

5.3 VISUAL RESOURCES

5.3.1 Affected Environment

The ROI includes all areas within the line of sight of all proposed SBCT activities or changes at SBMR. Because SBCT activities at SBMR would be within or adjacent to the lands there, the ROI is limited to areas on the installation, adjacent valley areas, and adjacent forest preserve areas. Within the ROI are areas of high population density (Wahiawā) and major roadways (Kunia Drive, Wilikina Drive, and Kaukonahua Highway).

SBMR is within the planning area of the Central O‘ahu Sustainable Communities Plan of the General Plan for the City and County of Honolulu. The Central O‘ahu Sustainable Communities Plan states that visual landmarks and significant vistas should be preserved and that for lands designated as military in the planning area, including SBMR, “the visibility of security fencing and utilitarian military facilities from off-base should be minimized through the planting of a landscape screen, consisting of trees and hedges, along highway frontages” (City and County of Honolulu 2000b, 3-77).

Landscape Character

Schofield Barracks Military Reservation

The visual landscape on SBMR is largely characterized by developed features in the valley, with the rugged Wai‘anae and Ko‘olau Mountains dominating the background.

The western portion of SBMR, where proposed SBCT development would occur, is devoted to military training activities (Belt Collins 1993, IV-33). This area extends from the valley floor into the rugged portions of the Wai‘anae Range. This area has been highly modified to support training and includes scattered structures, roads, and other support facilities. It is devoid of vegetation in large areas, while other areas consist of mixed grassland, low shrubs, and trees that have a random arrangement, a coarser texture and an overall pattern of subtle color variation. This area is bounded on the east by the developed urban features of the cantonment area, including housing and administrative, maintenance, and supply facilities. The area is heavily disturbed but from a distance it provides little contrast with the surrounding area. Although this area offers panoramic views of the surrounding mountains, the overall visual quality of the areas proposed for development is low due to extensive modification to the landscape.

The Wai‘anae and Ko‘olau Ranges are distinct background features in all views. Notable landforms found in the Wai‘anae Range include Pu‘u Kānehoa, Pu‘u Hāpapa, Maunauna, Pu‘u Kūmakali‘i, Pu‘u Kalena, and Pu‘u Pane. These features have rugged angular forms, and, because they are nearby and steeply sloping, they dominate the view from the valley below. The pu‘u and ridges of the Ko‘olau Range are background features to the east and are visually similar to the Wai‘anae Range; however, the Ko‘olau Range is at a greater distance from SBMR, and most of the visual detail is lost.

Lands surrounding SBMR are also highly developed. Buildings, roads, agricultural features, power lines, and other human-made features associated with Wahiawā or other

developments are dominant features in the foreground and middle ground views. Pineapple plantations occupy most of the surrounding valley, including lands south of the installation, where proposed expansion and development would occur, and give the landscape a fine uniform texture due to a lack of variation. Agricultural roads through the area expose dark red soil, creating visually distinct lines that draw the eye across the valley and up toward the sky or surrounding mountains.

South Range Acquisition Area

The SRAA is mostly in agricultural production and is characterized by a series of vegetated terraces transected by several drainage courses. These terraces typically include a series of parallel roads, between which are planted rows of pineapples. The visual characteristics of these areas are rather muted, as there is no significant visual change throughout. The drainage courses typically meander, vary in width and depth, and contain varying degrees of vegetative cover. This vegetation cover extends out toward the periphery of the area in various locations. Terrain and vegetation effectively screen most of the foreground and middle ground views. Slopes that transition into the surrounding mountains to the south and west dominate the remainder of this area. These slopes are generally covered with vegetation similar to that found in the areas below.

Views of the training area from surrounding areas are largely middle ground or background features that lack a high degree of detail. Most westerly views of the project area are completely or intermittently obstructed by vegetative screening. South of the installation, views are obstructed by topography. The ridges south of the installation offer more complete views of the proposed area of development but also may be intermittently affected by vegetation and topography, as well as by distance, depending on the viewing location.

Wheeler Army Airfield

WAAF is characterized by urban development, including an aircraft runway and parking aprons, support structures, and other infrastructure. Landscape vegetation provides buffering between functional portions of the installation and provides extensive screening of views either into or out of the installation. Historic structures at WAAF are located in the historic district north of the runway (Belt Collins 1994, 4-71), within the viewshed of proposed SBCT modifications.

Predominantly developed features associated with the other units of SBMR and the town of Wahiawā characterize surrounding areas. The overall visual quality of WAAF is low.

Helemanō Trail

The proposed Helemanō Trail would follow a route northeast from SBMR, across the broad rolling valley into the foothills of the Koʻolau Mountain Range. The trail would connect with Drum Road near HMR. Pineapple plantations occupy most of this area and their lack of variation gives the landscape a fine uniform texture. Roads through this area expose the dark red soil and create visually distinct lines that tend to draw the eye across the valley and up toward the sky or surrounding mountains. Although this area offers panoramic views of the Koʻolau and Waiʻanae Mountain Ranges and is unified in some cases by the consistency of the agricultural land use, the landscape where the trail would be constructed has been

extensively modified, and, based on the criteria outlined in Section 4.3.1, the overall visual quality is considered to be moderate.

Sensitive Views

Sensitive view locations on SBMR include recreational facilities along the southern boundary of the installation and adjacent to the proposed expansion, such as the Kalākaua Golf Course and Leader Field, and housing areas on the Main Post and along the southern boundary, adjacent to the SRAA.

The Central O‘ahu Sustainable Communities Plan designates a number of sensitive views in the view shed of SBMR and Helemanō Trail, including the following:

- Westerly views from Kunia Road, between Kunia Drive and Kunia Army Station;
- Northerly views from Kamananui Road, between Kaukonahua Highway and Wilikina Drive; and
- Westerly views from Kaukonahua Highway, from the intersection with Wilikina Drive to Thompson Corner (City and County of Honolulu 2000b, A-14).

In addition, sensitive views may occur on surrounding preservation lands, including the Mount Ka‘ala Natural Area Reserve to the north, the Wai‘anae Kai Forest Reserve to the west, and the Nature Conservancy’s Honouliuli Preserve to the south. Portions of the Contour Trail through the Honouliuli Preserve are open for organized hikes and for access to The Nature Conservancy work areas. Sensitive views at WAAF are limited to views from the historic district in the northern portion of the installation.

The North Shore Sustainable Communities Plan designates continuous scenic views along the Kamehameha Highway, between Hale‘iwa and Waiale‘e, and intermittent views on both sides of the Kamehameha Highway, between the Poamoho Stream channel and Hale‘iwa (City and County of Honolulu 2000a, 3-15).

5.3.2 Environmental Consequences

Summary of Impacts

Visual impacts related to the SBCT Transformation at SBMR vary, depending on location and the nature of the proposed change. A summary of impacts is found in Table 5-14. Significant but mitigable impacts would result from temporary impairment of some views during the construction phase of SBCT-related projects and from the alteration of the landscape character of the SRAA. Existing views throughout SBMR area would be less than significantly affected by SBCT-related training activities, changes in the configuration of range and training area facilities, or construction of other training or communication facilities.

Table 5-14
Summary of Potential Visual Resources Impacts at SBMR/WAAF

Impact Issues	Proposed Action	Reduced Land	
		Acquisition	No Action
Impairment of view during the construction phase	⊗	⊗	○
Modification of existing view	⊗	⊗	○
Alteration of the landscape character	⊗	⊗	○
Consistency with visual resource policies	⊙	⊙	○
Impairment of views to visible fugitive dust	⊙	⊙	○
Alteration of nighttime light and glare	⊙	⊙	○

In cases when there would be both beneficial and adverse impacts, both are shown on this table. Mitigation measures would only apply to adverse impacts.

LEGEND:

⊗ = Significant	+	= Beneficial impact
⊗ = Significant but mitigable to less than significant	N/A	= Not applicable
⊙ = Less than significant		
○ = No impact		

Significant but mitigable impacts to existing views would occur as a result of construction of Helemanō Trail. The proposed Helemanō Trail would traverse a large area of open space and agricultural land. Although the proposed trail would not substantially alter the landscape due to previous disturbance and active agricultural use, it would result in significant but mitigable impacts to existing views along the route.

Proposed Action (Preferred Alternative)

Significant Impacts Mitigable to Less than Significant

Impact 1: Impairment of view during the construction phase. Construction of SBCT-related projects in the SRAA and McCarthy Flats areas of SBMR (i.e., QTR1 and QTR2, the BAX, the UAC, a range control facility, and motor pool maintenance shops) would result in the temporary impairment of existing views from a number of locations in and adjacent to the installation. This impairment would result from a change in the general appearance of each of these areas due to the use of earth-moving equipment, the transportation and storage of materials on-site, the erection of temporary fencing and erosion-control measures, and the construction of new buildings and target systems at project sites. This temporary impact is considered significant but mitigable.

Portions of the southern perimeter of SBMR, particularly along Lyman Road, would be subject to the visual impacts associated with construction activities in the SRAA. Along Lyman Road, these impacts would occur primarily in either the foreground or middle ground area of each view. Vegetative cover limits the view of many areas of the proposed project site. Photo 5-1 depicts a view from the Lyman Road area. A significant portion of the foreground and middle ground view is not clearly visible at ground level. The proposed areas

of SBCT-related construction on the site would remain hidden by the vegetation cover. Photo 5-2 depicts the view of the SRAA from Kalākaua Golf Course.



Photo 5-1. View of the SRAA from the intersection of Lyman Road and Kolekole Road looking south.



Photo 5-2. View of the SRAA from Kalākaua Golf Course looking southwest.

The view into the site from the east, particularly along Kunia Road, is screened by terrain in the foreground as depicted in Photo 5-3. The proposed SBCT-related project sites are beyond the area visible from the highway.

Certain other viewpoints in or around SBMR are either at a particular angle or elevated in comparison to the proposed project sites so as to render it impossible to screen all construction activity. Examples of these viewpoints include portions of Pu'u Kalena and Wai'anae Mountain Contour Trails to the west, especially near Kolekole Pass and points to the east, along Kamananui Road, Kaukonahua Highway and Wilikina Drive. Photo 5-4

depicts a view along the Pu'u Kalena Trail. Vegetation and terrain tend to obscure much of these views. SBCT-related construction in the McCarthy Flats area, where visible, would be in the middle ground and background areas of the view and would be at such a distance that little detail would be discernable. Interceding terrain from this location would largely obstruct the SRAA, which lies further to the south.



Photo 5-3. View of the SRAA from Kunia Road looking northwest.

The viewpoints to the east of SBMR are in areas generally characterized by low rolling hills with low vegetative cover. A large portion of this area is in agricultural production. From certain viewing points in these areas, the visual impact would occur primarily in the middle ground area of the view. Photo 5-5 depicts such a view. As with the viewpoints to the west, the distance between these and the SBCT-related construction sites at McCarthy Flats is such that little detail would be discernable. Most construction would occur on land already occupied by training ranges. The background area of each of the documented views is typically dominated by the surrounding mountain ranges. No construction is planned in these areas, so little or no impact to that portion of the existing view is anticipated.



Photo 5-4. View of SBMR from the Pu'u Kalena Trail in the Kolekole Pass Area looking northeast.

Regulatory and Administrative Mitigation 1. Existing natural features, including terrain and vegetative cover, will be conserved where practicable to screen the proposed project sites. Where practicable, permanent screening will be achieved with native tree and shrub plantings that complement existing natural and ornamental plantings, earthen berms that mimic the color and texture of the surrounding area, fencing designed to fit in with the surrounding area, or some combination of these measures in accordance with the Installation Exterior Architectural Plan.



Photo 5-5. View of SBMR from the Kaukonahua Highway and Wilikina Drive Area looking west.

Additional Mitigation 1. None identified.

Impact 2: Alteration of landscape character. SBMR can be characterized as a heavily developed landscape surrounded in part by a series of mountain ridges to the south, west, north, and at a greater distance to the east, as well as expansive plateau areas to the east. The areas within SBMR where projects are proposed are largely used for military purposes at present. Many of the proposed projects in the training area would replace existing facilities, while projects constructed in the cantonment area would be within areas of similar development. The projects would not significantly alter the character of these areas. The training exercises conducted on the training lands would expand their use, but are not considered a permanent change to the landscape. Construction projects in the SRAA are the only exception.

Construction of QTR2 and the motor pool maintenance shops would alter the landscape character of the SRAA. Current agricultural and open space land uses would be replaced in part by the proposed facilities. This impact would affect certain foreground and middle ground views from the Lyman Road corridor, the Kālakaua Golf Course, and adjacent housing areas (Photos 5-1 and 5-2). The new facilities would be constructed in the general proximity of existing training and maintenance functions on SBMR. These proposed facilities would be similar in character to other facilities already visible from the golf course and residential areas. They would replace primarily those areas currently under agricultural production, and would remain partially screened from view by existing site conditions (e.g., vegetation and terrain). The impact of the projects on the visual character of the SRAA would be significant but mitigable.

Regulatory and Administrative Mitigation 2. Existing site conditions will be enhanced where practicable to help screen SBCT-related projects from the surrounding area. Where

practicable, mitigation measures will be designed to complement the existing view. Existing natural features, including terrain and vegetative cover, will be conserved where practicable. Screening will be constructed of materials that mimic the color and/or texture of the surrounding area where practicable. Where practicable, USARHAW will use tree and shrub plantings that complement existing natural and ornamental plantings, earthen berms that mimic the color and texture of the surrounding area, and fencing materials designed to fit in with the surrounding area, or some combination of these measures in accordance with the Installation Exterior Architectural Plan.

Additional Mitigation 2. None identified.

Impact 3: Modification of the existing views—Construction of Helemanō Trail. Although the proposed Helemanō Trail would be within an area disturbed by agricultural practices and containing a number of existing agricultural roads, the trail would be visible from a number of major roadways and from portions of these roadways that are designated as scenic.

Segment one of the trail from SBMR to Wilikina Drive would be visible from Wilikina Drive looking west (Photo 5-6). Although Wilikina Drive is a highly traveled route, this section is not designated as a scenic view. The foreground is heavily disturbed by agricultural use while the middle ground view is predominantly of SBMR or vegetation. Based on the criteria



Photo 5-6. View from Kaukonahua Highway looking northeast.

outlined in Section 4.3.1, the visual sensitivity along this segment of the trail is considered low. Construction of the trail in this segment would follow the western side of the Kaukonahua Stream channel, along the margin between the natural vegetation of the channel

and the agricultural area. The impact on views along this segment of the trail would be minor.

Segment two of the trail from Wilikina Drive to Kamehameha Highway would be visible from Wilikina Drive looking northeast, Kaukonahua Highway looking southwest and northeast (Photo 5-7), and Kamehameha Highway looking southwest (Photo 5-8). The views from Kamehameha Highway are designated as scenic. Although the foreground and middleground views from these locations have been altered by agricultural practices, this area is considered to be of medium sensitivity due to the expansive views and the scenic view designations. The impact on views along this segment of the trail would be moderate to substantial.

Segment three of the trail from its intersection with Kamehameha Highway to HMR would be visible to the east and west of Kamehameha Highway (similar to the view shown in Photo 5-8). These views from Kamehameha Highway are designated as intermittently scenic. As described for previous segments, the foreground and middleground views from the Kamehameha Highway have been altered by agricultural practices. This area is considered to be of medium sensitivity due to the expansive views and the scenic designations. Because the trail would be constructed adjacent to the Kamehameha Highway, the duration and level of impact on the view by motorists traveling along the highway would be extended. The impact on views along this segment of the trail would be substantial.



Photo 5-7. View from Wilikina Drive looking west.



Photo 5-8. View from Kamehameha Highway looking southwest.

Regulatory and Administrative Mitigation 3. None identified.

Additional Mitigation 3. The Army proposes to construct military vehicle trails to conserve existing natural features, including terrain and vegetative cover, to the extent practicable. Use of roadbed materials that contrast sharply with existing conditions will be avoided to the extent practicable. To avoid creating a discordant linear feature, the road alignment would, where possible, follow the natural contours of the land. Cut slopes would be minimized or avoided, where practicable. Cut slopes would be blended into the landscape by rounding the edges of the slope, differential orientation of the slope and the road bed alignments where practicable. Use of these techniques would be varied based on the specific conditions, including depth of the cut, orientation of the slope, and type of material (e.g., dirt slope and rock slope).

Less than Significant Impacts

Modification of the existing view. SBMR is a significant visual entity within the central O'ahu area. The physical setting of the installation and the various military training activities thereon directly affect the visual quality of the surrounding area. Views of the installation vary immensely, depending on the vantage point of the viewer. Any combination of factors, including terrain, vegetation, weather conditions and/or human-made obstacles, could either help frame or obstruct the view. The following discussion describes the visual impacts resulting from SBCT-related projects in each of the different areas of the installation.

The primary viewing points into the SRAA are along Lyman Road to the north, along Kunia Road to the southeast, and from portions of the Wai'anae Mountain Contour Trail above the

site. Except for the background view, which is dominated by the upper slopes of the Wai'anae Range, views from Lyman Road are generally restricted by vegetation in the foreground area. The view into the area from Kunia Road is generally restricted to the foreground and upper portions of the background view. Those areas of the SRAA where the SBCT-related projects are proposed are not visible from Kunia Road due to interceding terrain. Views from the Wai'anae Mountain Contour Trail are sporadic due to terrain and vegetation screening and generally are at such a distance that specific site details are poorly discernable. Two SBCT-related projects, the QTR2 and the motor pool maintenance shops, would be constructed on portions of the site currently in agricultural production. Because the proposed SBCT-related projects would be constructed on agricultural land, in areas adjacent to other developed portions of SBMR, these would be effectively screened by existing site conditions.

Those areas of McCarthy Flats where SBCT-related projects are proposed are generally found on the lower slopes and would replace facilities already there. The views into these areas, from viewing points primarily along Wilikina and Kaukonahua Roads to the east and the Kolekole Pass area to the west, are at such a distance that little detail is discernable. From the east, many of the lower slopes of McCarthy Flats are hidden by the trees bordering Kaukonahua Stream that define the eastern edge of the area (Photo 5-5). From the west, the viewpoints tend to be elevated, so the viewer is looking down and across the area. In such cases, the views of McCarthy Flats are obstructed by vegetation. Because QTR1, the BAX, and the UACTF are replacing existing training ranges, little impact to the view from these areas is anticipated.

Additional construction within or adjacent to the cantonment area of SBMR would occur in the lower sloping portion of the installation and within or adjacent to similarly developed areas. These facilities would be visible from Trimble Road and surrounding residential areas but would be constructed in an area of mixed use in which they would not have a significant visual impact. These facilities would not be visible from sensitive view points adjacent to SBMR due to terrain, vegetation, and screening around the perimeter of SBMR (Photos 5-3 and 5-5). The facilities may be nominally visible from the Wai'anae Mountain Contour Trail, but, as discussed above, the facilities would not be visually distinct or discernable from this area (Photo 5-4).

Similarly, construction at WAAF (airfield upgrade and multiple deployment facility) would occur in developed areas that are almost entirely screened from views from the surrounding area by topography, vegetation, and fencing. The proposed airfield upgrade would occur adjacent to the WAAF historic district, but these improvements would not alter any view to or from the district. The proposed multiple deployment facility would be across the airfield from the historic district, substantially removed from the district such that the visual integrity of the district would not be affected.

The proposed antenna support structures at SBMR would either be visible but at such a distance from any sensitive view points that they would not be distinguishable, or they would be constructed in the lower areas of the developed portions of the post where they would be visually compatible with surrounding features.

Expanded training activities may result in additional, temporary visual impairment from dust or smoke generation during training due to the additional training time at the ranges required to train the additional Soldiers under SBCT, as well as use of the Stryker for maneuver training within the SRAA. Training at McCarthy Flats would be similar to existing levels. Generation of dust or smoke would be most prominent at the point of origin and would dissipate relatively quickly. From most sensitive viewpoints on or off the installation, any releases would be a minor middle or background feature and would not substantially affect panoramic views in the area.

Alteration of landscape character. Construction of Helemanō Trail would occur in an area that is heavily disturbed and contains a large number of features associated with agricultural use of the area (row crop patterns, roads, buildings). Construction of the trail in this area would not substantially alter the landscape character.

Impairment of view during the construction phase. Helemanō Trail would be constructed within the viewshed of several sensitive view corridors, but because these areas are intensively farmed, road construction activities would not be substantially inconsistent with existing agricultural practices in the area.

Consistency with visual resource policies. Construction and training at SBMR would occur in areas that would not alter views from public roadways or sensitive view areas designated in the Central O'ahu Sustainable Communities Plan. Existing screening, as well as additional screening as mentioned previously, would minimize views of SBCT-related activities at SBMR and would therefore ensure consistency with the visual preservation objectives stated in the Central O'ahu Sustainable Communities Plan. Measures described above for construction of Helemanō Trail to minimize potential impacts on sensitive views would ensure consistency of the road construction with the visual resource preservation policies of the Central O'ahu Sustainable Communities Plan policies.

Impairment of views from visible fugitive dust. As discussed in Section 5.5, training at SBMR and SBER would increase fugitive dust. Vehicle travel on unpaved roads and in off-road maneuver areas would be an ongoing intermittent source of increased fugitive dust emissions. Most of the net increase in fugitive PM₁₀ emissions would be associated with vehicle travel on unpaved roads, with the remaining increase representing potential emissions from off-road vehicle maneuver activity, mostly at SBER. This would be similar to dust generated during agricultural plowing. Because of prevailing winds the visible dust will likely disperse within minutes. The assumption is that the fugitive dust and soil mitigation identified in Sections 5.5 and 5.9 would be implemented to keep soil erosion and compaction to a minimum. As a result, visual impacts would be less than significant with respect to visible fugitive dust.

Alteration of nighttime light and glare. Under the Proposed Action, the use of nighttime lighting devices, such as flares, during training might increase slightly. The use of these devices is not expected to increase dramatically because training with night vision goggles would be conducted. Also, any new lighting will be shielded to minimize glare. Visual impacts would be less than significant with respect to altering nighttime light and glare.

Reduced Land Acquisition Alternative

Significant Impacts Mitigable to Less than Significant

Impact 1: Impairment of view during the construction phase. Under Reduced Land Acquisition, less of the SRAA would be subject to visual alteration. Existing views from the southern portions of SBMR and surrounding areas would be less impaired during the construction phase of SBCT-related projects. Under this alternative the landscape character of the SRAA would remain more intact because the motor pool complex would be constructed in an area already highly disturbed near the installation boundary and QTR2 would not be constructed at SBMR. Fewer disturbances of the upland areas would provide a greater buffer between remaining SBCT-related project sites and surrounding natural areas. A larger percentage of site characteristics (e.g., terrain and vegetative cover) could be used to effectively screen the construction of proposed facilities. Reduced Land Acquisition would result in a lower but still significant visual impact as a result of visual impairment during construction at SBMR. The mitigation measures below would reduce the impact to less than significant.

Regulatory and Administrative Mitigation 1. Visual impacts would be mitigated as described above for the Proposed Action alternative.

Impact 2: Alteration of landscape character. As described above, Reduced Land Acquisition at SBMR would result in fewer disturbances of the upland areas and would provide a greater buffer between remaining SBCT-related project sites and surrounding natural areas. Alteration of the landscape character would be less than under the Proposed Action but would nevertheless be a significant but mitigable impact due to the change in views from Lyman Road corridor, the Kālakaua Golf Course, and adjacent housing areas. The mitigation measures below would reduce the impact to less than significant.

Regulatory and Administrative Mitigation 2. Visual impacts would be mitigated as described above for the Proposed Action alternative.

Impact 3: Modification of the existing view – Construction of Helemanō Trail. The visual impacts of modifying the existing views from the construction of the Helemanō Trail would be the same as those discussed under the Proposed Action. The mitigation measures below would reduce the impact to less than significant.

Additional Mitigation 3: Visual impacts would be mitigated as described above for the Proposed Action alternative.

Less than Significant Impacts

Modification of the existing view. Modification of existing views under Reduced Land Acquisition would be similar to that described for the Proposed Action, although not constructing QTR2 at this location would result in slightly less modification of existing views in the SRAA. More of the views along the southern boundary of SBMR would remain intact, and a lessening of temporary visual impacts during training activities would also be expected.

Consistency with visual resource policies. Consistency with visual resource policies would be similar to that described above for the Proposed Action.

Impairment of views from visible fugitive dust. Impairment of views from visible fugitive dust would be similar to that described above for the Proposed Action.

Alteration of nighttime light and glare. Alteration of nighttime light and glare would be similar to that described above for the Proposed Action.

No Action Alternative

No Impacts

Under No Action, training exercises would continue at SBMR. The Army would continue to operate and maintain its range and training area facilities in order to meet its training mission requirement. Invariably, the level of training would change occasionally in response to this requirement and consequently, the visual impact of these changes may alter as well. The level of use of the installation's training assets is not anticipated to alter the physical character of the landscape itself.