing size (i.e., strip only where necessary).

j. grass seeding of cleared areas.

4. Maintain the Integrity of Vegetative Units. Consider:
    a. utilizing the edge effect for structure placement along natural vegetative breaks.

C. STRUCTURES.

1. Minimize the Number of Visible Structures.
2. Minimize Structure Contrast. Consider:
    a. using earth-tone paints and stains.
    b. using cor-ten steel (self-weathering).
    c. treating wood for self-weathering.
    d. using natural stone surfaces.
    e. burying all or part of the structure.
    f. selecting paint finishes with low levels of reflectivity (i.e., flat or semi-gloss).
3. Redesign Structures that do not Blend/Fit. Consider:
    a. using rustic designs and native building materials.
    b. using natural appearing forms to complement landscape character (use special designs only as a last resort).
    c. relocating structure.
4. Minimize Impact of Utility Crossings. Consider:
    a. making crossings at right angles.
    b. setting back structures at a maximum distance from the crossing.
    c. leaving vegetation along the roadside.
    d. minimizing viewing time.
    e. utilizing natural screening.
5. Recognize the Value and Limitations of Color. Consider:
    a. that color (hue) is most effective within 1,000 feet. Beyond that point color becomes more difficult to distinguish and tone or value determines visibility and resulting visual contrast.
    b. that using color has limited effectiveness (in the background distance zone) in reducing visual impacts on structures that are silhouetted against the sky.
    c. painting structures somewhat darker than the adjacent landscape to compensate for the effects of shade and shadow.
    d. selecting color to blend with the land and not the sky.