

5.13 Visual Resources

Visual resources are the natural and cultural features of the environment that can be seen and that contribute to the public's enjoyment of the environment. Visual resource or aesthetic impacts are generally defined in terms of a project's physical characteristics and potential visibility, and the extent that the project's presence would change the visual character and quality of the environment in which it would be located.

This section was prepared following California Energy Commission (CEC) guidelines for preparing visual impact assessments for Applications for Certification (AFC). Section 5.13.1 documents the visual conditions that currently exist in the Chula Vista Energy Upgrade Project (CVEUP) area. Section 5.13.2 discusses the potential environmental effects as they relate to visual resources. Section 5.13.3 discusses the potential cumulative impacts of this and other projects in the area. Section 5.13.4 summarizes the mitigation measures proposed to reduce project impacts on visual resources. Section 5.13.5 describes the laws, ordinances, regulations, and standards (LORS). Section 5.13.6 lists permits required. Section 5.13.7 presents agencies involved and agency contacts. Section 5.13.8 cites the references used in preparation of this section.

Figure 5.13-1 shows the location of the site, the CVEUP's estimated visibility from the surrounding area, and the locations of the Key Observation Points (KOPs) referenced in this section. The existing views and simulated views of the project from the KOPs follow as Figures 5.13-2, 5.13-3, and 5.13-4.

5.13.1 Affected Environment

5.13.1.1 Regional Setting

The CVEUP will be developed within the 3.8-acre property of MMC Energy, Incorporated (MMC) (Figure 1.1-2), which is located in the Chula Vista (City), San Diego County, California. The project site is located within Chula Vista's heavily developed Main Street Industrial Corridor and within the City's Light Industrial zoning district. The site is currently occupied by MMC's Chula Vista Power Plant.

The Main Street Industrial Corridor is part of Chula Vista's heavily developed coastal plain and extends along Chula Vista's southern border. North of the corridor are low to medium/high density residential developments interspersed with some commercial development. To the south is the Otay River Greenbelt, which forms the southern boundary of Chula Vista. The Greenbelt is a hilly upland characterized by chaparral/scrub vegetation and a ravine containing the Otay River channel.

The City of Chula Vista has designated scenic resources such as vistas and roadways to help define the City's visual interest and character. However, these visual resources are either on the coastline or along the hill slopes of the more sparsely developed eastern side of town. With the exception of the San Diego Bay, all scenic vista points and roadways are east of the Interstate 805; these include the Upper and Lower Otay Lakes, Otay and Sweetwater River Valleys, San Miguel Mountains, Sweetwater Road, Bonita Road, East H Street, Telegraph Canyon Road, and Main Street. The closest scenic roadway begins 1.3 miles east of the CVEUP site.

5.13.1.2 Project Site and Linear Routes

The CVEUP site is a 3.8-acre, rectangular parcel that is not highly visible because it is not located along a street and is only accessible via an easement with an adjacent property. At present, the southern portion of the parcel contains a 44.5-megawatt simple-cycle, natural gas-fired peaking power plant that will be removed as soon as the new project comes on line. The new plant will be constructed on a vacant area in the northern portion of the parcel. Some of the facilities that serve the existing plant will be reused for the new power plant including the existing transmission connection; natural gas, water, and sanitary sewer pipelines; gas compressors, utility/control building, stormwater runoff retention basin and the 12,000-gallon aqueous ammonia storage tank and tank refilling station. The property is landscaped with trees along its northern, eastern, and western edges.

The property is surrounded by industrial facilities and storage yards to the north, east, and west. None of these neighboring sites contain features of scenic significance and the level of visual quality is low. The CVEUP site borders the Chula Vista Otay River Greenbelt to the south, the presence of which could create visual interest; however, the character of the overall view is industrial. Further, the project site is already dominated by the industrial character of the existing facility which contains exposed pipelines, tanks, fences, and several other industrial-appearing structures.

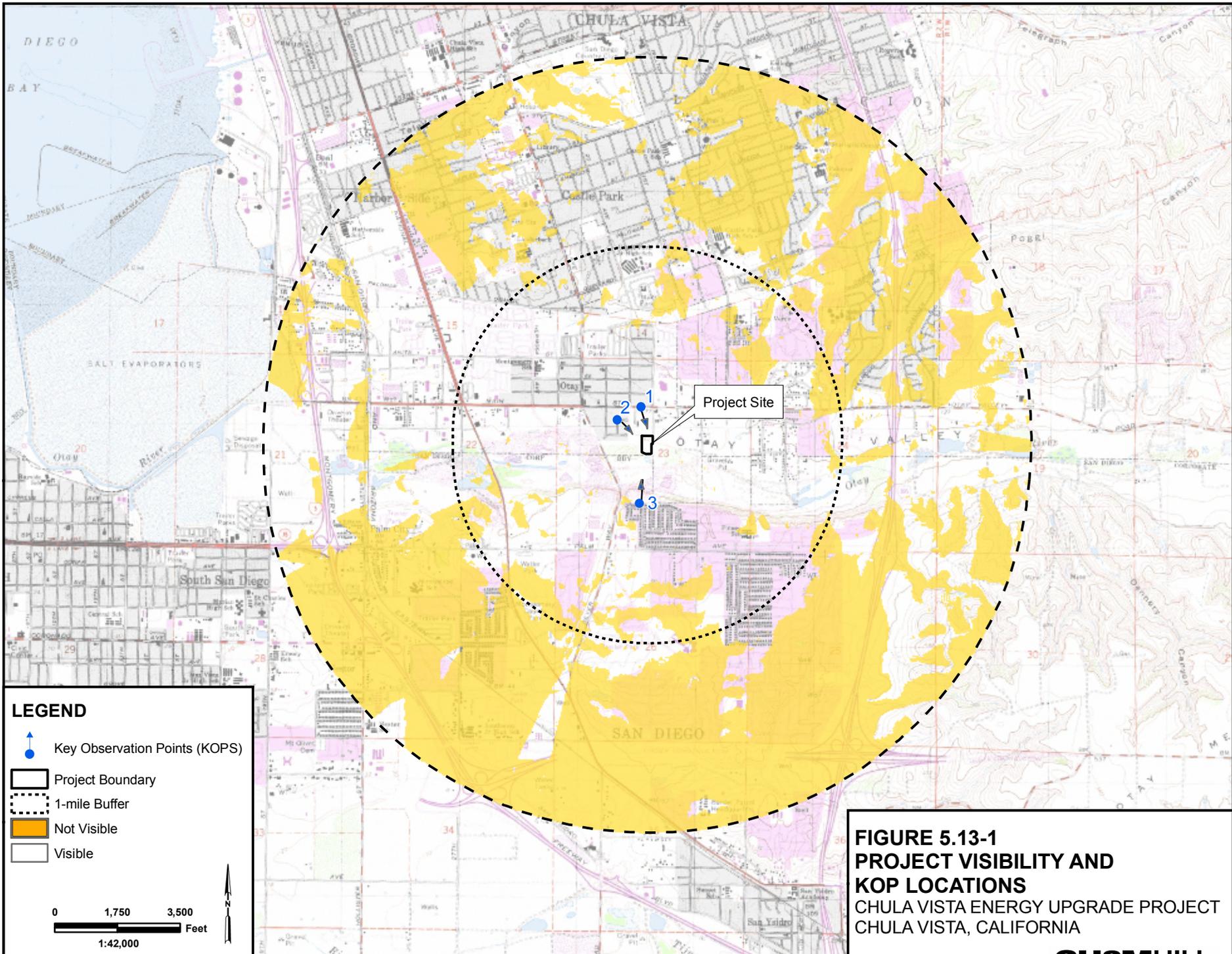
The CVEUP will have no offsite linear appurtenances because the CVEUP will reuse the existing electrical transmission, natural gas, water service, and sanitary sewer pipelines. All connections of the CVEUP to linear facilities will be made on the existing site using the existing facilities.

5.13.1.3 Construction Laydown Area

There are two alternative construction laydown and worker parking areas for the project (see Figure 2.1-7): (1) a currently vacant, 5.0-acre former pallet storage yard immediately south and west of the project site; (2) a 2.75-acre parcel currently used for construction laydown at 2000 Heritage Road in Chula Vista (APN 644-050-11-00), 3.4 miles east of the CVEUP site. A six-foot-high fence will be built in laydown areas to minimize visibility of construction materials.

5.13.1.4 Potential Project Visibility

Figure 5.13-1 is a map that indicates the location of the CVEUP and the nearby areas from which it has the potential to be visible. This map highlights the areas from which views toward the project will be blocked by topography. Though there appears to be visibility of CVEUP within a one-mile radius, these views will be largely obstructed by the large industrial buildings and the trees that line most streets since the terrain is relatively flat. The greatest potential for views of the CVEUP will be from the upland residential neighborhood to the south and from Beyer Way to the southwest. The project will potentially be visible to a small degree from the trail through the Otay River Greenbelt.



5.13.1.5 Sensitive Viewing Areas and Key Observation Points

To structure the analysis of the CVEUP's effects on visual resources, the view areas that would be the most sensitive to the project's potential visual impacts and the sensitive receptors¹ in those areas were identified. Representative viewpoints from these sensitive receptor locations are referred to as KOPs. The three KOPs chosen for this analysis represent the best viewing conditions from the three major areas of viewer sensitivity: the view from Main Street (the major local thoroughfare), the closest residential neighborhood located between Main and Alvoca Streets, and upland residential areas along and south of Cochran and Lindbergh Streets. The locations of the KOPs are indicated on Figure 5.13-1.

Based on field work conducted in February 2007, by LSA Associates, Inc. (LSA), the existing visual conditions of the views from each of the KOPs were documented and evaluated. Assessments of existing levels of scenic quality were made based on professional judgment that took a broad spectrum of factors into consideration, including:

- Natural features, including topography, water courses, rock outcrops, and natural vegetation
- The positive and negative effects of cultural alterations and built structures on visual quality
- Visual composition, including an assessment of the vividness, intactness, and unity of patterns in the landscape²

The final scenic quality ratings assigned to each view fit within the rating scale summarized in Table 5.13-1. Development of this scale builds on a scale developed for use with an artificial intelligence system for evaluation of landscape visual quality (Buhyoff et al., 1994), and incorporates landscape assessment concepts applied by the U.S. Forest Service and the U.S. Department of Transportation.

TABLE 5.13-1
Landscape Scenic Quality Scale

Rating	Explanation
Outstanding Visual Quality	A rating reserved for landscapes with exceptionally high visual quality. These landscapes are significant nationally or regionally. They usually contain exceptional natural or cultural features that contribute to this rating. They are what we think of as "picture post card" landscapes. People are attracted to these landscapes to view them.
High Visual Quality	Landscapes that have high quality scenic value. This may be due to cultural or natural features contained in the landscape or to the arrangement of spaces contained in the landscape that causes the landscape to be visually interesting or a particularly comfortable place for people. These landscapes have high levels of vividness, unity, and intactness.

¹ Typically, residents and recreationists are considered to be sensitive receptors to changes in the landscape. This is because of the potential for effects to their long-term views or their enjoyment of a particular landscape or activity.

² Vividness is the memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern. Intactness is the integrity of visual order in the natural and man-built landscape, and the extent to which the landscape is free from visual encroachment. Unity is the degree to which the visual resources of the landscape join together to form a coherent, harmonious visual pattern. Unity refers to the compositional harmony of intercompatibility between landscape elements. (US DOT FHWA 1988)

TABLE 5.13-1
Landscape Scenic Quality Scale

Rating	Explanation
Moderately High Visual Quality	Landscapes that have above average scenic value but are not of high scenic value. The scenic value of these landscapes may be due to man-made or natural features contained within the landscape, to the arrangement of spaces, in the landscape or to the two-dimensional attributes of the landscape. Levels of vividness, unity, and intactness are moderate to high.
Moderate Visual Quality	Landscapes, that are common or typical landscapes that have, average scenic value. They usually lack significant cultural or natural features. Their scenic value is primarily a result of the arrangement of spaces contained in the landscape and the two-dimensional visual attributes of the landscape. Levels of vividness, unity, and intactness are average.
Moderately Low Visual Quality	Landscapes that have below average scenic value but not low scenic value. They may contain visually discordant man-made alterations, but these features do not dominate the landscape. They often lack spaces that people will perceive as inviting and provide little interest in terms of two-dimensional visual attributes of the landscape.
Low Visual Quality	Landscapes that have below average scenic value. They may contain visually discordant man-made alterations, and often provide little interest in terms of two-dimensional visual attributes of the landscape. Levels of vividness, unity, and intactness are below average.

Note: Rating scale based on Buhyoff et al., 1994; U.S. DOT Federal Highway Administration, 1988, and United States Department of Agriculture Forest Service. 1995.

5.13.1.5.1 KOP-1 – View from Main Street

Figure 5.13-2A depicts the view from KOP-1, located approximately 1,030 feet northwest of the CVEUP site. This viewpoint was selected because it has the most unobstructed view of the project from the closest major public roadway and from the residences north of Main Street. KOP-1 is located along Main Street midway between Banner and Albany Avenues and looks southwest toward the project area. This view is seen by residents as they exit their neighborhood by way of Main Street. Because this viewpoint is accessible to the most people on Main Street, it provides the basis for developing a “worst case” assessment of the CVEUP’s visual effects on this area.

The existing view in this location is commercial and industrial in character. The foreground is dominated by a parking lot surrounded by a chain-link fence and billboards for a local business. The middleground is dominated by industrial warehouses, power lines, and trees. The visual quality of this view is moderately low to low. The large number trees planted in the middleground contributes to a moderately high level of vividness, but the presence of the chain-link fence, industrial buildings, billboards, and power lines creates a low level of visual intactness, and because the elements of the view do not add up to a coherent whole, the level of visual unity is low as well.

Because of the screening effect of the industrial structures and trees, the number of residential properties in this area from which the project has the potential to be visible is relatively small, probably numbering no more than about a dozen. However, the CVEUP has the potential to be seen from some street segments, particularly, the portion of Main Street seen in this KOP view. Main Street is a major arterial traveled by approximately 22,000 people per day – mostly commuters and workers. Because this view is the view seen from a residential neighborhood, the level of visual sensitivity is high.



A. KOP-1. Existing view toward the project site from Main Street at the corner of Banner Avenue



B. KOP-1. Simulated view toward the project site from Main Street at the corner of Banner Avenue



A. KOP-2. Existing view toward the project site from Ancurza Way



B. KOP-2. Simulated view toward the project site from Ancurza Way



A. KOP-3. Existing view toward the project site from the northern end of Cochran Avenue



B. KOP-3. Simulated view toward the project site from the northern end of Cochran Avenue

5.13.1.5.2 KOP-2 – View from Residential Neighborhood to the Northwest

Figure 5.13-3A is the view from KOP-2, a viewpoint at the intersection of Teenan Drive and Ancurza Way, approximately 800 feet northwest of the project site. This view is intended to be representative of views from the closest residential area, the single-family homes located along Alvoca Street, Ancurza Way, and Del Monte Avenue. In this view, the project site is identifiable as the open space above the roof line of the house in the foreground. Views like this one are visible from perhaps forty or more backyards, and from limited areas of some streets.

The foreground of this view is characterized by a cracked street and a house with a heavily vegetated front yard and a power line running over it. The middleground is characterized by more power lines and a large industrial warehouse bordering the housing tract. The visual quality of this view is moderately low. Though the vegetation in the foreground provides a moderate level of vividness, the cracked street, power lines, and industrial development contribute to a low level of visual unity. Because of the presence of a high number of visually contrasting elements in the view, the level of visual intactness is low.

Because this view represents the views from residential neighborhoods, the level of visual sensitivity is high.

5.13.1.5.3 KOP-3 – Southern Hills

Figure 5.13-4A is the view from KOP-3, a viewpoint where Cochran Avenue dead-ends into the Otay River Greenbelt. This viewpoint is located approximately 1,300 feet directly south of the CVEUP site, and is representative of views toward the project site from the neighborhoods of single-family dwellings on the hillsides overlooking Chula Vista from the south. This view represents a worst case scenario for this residential district because there are no backyard fences to obstruct the view of the CVEUP site from this vantage point. There may be twenty or more residential properties in the southern hills that have views toward the project site similar to this one and similar views may be found along Cochran Street.

In this view, the CVEUP site is identifiable as the area between two large industrial warehouse compounds in the mid background of the view. The foreground and middleground of this view are open space characterized by natural chaparral/scrub vegetation. In the middle background, Chula Vista's industrial corridor is visually dominant and characterized by a series of large industrial warehouses. In the far distance, the city of Chula Vista stretches to the horizon. The visual quality of this view is moderate. The open space and natural vegetation in the fore and middleground create a moderately high level of vividness. The concentration of large warehouse structures in the middle background of the view reduces the degrees of visual unity and intactness to levels that are moderate. Because this view represents the views from residential neighborhoods, the level of visual sensitivity is high.

5.13.2 Environmental Consequences

5.13.2.1 Analysis Procedure

This assessment of the proposed project's potential effects on visual resources was conducted by applying the systematic method for evaluating the potential aesthetic effects of proposed power plant projects that has been adopted by the staff of the CEC. This

methodology, which the CEC first applied in its evaluation of the impacts of the Roseville Energy Park Project, is summarized in Appendix 5.13A.

As an initial step in the evaluation process, planning documents (including City of Chula Vista documents) applicable to the project area were reviewed to gain insight as to the type of land uses intended for the area, and the guidelines given for the protection or preservation of visual resources. Consideration was then given to the existing visual setting within the project viewshed, which is defined as the geographical area in which the project can be seen. An assessment was then made of the visual changes that the project would cause to determine impact significance, following the four California Environmental Quality Act (CEQA) Guidelines checklist questions listed below. Appendix 5.13A provides a more complete description of the visual resources evaluation process that was followed.

Potential project impacts were evaluated using a KOP analysis, among other tools and information sources. Site reconnaissance was conducted by LSA to view the site and surrounding area, to identify potential key observation points, and to take representative photographs of existing visual conditions. A single-lens reflex 35-mm camera with a 50-mm lens (view angle 40 degrees) was used to shoot site photographs.

Photographs are presented to represent the “before” conditions from each KOP. Visual simulations were produced to illustrate the “after” visual conditions from each of the KOPs, to provide the viewer with a clear image of the location, scale, and visual appearance of the proposed project. These simulation images represent the project’s appearance in the period immediately after completion of construction and installation of the landscaping. The computer-generated simulations are the result of an objective analytical and computer modeling process described briefly below. The images are accurate within the constraints of the available site and project data.

Computer modeling and rendering techniques were used to produce the simulated images of the views of the site as they would appear after development of the project. Existing topographic and site data provided the basis for developing an initial digital model. The project engineers provided site plans and digital data for the proposed generation facility, and site plans and elevations for the components of the transmission system. These were used to create three-dimensional (3-D) digital models of these facilities. These models were combined with the digital site model to produce a complete computer model of the generating facility and portions of the overhead transmission system.

For each viewpoint, viewer location was digitized from topographic maps and scaled aerial photos, using 5 feet as the assumed eye level. Computer “wire frame” perspective plots were then overlaid on the photographs of the views from the KOPs to verify scale and viewpoint location. Digital visual simulation images were produced as a next step, based on computer renderings of the 3-D model combined with high-resolution digital versions of base photographs. The final “hardcopy” visual simulation images that appear in this AFC document were produced from the digital image files using a color printer.

Once all potential impacts were examined, a determination was made as to whether any impacts would reach a level that would be significant under CEQA’s standards, and thus require mitigation beyond that proposed as a part of the initial project design. Under CEQA, any required mitigation must be specific to an identified impact, and must be feasible.

5.13.2.2 Impact Evaluation Criteria

The following criteria from the CEQA Guidelines were considered in determining whether a visual impact would be significant.

The CEQA Guidelines define a “significant effect” on the environment to mean a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including... objects of historic or aesthetic significance” (CCR tit. 14, § 15382).

Appendix G of the CEQA Guidelines, under Aesthetics, lists the following four questions to be addressed regarding whether the potential impacts of a project are significant:

1. Would the project have a substantial adverse effect on a scenic vista?
2. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?
3. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
4. Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

5.13.2.3 Project Appearance

5.13.2.3.1 Project Structures and Dimensions

The proposed project facilities are described in detail in Chapter 2.0, Project Description. Figure 2.1-1 shows the general arrangement and layout of the proposed project features on the site, and Figure 2.1-2 provides typical elevation views. Table 5.13-2 summarizes the dimensions, finishes, and materials of the generating facility’s major features.

TABLE 5.13-2
Approximate Dimensions and Colors, Materials, and Finishes of the Major Project Features

Feature	Height (feet)	Length (feet)	Width (feet)	Diameter (feet)	Color	Materials	Finish
Gas Turbine Generator	34	45	35	—	Gray	Metal	Flat/Untextured
Black Start Generator	10	10	29	—	Gray	Metal	Flat/Untextured
Stacks	70	—	—	10	Gray	Metal	Flat/Untextured
Demineralized Water Tank	21	—	—	29	Gray	Metal	Flat/Untextured
Demineralized Water Trailers	12	40	10	—	Gray	Metal	Flat/Untextured
Selective Catalytic Reduction Unit	31	52	18	—	Gray	Metal	Flat/Untextured
Fuel Gas Recycle Cooler	9.5	15	15	—	Gray	Metal	Flat/Untextured
Electrical Control Building	15	30	60	—	Gray	Metal	Flat/Untextured
Electrical Take off & Stepup Transformer	17.5	13	17	—	Gray	Metal	Flat/Untextured

The exteriors of all major project equipment will be treated with a neutral gray finish intended to optimize its visual integration with the surrounding environment. The project will be surrounded by a chain-link security fence, and access will be provided by a gated driveway from the easement on the east side.

5.13.2.3.2 Transmission Line

The CVEUP will tie in to an existing 69-kilovolt transmission line, which is located along the eastern boundary of the project site. No new transmission lines will be required.

5.13.2.3.3 Pipelines

The CVEUP will reuse the existing electrical transmission, natural gas, water service, and sanitary sewer pipelines. All connections of the CVEUP to linear facilities will be made on the existing site using the existing facilities.

5.13.2.3.4 Construction Laydown Area

As detailed in Section 2.1.14, construction of the CVEUP is to take place during the 8-month period extending from the third quarter of 2008 to the second quarter of 2009. During the construction period, two alternative site exist for construction worker parking and laydown of equipment, the area immediately to the southeast of the project site and an area three miles east of the project site. During this time, construction materials, construction equipment, trucks, and parked vehicles will be visible on these sites.

5.13.2.3.5 Landscaping

The Development Plan that will be prepared for review by the City of Chula Vista will include a detailed landscape plan that will respond to the City's specific site plan and landscaping requirements. The perimeter will be planted with trees and shrubs. After construction is complete, all construction debris will be removed from the laydown area.

5.13.2.3.6 Lighting

Although the proposed power plant is a simple-cycle unit, it could be operated 24 hours per day, 7 days per week for periods of time. The plant's operation will require onsite nighttime lighting for safety and security. The lighting system provides personnel with illumination for operation under normal conditions and for egress under emergency conditions, and includes emergency lighting to perform manual operations during an outage of the normal power source. The system also provides 120-volt convenience outlets for portable lamps and tools.

To reduce offsite lighting impacts, lighting at the facility will be restricted to areas required for safety, security, and operation. Exterior lights will be hooded, and lights will be directed onsite so that significant light or glare would be minimized. Low-pressure sodium lamps and fixtures of a non-glare type will be specified. For areas where lighting is not required for normal operation, safety, or security, switched lighting circuits will be provided, thus allowing these areas to remain unilluminated (dark) at most times, minimizing the amount of lighting potentially visible offsite.

Project construction activities are planned to occur between 6:00 a.m. and 7:00 p.m., Monday through Saturday. During some construction periods and during the startup phase of the project, some activities will continue 24 hours a day, 7 days a week. During periods when nighttime construction activities take place, illumination that meets state and federal worker safety regulations will be required. To the extent possible, the nighttime construction

lighting will be erected pointing toward the center of the site where activities are occurring, and will be shielded. Task-specific lighting will be used to the extent practical while complying with worker safety regulations.

5.13.2.3.7 Water Vapor Plumes

Experience with plants of this type has demonstrated that the high velocity and temperature of the stack exhaust result in a quick dispersion of stack plumes, minimizing the probability that a visible plume would be created above the stacks. Based on previous experience with these kinds of systems, it is likely that formation of visible plumes from the project would be a rare occurrence related to unusual combinations of cold and damp conditions, and that when present, the plumes would be relatively small.

Because the CVEUP will be a peaking plant, it is expected that it will operate at no more than a 35 percent annual capacity factor. Most similar peaking power plants in California have historically operated at much lower capacity factors than this (see Section 1.0, Executive Summary).

It is anticipated that much of the time that the plant operates will be during the summer during hours when temperatures, and thus electric loads, are high. Because plume formation only takes place at times when ambient temperatures are low, there is little potential for plume formation during the high temperature periods when the plant is most likely to be in operation.

5.13.2.4 Assessment of Visual Effects

5.13.2.4.1 KOP-1 – View from Main Street

Figure 5.13-2A presents a photo of the existing view toward the project site from Main Street (Photo A) and a simulation of the view as it would appear during the project's operational period (Photo B). Comparison of the two images indicates that when the proposed project is in place, the change to the view will be relatively subtle. The only portion of the CVEUP that would be visible would be the tops of the plant's exhaust stacks which will extend above trees in the middleground of the view. Because the stacks will be in scale with the existing structures visible from this viewpoint such as the billboards, trees, and industrial warehouses, there will be no detectable change to the character of this view. In addition, because these new features do not remove any valued elements of the view, do not block views of valued features in the background, and do not substantially change the composition of this view, there will be essentially no change to the view's existing levels of vividness, unity, and intactness, and overall level of visual quality. As a consequence, the level of visual impact to this view will be minimal and less than significant.

5.13.2.4.2 KOP-2 – View from Residential Neighborhood to the Northwest

Figure 5.13-3B presents a photo of the existing view toward the project site from the closest residential neighborhood (Photo A) and a simulation of the view as it would appear during the project's operational period (Photo B). Comparison of the two images indicates that when the proposed project is in place, the change to the view will be minor. In the area to the right of the center of the view, the top portion of the power plant stacks will be visible behind the roof line of the house in the foreground. The tops of the stacks will be the only element of the CVEUP visible from this vantage point. The stacks are noticeable because the landscape is otherwise uncomplicated. However, the neighborhood already had an

industrial character due to the power lines and industrial warehouse. Therefore, though there will be some change the unity of the view, there will be little change to the view's levels of vividness and intactness, and overall level of visual quality. As a consequence, the level of visual impact to this view will be less than significant.

5.13.2.4.3 KOP-3 – Southern Hills

Figure 5.13-4A presents a photo of the existing view toward the CVEUP site from the upland residential neighborhood to the south (Photo A) and a simulation of the view as it would appear during the project's operational period (Photo B). Comparison of the two images indicates that when the proposed project is in place, the change to the view will be relatively small. In the area to the upper left of the center of the view, the facility can be seen in an area between two industrial warehouse complexes. The CVEUP is visible as distant grey vertical elements in an industrial park. Because all of the project features visible from this viewpoint will be in scale with the surrounding structures, there will be no detectable change to the character of this view. In addition, because these new features do not block views of valued features in the landscape such as the natural vegetation in the foreground, nor do they alter the existing skyline, there will be essentially no change to the view's existing levels of vividness, unity, and intactness, and overall level of visual quality. As a consequence, the level of visual impact to this view will be minimal.

5.13.2.4.4 Light and Glare

The project's effects on visual conditions during hours of darkness will be limited. As indicated in Section 5.13.2.3.6, some night lighting would be required for operational safety and security. There would be additional visible lighting associated with the project stacks, and open site areas. High illumination areas not occupied on a regular basis would be provided with switches or motion detectors to light these areas only when occupied. At times when lights are turned on, the lighting would not be highly visible offsite and would not produce offsite glare effects. The offsite visibility and potential glare of the lighting would be restricted by specification of non-glare fixtures and placement of lights to direct illumination into only those areas where it is needed. With construction of the CVEUP, the overall change in ambient lighting conditions at the project site, as viewed from nearby locations and from vantage points in the hills overlooking the valley, would not be substantial.

Lighting that may be required to facilitate nighttime construction activities would, to the extent feasible and consistent with worker safety codes, be directed toward the center of the construction site and shielded to prevent light from straying offsite. Task-specific construction lighting would be used to the extent practical while complying with worker safety regulations. In spite of these measures, there may be limited times during the eight-month construction period when the project site may appear as a brightly lit area as seen in views from surrounding hillside residential areas.

5.13.2.4.5 Water Vapor Plumes

Because the proposed CVEUP is a simple-cycle plant, there is no cooling tower to produce water vapor plumes. The only source of water vapor plumes would be exhaust stacks, which have the potential to create small visible plumes when the power plant is operating at times of low temperature and high humidity. Moreover, the amount of time the proposed project is likely to produce plumes will be limited by the facts that, as a peaker plant, the CVEUP is expected to operate no more than 35 percent of the time, and that much of its

operating time will take place on hot days during the summer when electric loads are the greatest. Coincidentally, these hot summer days are the times at which plumes are the least likely to form.

In its evaluation of the Roseville Energy Park Project (03-AFC-01), the standard that CEC staff applied in evaluating the visual impacts of visible steam plumes was that plume impacts are significant if plumes occur more than 20 percent of seasonal (October through March) daylight, no rain/fog, high visual contrast (i.e. clear) hours.³ Given the plant's expected operational regime, it is highly unlikely that the plant would be operated more than 20 percent of the non-rain, non-fog, clear daylight hours during the period from October through March, and that, as a consequence, it is very unlikely that visible steam plumes would be present during more than 20 percent of these hours.

5.13.2.5 Impact Significance

A discussion regarding whether the visual effects of the project would be significant pursuant to CEQA is provided below. The assessment of these impacts has been structured by applying the criteria set forth in Appendix G of the CEQA Guidelines. The CEQA Guidelines define a "significant effect" on the environment to mean a "substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including objects of historic or aesthetic significance." (14 CCR 15382) The four questions related to aesthetics that are posed for lead agencies and the answers to them are:

Would the project have a substantial adverse effect on a scenic vista?

No. There are no State-designated scenic roads or vista points in the nearby (2-mile radius) project viewshed.

Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No. This question does not apply to the proposed CVEUP because none of the project facilities fall within the boundaries of a state scenic highway.

Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No. The site itself is a flat parcel in an area devoted to industrial and warehouse uses and does not contain any resources of scenic significance that would be affected by the CVEUP.

As indicated above, the CVEUP will be visible in views from KOPs -1, -2, and -3. However, the project's facilities will not dominate these views, and will, to varying degrees be visually absorbed into the overall setting. The presence of the project will alter the visual character of the views from the nearby residential area (KOP-2) and from the southern hills (KOP-3) to a small degree, adding visible stacks into views where they do not now exist, making the views seem somewhat more industrial in character. Because there will be a higher degree of visual absorption of the project's facilities into

³ California Energy Commission. 2004. Final Staff Assessment for the Roseville Energy Park. p. 4.12-13p

the views from the southern hills (KOP-1), the degree of change in the visual character of views from this area will be relatively low. Overall, the CVEUP will have a limited effect on the visual quality of the views from these areas. In the views from the residential areas (KOP-2 and KOP-3), there will be a slight diminishment in the quality of the view, but this change will not be substantial and thus will not be significant.

As discussed previously, given the plant's expected operational regime, it is highly unlikely that the plant would be operated more than 20 percent of the non-rain, non-fog, clear daylight hours during the period from October through March, and that, as a consequence, it is very unlikely that visible steam plumes would be present during more than 20 percent of these hours, staying below the threshold the CEC has established for significant impacts related to the presence of steam plumes.

Would the project create a new source of substantial light and glare that would adversely affect day or nighttime views in the area?

No. As described in Section 5.13.2.4.4, project light fixtures will be restricted to areas required for safety, security, and operations. Lighting will be directed onsite; it will be shielded from public view, and non-glare fixtures and use of switches, sensors, and timers to minimize the time that lights not needed for safety and security are on will be specified. These measures will substantially reduce the offsite visibility of project lighting.

The nighttime visibility will further be reduced by the high sound wall that will be left in place around the site's perimeter. Because the generation facility now on the site has nighttime illumination, the lighting associated with the proposed project is not likely to create a substantial change in nighttime lighting at the site. Given the limited level of lighting proposed for the project, the measures that will be taken to minimize offsite effects, and the minimal level of change from existing conditions, the CVEUP's night lighting impacts will be less than significant.

Because none of the major project features will have surfaces that are highly reflective, the project will not be a source of daytime glare.

Any lighting that will be installed to facilitate nighttime construction activities will, to the extent feasible and consistent with worker safety codes, be directed toward the center of the construction site and shielded to prevent light from straying offsite. Task-specific construction lighting will be used to the extent practical while complying with worker safety regulations. Because of these impact attenuation measures, the fact that construction will take place behind a sound wall, the short (less than eight-months) construction period, the construction lighting will not create a significant impact.

5.13.3 Cumulative Effects

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Pub. Resources Code § 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15065(c), 15130, and 15355).

Applications for 26 proposed projects have been filed in the City of Chula Vista. These are mostly residential development projects, with some commercial developments, and one

warehouse development and one manufacturing development. One of these projects, a proposed sewing manufacturing and wholesale sales business, is located within 1,000 feet of the CVEUP.

The project area is currently built out and surrounding uses in the Main Street industrial corridor are consistent with the CVEUP's use. Additional plans for development, such as the proposal for the nearby sewing manufacturing business, would be likely call for newer and larger structures in the project area. Because the CVEUP is located away from major streets and is not particularly visible from sensitive viewing areas, it does not itself cause significant adverse visual impacts. Any new development would be likely to provide additional screening of the CVEUP, thus reducing its visibility and contrast with the surrounding area. There are no known projects that would remove surrounding structures and make the project. For these reasons, the CVEUP will not cause any adverse cumulative visual resources impacts.

5.13.4 Mitigation Measures

This analysis has documented the fact that no significant visual impacts will result from implementation of the proposed project. Therefore, no mitigation measures are proposed. However, project implementation will be subject to City planning regulations. Specifically, a Development Plan will be prepared and submitted to the City for review and comment and CEC Compliance Project Manager for review and approval before construction begins. The site plan will comply with all applicable provisions of the City of Chula Vista Municipal Code, including provisions related to landscaping and project appearance.

5.13.5 Laws, Ordinances, Regulations, and Standards

This subsection describes the LORS relevant to the visual resource issues associated with the CVEUP. No federal, state, or regional visual resource LORS exist. However, visual resource and urban design concerns applicable to the project are addressed in the City of Chula Vista General Plan and Chula Vista Zoning Ordinance.

As indicated in the Land Use analysis (Subsection 5.6), the CVEUP site is located within the city limits of the City of Chula Vista. The project's natural gas line, water line, and electric transmission lines are also located in the City.

Table 5.13-3 lists the City plans and ordinances that are pertinent to the project elements. The specific provisions of each plan or ordinance that have potential relevance to the project are identified in Sections 5.13.5.1 and 5.13.5.2.

TABLE 5.13-3
Applicable Laws, Ordinances, Regulations, and Standards for Visual Resources

LORS	Purpose	AFC Section Explaining Conformance	Agency Contact
City of Chula Vista	Describes policies for land use, housing, public facilities and services, transportation, open space and conservation, city design, noise, safety, and implementation for the plan area.	Section 5.13.5.2	Mr. Jim Sandoval, Planning Director or Mr. Brad Remp, Assistant Director of Building & Housing Planning and Building Department Public Services Building 276 Fourth Ave Chula Vista, CA 91910 (619) 691-5101
City of Chula Vista	Establishes zoning districts governing land use and requirements for buildings and district improvements.	Section 5.13.5.3	Same as above

5.13.5.1 City of Chula Vista General Plan

The generating facility site and the linear facilities associate with the project are all located within an existing industrial area within the city limits of Chula Vista, and are, therefore, subject to the provisions of the City of Chula Vista General Plan. The project site is designated Limited Industrial according to the General Plan. The provisions of the City's General Plan that are applicable to the project are summarized and evaluated in Table 5.13-4.

TABLE 5.13-4
Conformity with the City of Chula Vista General Plan

Provision	Conformity?
Vision and Themes 1 and 8: The perpetuation and instigation of programs to beautify the City of Chula Vista through land use distribution, urban design, and neighborhood preservation. Development must be done in a manner that respects the character, scale, and historical value of the City.	Yes. The project will not affect the City's ability to implement programs to beautify the City and to conserve natural resources and open space since the project will be located in a corridor zoned for industrial uses and in a parcel already containing industrial development.
Vision and Themes 5: To preserve undeveloped open space and beautiful views through the Chula Vista Greenbelt.	Yes. Though the southern portion of the project area borders the Greenbelt, the project area is not visible from any trails because they are at a lower elevation in the Otay River arroyo and because of dense vegetation in the arroyo.
Community Image and Character Element: Enhance City's appearance by improving the visual quality of certain roads by giving them specific design treatments and designating them gateways and entryways.	Yes. The project will not be located within view of any designated gateways or entryways.

Sources: City of Chula Vista, 2005.

5.13.5.2 City of Chula Vista Zoning Ordinance

The CVEUP site lies within the Limited Industrial (I-L) Zone established by the City of Chula Vista Zoning Ordinance. The provisions of the ordinance that are applicable to the project are discussed in detail in Section 5.8, Land Use, and summarized in Table 5.13-5.

TABLE 5.13-5
Conformity with the City of Chula Vista Zoning Ordinance

Provision	Conformity?
CVMC 19.44.070 Height Regulations:	
No building or structure shall exceed three and one half stories or 45 feet.	Yes. The proposed project falls under the exemption to the height limitation since it is an electric generating station.
Height limitations shall not apply to electric generating stations (§19.16.040).	
CVMC 19.44.080 Area, lot coverage, and yard requirements	
The following minimum requirements shall be observed on 10,000-foot lots: no more than 50% lot coverage, 20-foot setbacks for front, and 15-foot setbacks for exterior side yard.	Yes. The project would conform to the coverage and setback requirements.
CVMC 19.44.110 Setbacks from residential or agricultural zone – Loading facilities	
In any I-L zone directly across the street from any R or A zone, or areas designated for future residential or agricultural development, the loading facilities and structures shall be a distance of at least 30 feet from the street.	Yes. This setback requirement does not apply to the project since it is not across the street from either residential or agricultural development.
CVMC 19.44.130 Site plan and architectural approval	
All developments in industrial zones are subject to a Design Review. The Design Manual and Landscape Manual must be used in conjunction with the city's development standard.	Yes. Although the project is subject to California Energy Commission jurisdiction, not City of Chula Vista, the project will follow the City's Design Manual and Landscape Manual.
Principles to be observed (CVMC 19.14.470) include the following:	
1) Good design character is based upon the suitability of building and site design for its purposes; upon the appropriate use of sound materials; and upon the principles of harmony and proportion in the overall design.	Yes. The proposed project design and location conform to its purposes as an industrial facility. Appropriate materials will be chosen as well as harmonious and proportional design.
2) The siting of any structure on the property, as compared to the siting of other structures in the immediate neighborhood, shall be considered.	Yes. The proposed project layout harmonizes with the siting of other industrial structures in the immediate neighborhood.
3) The size, location, design, color, number, lighting and materials of all signs and outdoor advertising structures shall be reviewed.	Yes. The buildings on the project site will have neutral finishes to minimize their visibility.
4) No sign shall be approved in excess of the maximum limits set by any ordinance of the city.	Yes. The project's signs will conform to this standard.

TABLE 5.13-5
Conformity with the City of Chula Vista Zoning Ordinance

Provision	Conformity?
<p>CVMC 17.28.020 Industrial or commercial operations – Lights to be shielded when</p> <p>It is unlawful for any commercial or industrial operation to display lights in such a manner so that the beams or the rays from the light source shall be directed to and unshielded from adjacent residential properties. All light sources used for advertising, security or safety purposes shall be arranged or shielded in such a manner so that they will not constitute a public nuisance for residential property owners.</p>	<p>Yes. Lights will be shielded and conform to this standard.</p>
<p>CVMC 19.44.150 Outdoor storage.</p> <p>Outdoor storage and sales yards in an I-L zone shall be completely enclosed by solid walls, fences or buildings, or a combination thereof, not less than six feet in height. No merchandise, materials, equipment or other goods shall be stored or displayed higher than the enclosing fence.</p>	<p>Yes. Materials will be stored outdoors construction phase of the project in the laydown areas will be enclosed by a six-foot fence. No materials will be visible above the top of the fence.</p>
<p>CVMC 19.58.360 Zoning wall or fence.</p> <p>A six-foot-high minimum solid masonry wall subject to the provisions of CVMC 19.58.150 shall be erected along the property line or zoning boundary to separate any C or I zones and/or uses from adjacent residential zones.</p>	<p>Yes. This ordinance does not apply since the project area will not border residential zones.</p>
<p>City of Chula Vista Design Manual</p> <p>The City of Chula Vista sets out a Design Review process to insure that industrial development is fully integrated with the community both functionally and aesthetically. The standards insure that projects are harmonious in character and scale with the adjoining neighborhoods; functional circulation and parking areas; and high quality architectural design and the screening and buffering of unsuitable elements for public viewing such as equipment and chain link fences.</p>	<p>Yes. The project plan harmonizes character of the surrounding neighborhood since it is located in an industrial corridor. Further, the project will not be directly visible from any public street. Nevertheless, all mechanical equipment and construction materials will be screened by fencing. The chain link fence will be buffered by neutral colored slats and by landscaping.</p>
<p>City of Chula Vista Landscape Manual (CVMC 19.44.120)</p> <p>The City of Chula Vista sets out a Landscape Review process for landscaping and irrigation plans. It specifies plant selection, irrigation elements, water management strategies, and maintenance standards.</p>	<p>Yes. The project's landscape plan will adhere to these standards.</p>

Source: City of Chula Vista, 1994a, 1994b, and 2006.

5.13.5.3 Summary of Project's Conformity with Applicable LORS

The project complies with applicable laws, ordinances, regulations, and standards related to visual resource issues.

5.13.6 Permits Required

The required permit that is of the most direct relevance to visual resource issues is the Design Review, which includes site plan, architectural, and landscape elements.

TABLE 5.13-6
Visual Resources-Related Permits Needed for Project Approval

Permit or Approval	Schedule	Agency Contact	Applicability
Design Review including Site Plan and Landscape Plan review	Prior to construction	Mr. Jim Sandoval City of Chula Vista Planning Department Public Services Building 276 Fourth Ave Chula Vista, CA 91910	Review of site plan, architecture, and landscaping and issuance of approval

5.13.7 Involved Agencies and Agency Contacts

The agency responsible for the Design Review is the City of Chula Vista (Table 5.13-7).

TABLE 5.13-7
Involved Agencies and Agency Contacts for Visual Resources

Agency	Contact/Title	Telephone
City of Chula Vista Planning Department Public Services Building 276 Fourth Ave Chula Vista, CA 91910 http://www.chulavista.gov	Mr. Jim Sandoval, Planning Director Mr. Brad Remp, Assistant Director of Building and Housing	(619) 691-5101

5.13.8 References

Buhyoff, G. J., P. A. Miller, J. W. Roach, D. Zhou, and L. G. Fuller. 1994. An AI Methodology for Landscape Visual Assessments. *AI Applications*. Vol. 8, No. 1., pp. 1-13.

California Energy Commission. 2004. Final Staff Assessment for the Roseville Energy Park Project – Visual Resources chapter.

City of Chula Vista. 1994a. Design Manual. September 6.

City of Chula Vista. 1994b. Landscape Manual. November.

City of Chula Vista. 2005. Chula Vista General Plan. December.

City of Chula Vista. 2006. Chula Vista Municipal Ordinance. Code Publishing Inc. June 6.

United States Department of Agriculture Forest Service. 1995. Landscape Aesthetics: A Handbook for Scenery Management. Agriculture Handbook No. 701. December.

United States Department of Transportation Federal Highway Administration. 1988. Visual Impact Assessment for Highway Projects.