

DOCKETED

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Project Title:	Darden Clean Energy Project
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Document Title:	Appendix L Visual Simulations Methodology and Data Sheets_Volume 1_Darden Clean Energy
Description:	Volume 1 provides Federal Highway Administration (FHWA) Visual Impact Assessment Worksheets and visual simulations methodology.
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Appendix L - Volume 1

Federal Highway Administration Visual Impact Assessment Worksheets

Truescape Visual Simulations Methodology

Truescape TrueView Photo Simulations, October 2023

Visual Resource Survey:		
Viewpoint: KOP 1	Key View:	
Date: 10/3/23	Existing Conditions	
Description: Looking southeast toward southbound I-5 from South Derrick Avenue overpass		
Photo Orientation: Southeast		
Viewer Position: _____ Inferior _____ Level <u> X </u> Superior		
View	Notes <i>(describe existing conditions)</i>	
Foreground (0 - 1/2 mile)	The foreground of the view is dominated by manmade elements attributed to the proximate transportation corridor. The asphalt surface of South Derrick Avenue is painted with typical 2-lane street markings. The freeway onramp creates a sweeping curve downhill onto the I-5 roadway. The green, red, and blue road signs for the I-5 freeway entrance contrast highly with their surroundings. Vertical features in the foreground view include overhead lighting structures, sign post supports, and white/yellow reflector stakes. Vegetation in the foreground of the view includes continuous masses of brown and tan annual grasses and weeds, with scattered silver and green-toned shrubs dotting the roadside.	
Middleground (1/2 - 4 miles)	The middleground of the view is dominated by the continuous masses of brown and tan annual grasses and weeds, which fill the landscape between each roadway. I-5 is a two-lane freeway, visually cluttered with a variety of vehicles. An existing distribution line strung along wooden poles can be seen crossing over the I-5 onramp, and continues across the center of the view before disappearing into the distance. Mature orchards present as a solid, green mass on the east side of I-5. A nearby commercial building presents as a solid, white block near the right side of the view with intermittent trees surrounding the parcel. A line of palm trees separates the commercial property from the transportation right-of-way. A solar array presents as a grey, horizontal cluster in front of the building. Behind the building, rows of agricultural crops and orchards present as a solid, green line near the center of the view.	
Background (> 4 miles)	The Big Blue Hills are visible through the haze to the southwest. The faint outline of distant lattice steel towers are visible as grey, vertical features through the haze to the southeast.	
Vividness		
Feature	Score*	Notes <i>(describe existing conditions)</i>
Landform	3	The valley floor contains relatively flat, dry terrain that slopes gently uphill to the west before rising sharply to the distant hills.
Vegetation	3	Naturalized vegetation includes solid masses of tan/brown annual weeds and grasses; grey and green-toned shrubs are scattered near the roadside. Distant trees are dotted near the existing commercial facility. Cultivated vegetation including various agricultural row crops and orchards are typical of the area.
Water Feature		No water features in the view.
Human-Made	3	The view is cluttered with human-made features, including asphalt roads, various colored signs, tall lighting structures, the existing commercial facility, and existing utility infrastructure. These features are not distinct or dramatic.
Overall	3.0	
Intactness		
Overall	3	The view is not intact due to the numerous encroaching human-made elements in the landscape.
Unity		
Overall	3	The view from KOP 1 is not visually coherent, and numerous human-made features clutter and compete for dominance within the view.
Overall Visual Quality Score	3.0	

Visual Resource Survey:		
Viewpoint: KOP 1	Key View:	
Date: 10/3/23	With Project	
Description: Looking southeast toward southbound I-5 from South Derrick Avenue overpass		
Photo Orientation: Southeast		
Viewer Position: _____ Inferior _____ Level <u> X </u> Superior		
View	Notes <i>(change from existing conditions)</i>	
Foreground (0 - 1/2 mile)	The Project does not change the condition of the foreground view.	
Middleground (1/2 - 4 miles)	Various features including the Project gen-tie, existing distribution infrastructure, existing commercial facility, and existing road surfaces visually clutter the middleground view and compete for dominance. The Project gen-tie presents as tall, grey steel structures with faint, horizontal lines strung in between. The Project transmission structures are skylined and have moderate contrast against the sky. The Project transmission structures appear similar to the other various vertical features within the view, such as the existing distribution infrastructure and existing lighting structure. The Project gen-tie line would cross over I-5 approximately 0.75 mile southeast of KOP 1, south of (behind) the existing commercial building and solar array. The gen-tie would be strung across galvanized steel structures (H-frame or tubular steel poles), at least 120 feet tall, with a maximum height of 200 feet. The Project doesn't change the mature orchards that present as a solid, green mass on the east side of I-5.	
Background (> 4 miles)	The Project does not change the condition of the background view.	
Vividness		
Feature	Score*	Notes <i>(change from existing conditions)</i>
Landform	3	The Project does not change the existing landform nor block views of the near and distant landscape.
Vegetation	3	The Project does not change vegetation in the view.
Water Feature		No water features in the view.
Human-Made	3	The Project gen-tie add human-made features into the existing landscape which clutter the view and compete for visual dominance.
Overall	3.0	
Intactness		
Overall	2.5	The Project and gen-tie is highly visible and further reduces the intactness of the view.
Unity		
Overall	2.5	The Project adds human-made features that compete for dominance within the view.
Overall Visual Quality Score	2.7	

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:			
Viewpoint: KOP 2		Key View: Existing Conditions	
Date: 10/3/23			
Description: Looking east along West Harlan Avenue			
Photo Orientation: East			
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior			
View	Notes (describe existing conditions)		
Foreground (0 - 1/2 mile)	Multiple ground-level features compete for dominance in the foreground of the view. West Harlan Avenue is paved with asphalt and contains two lanes, one in each direction. To the left of the roadway are expansive, green fields of agricultural row crops which disappear into the distance. An existing distribution line strung across wooden poles are skylined, contrasting highly against the sky, and follow the roadway into the distance at regular intervals. To the right of the roadway, a road shoulder approximately 15 to 20 feet wide is an irregular, compacted surface made of exposed brown earth and gravel. A brown-toned above-ground pipe parallels follows the length of the road shoulder, delineating the shoulder from the adjacent agricultural parcel. The agricultural parcel contains a compacted earth access road and regularly-spaced small and medium-sized orchard trees with bare, brown earth between. Vegetation in the foreground is mostly comprised of cultivated agricultural row crops and orchard. Weedy green and tan grasses and shrubs are intermittently scattered along the road shoulder and within the loose earth berm on the orchard-side of the above ground pipe.		
Middleground (1/2 - 4 miles)	The middleground view is limited by flat topography and intervening vegetation. Beyond the road curve to the right, where West Harlan Avenue meets South Stanislaus Avenue, another orchard is faintly visible. The distribution line and wooden poles paralleling the roadway continues into the distance. A small cluster of solid blue agricultural equipment are visible beyond the row crops on the north side of Harlan Avenue.		
Background (> 4 miles)	Due to the flat topography and intervening vegetation, views of background features are very limited. Silhouettes of distant utility structures and a distant orchard are faintly visible beyond the row crops to the north.		
Vividness			
Feature	Score*	Notes (describe existing conditions)	
Landform	4	Flat terrain with bare, brown earth that is unremarkable from similar sites in the vicinity.	
Vegetation	4	Cultivated vegetation including various agricultural row crops and orchards are typical of the area. Minimal weedy green and tan grasses and shrubs are intermittently scattered within the view.	
Water Feature		No water features in the view.	
Human-Made	3	Human-made features within the view include the asphalt roadway, compacted earth road shoulder and access road, pipeline, distribution line and poles, and distant blue agricultural equipment which encroach upon the view. These features are not distinct from similar sites in the vicinity.	
Overall	3.7		
Intactness			
Overall	3	Low attention given to aesthetic quality of human-made elements. View is not intact due to encroaching elements.	
Unity			
Overall	4	The nature of the existing utility and agricultural infrastructure within the view is consistent with agricultural areas in the vicinity.	
Overall Visual Quality Score	3.6		

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 2	Key View: With Project
Date:	10/3/23	
Description:	Looking east along West Harlan Avenue	
Photo Orientation:	East	
Viewer Position:	_____ Inferior <u> X </u> Level _____ Superior	
View	Notes (change from existing conditions)	
Foreground (0 - 1/2 mile)	The Project gen-tie line crosses over the roadway approximately 0.25 miles (1,320 feet) distant, creating a set of horizontal lines across the center of the view. The Project gen-tie structures are taller than the existing distribution lines along West Harlan Avenue, and are skylined. The existing distribution structures appear less distinct with the addition of Project structures. The Project structures add distinct vertical and angular features to the view, and have a grey steel finish that moderately contrasts against the sky.	
Middleground (1/2 - 4 miles)	Where the Project gen-tie structures continue into the distance, they create a clutter of vertical and angular grey lines in the middleground near the center of the view.	
Background (> 4 miles)	The Project gen-tie structures disappear into the background near the center of the view, but largely do not change the condition of the background view. The Project solar array is present approximately 5.5 miles away but is not visible in the view.	
Vividness		
Feature	Score*	Notes (change from existing conditions)
Landform	4	The Project does not change the existing landform nor block views of the near and distant landscape.
Vegetation	4	The Project does not change vegetation in the view.
Water Feature		No water features in the view.
Human-Made	2	The Project gen-tie line and structures add human-made features to the view, and become the primary focus of this view.
Overall	3.3	
Intactness		
Overall	2	Increased visibility of utility infrastructure results in a decrease of intactness in the view.
Unity		
Overall	3	The addition of Project gen-tie lines and structures set against the backdrop of the sky increases their visibility and reduces visual unity.
Overall Visual Quality Score	2.8	

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:			
Viewpoint: KOP 3		Key View: Existing Conditions	
Date: 10/3/23			
Description: Looking northeast near rural residences on West Mt. Whitney Avenue			
Photo Orientation: Northeast			
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior			
View	Notes (describe existing conditions)		
Foreground (0 - 1/2 mile)	In the foreground of the view, red and white metal bollards and a red metal vehicle gate delineate an agricultural staging area with flat, compacted, tan dirt. Tufts of dried, tan grasses and weeds are gathered near the bollards and gate. A field of row crops border the far side of the staging area and extend a green line across the middle of the view. A variety of red-toned agricultural equipment and a trailer with portable restrooms are parked in the middle of the staging area. A stand of large ornamental trees obscures a residence on the right side of the view, which appears as a large white building with a peaked roof.		
Middleground (1/2 - 4 miles)	In the middleground of the view, agricultural components presenting as grey frames with a grey central mill are visible to the left of, and beyond, the white structure. A series of dark, irregular silhouettes mark the outlines of trees and the faint silhouettes of utility structures are distantly visible through the atmospheric haze.		
Background (> 4 miles)	The background view in KOP 3 is not visible.		
Vividness			
Feature	Score*	Notes (describe existing conditions)	
Landform	3	The flat terrain is graded relatively smooth within the agricultural staging area, and exposed, compacted, tan dirt is present throughout the foreground of the view. Terrain is unremarkable from similar sites in the vicinity.	
Vegetation	3	Cultivated vegetation including various agricultural row crops are typical of the area. Patches of weedy tan grasses and shrubs are present along the row of bollards and gate bounding the staging area.	
Water Feature		No water features in the view.	
Human-Made	3	Human-made features within the view include the bollards, gate, agricultural equipment, and white structure which all encroach upon the view. These features are not distinct from similar sites in the vicinity.	
Overall	3.0		
Intactness			
Overall	3	The view is not intact due to the numerous encroaching human-made elements in the landscape.	
Unity			
Overall	3	The view from KOP 3 is not visually coherent, and numerous human-made features clutter and compete for dominance within the view.	
Overall Visual Quality Score	3.0		

*Score Key:

1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 3	Key View: With Project
Date:	10/3/23	
Description:	Looking northeast near rural residences on West Mt. Whitney Avenue	
Photo Orientation:	Northeast	
Viewer Position:	_____ Inferior <u> X </u> Level _____ Superior	
View	Notes (change from existing conditions)	
Foreground (0 - 1/2 mile)	The Project does not change the condition of the foreground view.	
Middleground (1/2 - 4 miles)	Through the atmospheric haze, the Project gen-tie structures are faintly visible approximately 1.2 miles away as tall, vertical features spaced evenly across the horizon with indistinct horizontal gen-tie spans strung inbetween. The Option 2 BESS and step-up substation are visible on the left half of the image, presenting as a series of white, boxy structures and an indistinct cluster of grey horizontal and vertical lines. The Option 2 green hydrogen facility appear as a series of white, boxy structures, which appear at approximately the same height as existing trees along the horizon. The Project solar array is present approximately 3 miles away but is not visible in the view.	
Background (> 4 miles)	The Project does not change the condition of the background view.	
Vividness		
Feature	Score*	Notes (change from existing conditions)
Landform	3	The Project does not change the existing landform nor block views of the near and distant landscape.
Vegetation	3	The Project does not change vegetation in the view.
Water Feature		No water features in the view.
Human-Made	2.5	The Project gen-tie and Option 2 green hydrogen facility, BESS, and step-up substation add human-made elements to the distant view, but do not contrast highly against the sky or their surroundings.
Overall	2.8	
Intactness		
Overall	2.5	Increased visibility of utility infrastructure results in a decrease of intactness in the view.
Unity		
Overall	2.5	The view from KOP 3 is not visually coherent; the addition of Project gen-tie lines and structures along the horizon contribute to the visual clutter of human-made features within the view.
Overall Visual Quality Score	2.6	

*Score Key:

1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 4	Key View:
Date:	10/3/23	Existing Conditions
Description: Looking southwest from intersection of South Yuba Avenue and West Kamm Avenue		
Photo Orientation: Southwest		
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior		
View	Notes (describe existing conditions)	
Foreground (0 - 1/2 mile)	In the foreground of the view, compacted, brown earth roadways intersect near the center of the view, then extend to the left (South Yuba Ave.) and the right (access road paralleling West Kamm Ave.). In the center of the view, steel guard rails mounted on thick wooden posts are installed upon a mound of loose earth and gravel, dominating the view. Behind the guard rails, and extending to the right of the view, Crescent Ditch drops steeply into a tan concrete drainage ditch with gravel berms and access roads on either side. The backside of metal stop signs and ditch warning signs are visible around Crescent Ditch. Vegetation in front of the guardrail is nonexistent, with only scattered scraps of weeds from vehicle traffic on top of the bare, brown earth. Beyond the guardrail, the view consists of open, flat parcels with short, pale green and tan vegetation cover.	
Middleground (1/2 - 4 miles)	Due to the slightly inferior angle of this view the middleground in the center of the image is largely obscured by the steel guard rails. What can be seen in the middleground of the view is a continuation of open, flat parcels with short, pale green and tan vegetation cover..	
Background (> 4 miles)	In the background of the view, distant tree lines appears as a dotted, dark line across the horizon. Distant structures are visible as specks of white along the otherwise-neutral surroundings. The silhouettes of the Big Blue Hills in the distance are faintly visible through the atmospheric haze, and are low-contrasting against the sky.	
Vividness		
Feature	Score*	Notes (describe existing conditions)
Landform	4	Flat terrain with bare, brown earth that is unremarkable from similar sites in the vicinity. The distant Big Blue Hills provide some variation in topography but are obscured through the haze.
Vegetation	3	Naturalized vegetation includes fields full of grey-green and tan low-lying plant materials.
Water Feature		No water features in the view.
Human-Made	3	Human-made features within the view include the compacted earth roadways, metal guard rail, signage, and Crescent Ditch. These features are not distinct from similar sites in the vicinity.
Overall	3.3	
Intactness		
Overall	4	Foreground human-made elements such as roadside infrastructure encroach upon the view.
Unity		
Overall	4	The nature of the existing roadside infrastructure within the view is consistent with agricultural areas in the vicinity. View is generally unified with few human-made elements disrupting the view.
Overall Visual Quality Score	3.8	

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 4	Key View:
Date:	10/3/23	With Project
Description: Looking southwest from intersection of South Yuba Avenue and West Kamm Avenue		
Photo Orientation: Southwest		
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior		
View	Notes (change from existing conditions)	
Foreground (0 - 1/2 mile)	The Project does not change the condition of the foreground view.	
Middleground (1/2 - 4 miles)	The Project solar array presents as a dark line in the middle of the view to the southwest.	
Background (> 4 miles)	The Project's solar facility, gen-tie, and Option 1 green hydrogen facility, BESS, and step-up substation are distantly visible along the horizon. On the left side of the view, above the existing guardrail, the Project gen-tie presents as a faint series of evenly-spaced vertical lines. The Option 1 green hydrogen facility, BESS, and step-up substation present as a dotted cluster of white structures, with proximate vertical structures barely perceptible through the atmospheric haze. The Project solar facility presents as a solid, dark line just below the horizon across the right two-thirds of the view approximately 2 miles away.	
Vividness		
Feature	Score*	Notes (change from existing conditions)
Landform	4	The Project does not change the existing landform nor block views of the near and distant landscape.
Vegetation	3	The Project does not change vegetation in the view.
Water Feature		No water features in the view.
Human-Made	3	The Project solar array does not contrast highly with its surroundings, and blends in with existing orchards in the distance. The Option 1 green hydrogen facility, BESS, and step-up substation add distinct, human-made features to the view. The white Project component finishes contrast against the neutral tones of their surroundings, but are relatively small in context with their greater surroundings.
Overall	3.3	
Intactness		
	3.5	Foreground elements and roadside infrastructure encroaches upon the view. Distant Project components have little encroachment impact.
Unity		
	3.5	The addition of white-finish Project components against the backdrop of the Big Blue Hills and neutral-colored surroundings increases their visibility and slightly reduces visual unity.
Overall Visual Quality Score	3.4	

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 5	Key View: Existing Conditions
Date:	10/3/23	
Description: Looking south from residence on West Kamm Avenue		
Photo Orientation: South		
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior		
View	Notes <i>(describe existing conditions)</i>	
Foreground (0 - 1/2 mile)	The foreground of the view is visually dominated by continuous acres of agricultural fields containing green row crops. West Kamm Avenue is a compacted, tan earthen roadway.	
Middleground (1/2 - 4 miles)	Green, continuous fields of agricultural row crops continue into the middleground. In the distance, a lone tree marks the corner of West Stroud Avenue and South Sonoma Avenue. A mature orchard stretches along the right centerline of the image. Along the center horizon, a parcel of orchard trees creates a dark green line above the row crops. A small dust cloud created by agricultural equipment is faintly visible near on the right side of the image.	
Background (> 4 miles)	The silhouette of the Big Blue Hills is nearly indistinguishable through the haze above the orchards to the southwest of KOP 5 (on the right side of the image).	
Vividness		
Feature	Score*	Notes <i>(describe existing conditions)</i>
Landform	4	Flat terrain with tan earth that is unremarkable from similar sites in the vicinity. The distant Big Blue Hills provide some variation in topography but are heavily obscured through the haze.
Vegetation	6	Cultivated vegetation within the view includes expansive green row crops and distant orchards. No naturalized vegetation is present within the view.
Water Feature		No water features in the view.
Human-Made	5.5	The only human-made features within the view are the surface of West Kamm Avenue and a tiny agricultural vehicle creating a small dust cloud near the right side of the image. These features are minimally intrusive.
Overall	5.2	
Intactness		
Overall	6	The view is generally intact, and does not include manmade elements or encroaching elements with the exception of West Kamm Avenue.
Unity		
Overall	6	The landscape is generally unified in form, color, and texture with the exception of West Kamm Avenue.
Overall Visual Quality Score	5.7	

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 5	Key View: With Project
Date:	10/3/23	
Description: Looking south from residence on West Kamm Avenue		
Photo Orientation: South		
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior		
View	Notes <i>(change from existing conditions)</i>	
Foreground (0 - 1/2 mile)	The Project does not change the condition of the foreground view.	
Middleground (1/2 - 4 miles)	The Project does not change the condition of the middleground view. Project components are present in the middleground but are not visible from KOP 5.	
Background (> 4 miles)	The Project does not change the condition of the background view. Project components are present in the background but are not visible from KOP 5.	
Vividness		
Feature	Score*	Notes <i>(change from existing conditions)</i>
Landform	4	The Project does not change the existing landform nor block views of the near and distant landscape.
Vegetation	6	The Project does not change vegetation in the view.
Water Feature		No water features in the view.
Human-Made	5.5	No human-made Project components are visible from KOP 5.
Overall	5.2	
Intactness		
Overall	6	The view is generally intact, and does not include manmade elements or encroaching elements with the exception of West Kamm Avenue and two rubber tires.
Unity		
Overall	6	The landscape is generally unified in form, color, and texture with the exception of Rudnick Boulevard.
Overall Visual Quality Score	5.7	

*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 6	Key View: Existing Conditions
Date:	10/3/23	
Description: Looking south from residence on West Cerini Avenue		
Photo Orientation: South		
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior		
View	Notes (describe existing conditions)	
Foreground (0 - 1/2 mile)	In the foreground of the view, continuous parcels containing tufts of brown/tan weeds and tilled, brown earth stretches into the distance. On the left side of the image, a brown-grey compacted access road separates the tilled earth from residential and active agricultural parcels. A large, green tree stands tall behind on the left side of the image and contrasts highly against the sky. Beyond the large ornamental tree on the left side of the image, top-trained crops create a line of green that continues into the distance.	
Middleground (1/2 - 4 miles)	The rows of top-trained crops continue through the middleground and disappear into the distance. The expanse of tilled, brown earth continues through the middleground and disappears into the distance.	
Background (> 4 miles)	Distant trees create dots of green along the horizon. Through the atmospheric haze, the faint silhouettes of the Gujarral Hills (approximately 20 miles distant) are barely perceptible against the sky.	
Vividness		
Feature	Score*	Notes (describe existing conditions)
Landform	4	Flat terrain with bare, brown earth that is unremarkable from similar sites in the vicinity.
Vegetation	4	Cultivated vegetation including agricultural crops typical of the area. Minimal, dried brown and tan weeds are scattered throughout the tilled parcels and along the roadside. Ornamental trees of varying sizes and species are planted around the perimeter of the residence.
Water Feature		No water features in the view.
Human-Made	4	Human-made features within the view include the access road between parcels. This feature is not distinct or memorable from similar sites in the vicinity.
Overall	4.0	
Intactness		
Overall	5	The view is generally intact, and the only human-made element is the access road on the left side of the image.
Unity		
Overall	4	The landscape on the west side of the residential access road is generally unified in form, color, and texture with brown, tilled earth and scattered weeds - but is not consistent with the residence, trees, and active, green agricultural crops on the east side of the road.
Overall Visual Quality Score	4.3	

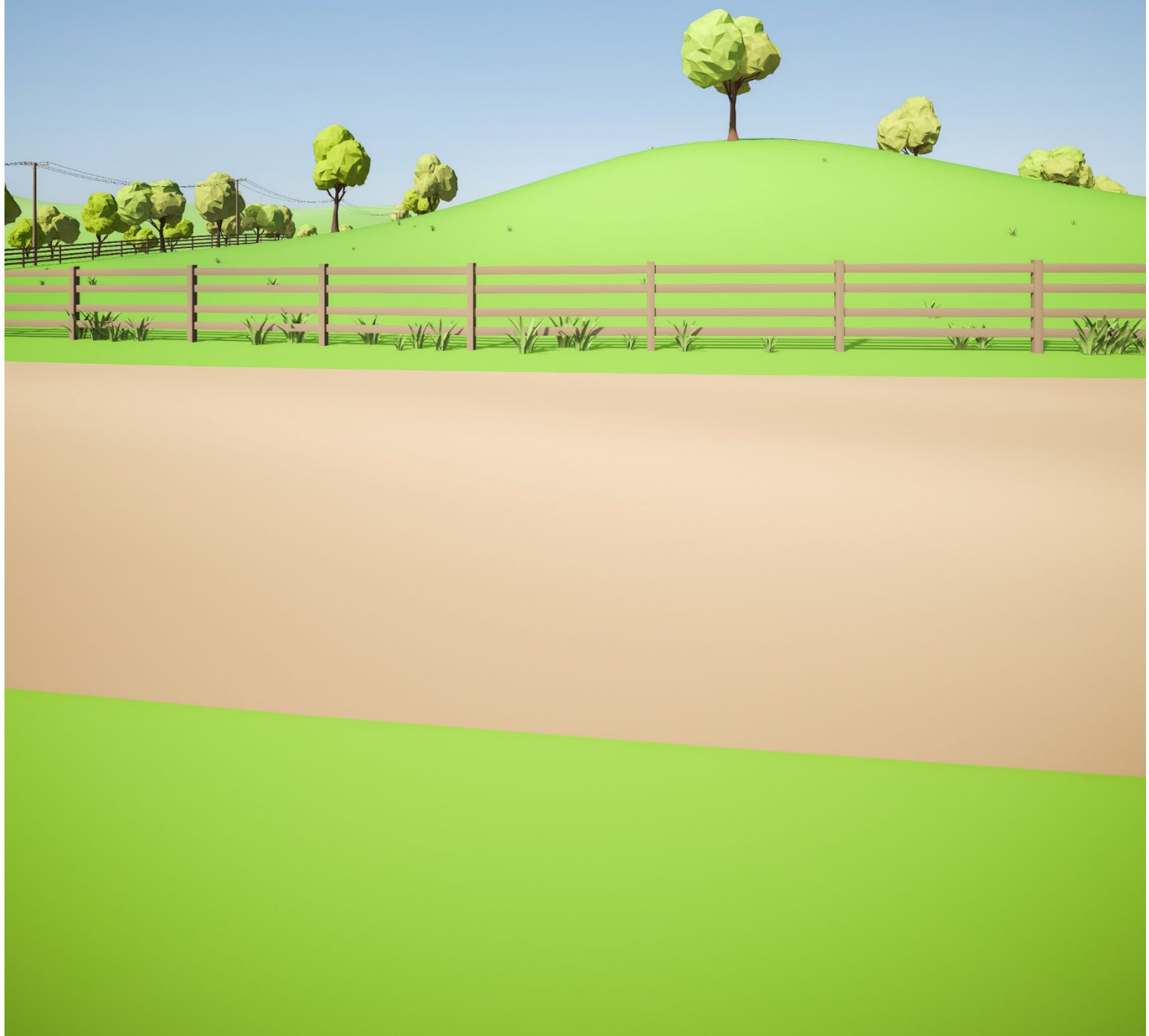
*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Visual Resource Survey:		
Viewpoint:	KOP 6	Key View: With Project
Date:	10/3/23	
Description: Looking south from residence on West Cerini Avenue		
Photo Orientation: South		
Viewer Position: _____ Inferior <u> X </u> Level _____ Superior		
View	Notes (change from existing conditions)	
Foreground (0 - 1/2 mile)	The Project solar array is present approximately 0.35 miles away from KOP 6, but is not visible and thereby does not change the condition of the foreground view.	
Middleground (1/2 - 4 miles)	The Project's gen-tie line and Option 2 green hydrogen facility, BESS, and step-up substation are visible in the middleground (between 0.65 and 0.8 miles away from KOP 6) across the center of the view. The Project gen-tie line creates a distinct horizontal line through the middle of the view, and is strung across tall, regularly-spaced steel structures that are skylined and contrast moderately against the sky. The Option 2 green hydrogen facility presents as a series of solid white, cylindrical structures near the center of the view which compete for dominance within the view. The Option 2 BESS and step-up substation components present as a cluster of grey vertical and angular lines of varying heights on the right side of the image. The Project structures create visual clutter within the view.	
Background (> 4 miles)	The Project does not change the condition of the background view.	
Vividness		
Feature	Score*	Notes (change from existing conditions)
Landform	4	The Project does not change the existing landform.
Vegetation	4	The Project does not change vegetation in the view.
Water Feature		No water features in the view.
Human-Made	2	The Project solar array is hidden behind existing features within the view. The Project gen-tie components are skylined and moderately contrast against the sky. The Option 2 green hydrogen facility, BESS, and step-up substation add numerous human-made features to the view. The white component finishes contrast against the neutral tones of their surroundings.
Overall	3.3	
Intactness		
Overall	3	Distant Project components have moderate encroachment impact. The view is otherwise is generally intact with minimal encroaching elements.
Unity		
Overall	2	The addition of white-and-steel-finish Project components against the backdrop of the sky increases their visibility and reduces visual unity.
Overall Visual Quality Score	2.8	

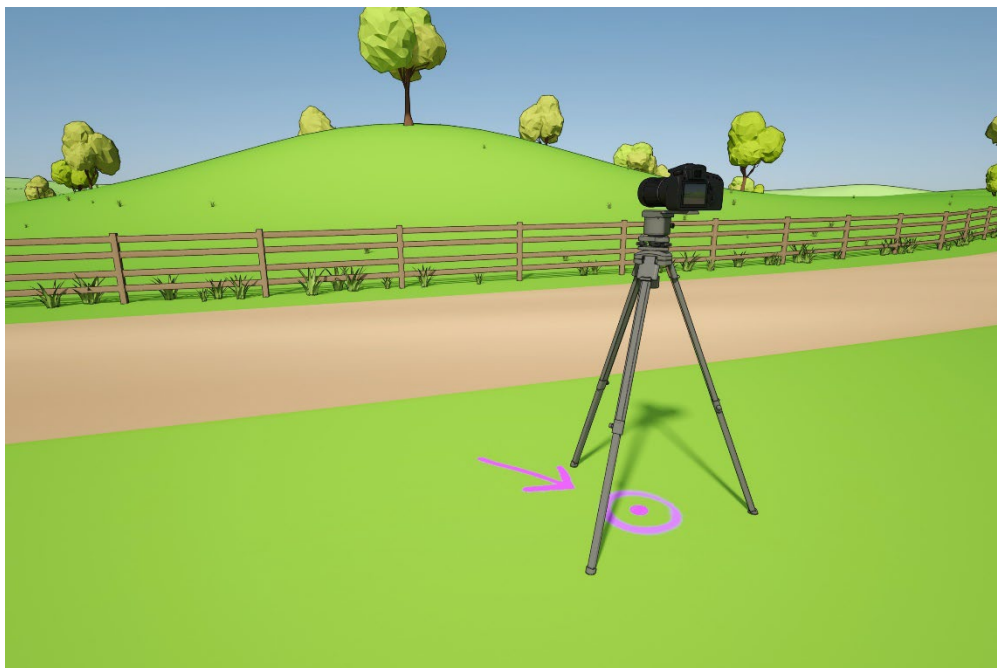
*Score Key:
1 - Very Low; 2 - Low; 3 - Moderately Low; 4 - Average; 5 - Moderately High; 6 - High; 7 - Very High

Truescape[®]

A Methodology for 360° photo-simulations



The site visit



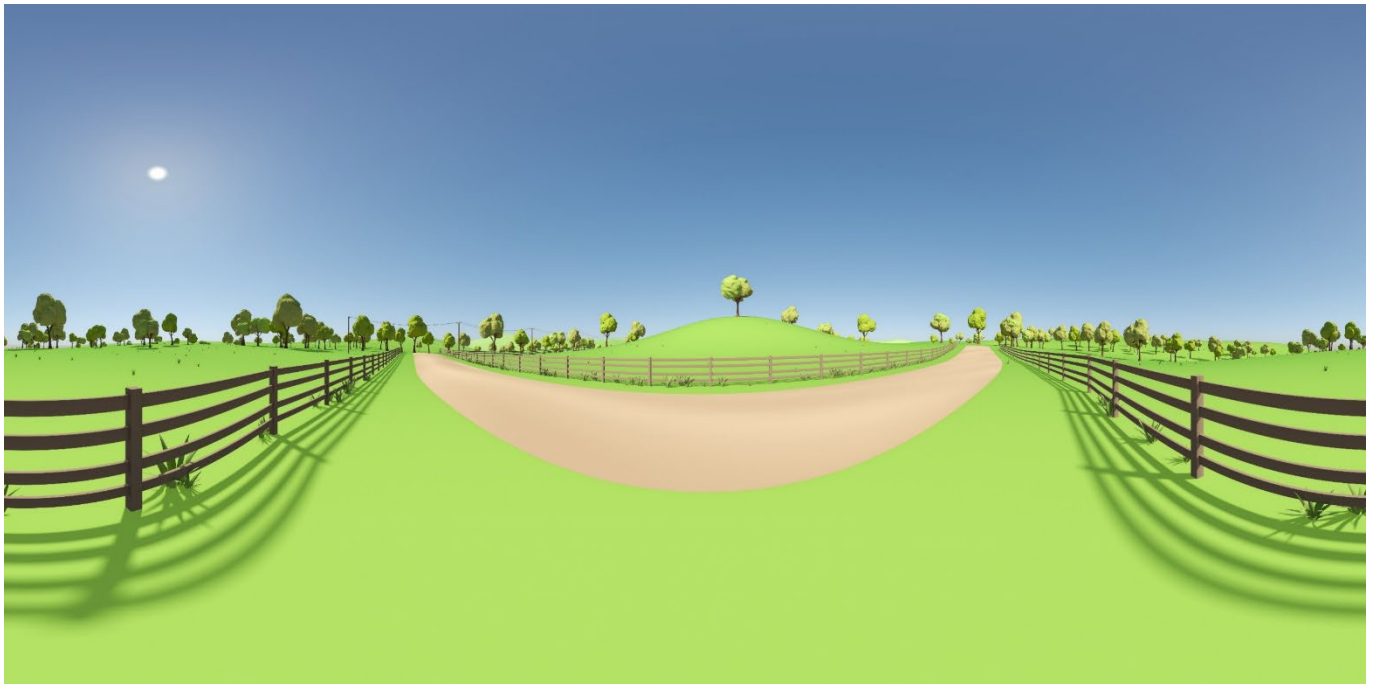
The site visit is undertaken to capture the necessary photographs, ground mark the photo point position, and identify reference points for a surveyor to geolocate.

A digital SLR Full Frame 50.6-megapixel camera is used to take the photography. This camera produces photographs at a resolution and clarity as good as current technology will allow when generating simulations.

Creating the 360° Photo-simulation



Using a series of quality-controlled computer processes the 24 photographs are blended together to create the 360° panorama.



Capturing the surveyed reference points



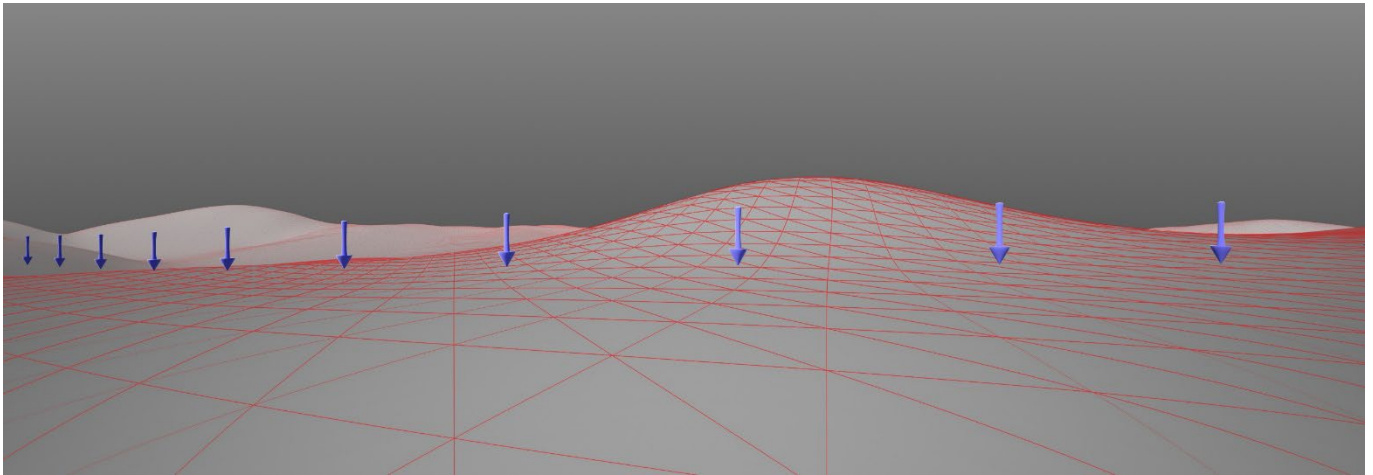
To accurately create a 360° photo simulation the exact position of the camera is survey fixed by a professional surveyor.

Additional reference points are identified during the site visit so that the 3D model can be accurately placed into the photograph. These reference points are fixed objects that can include items such as fences, vegetation, houses, road markings and survey pegs. The surveyor is directed to geolocate each of these points.

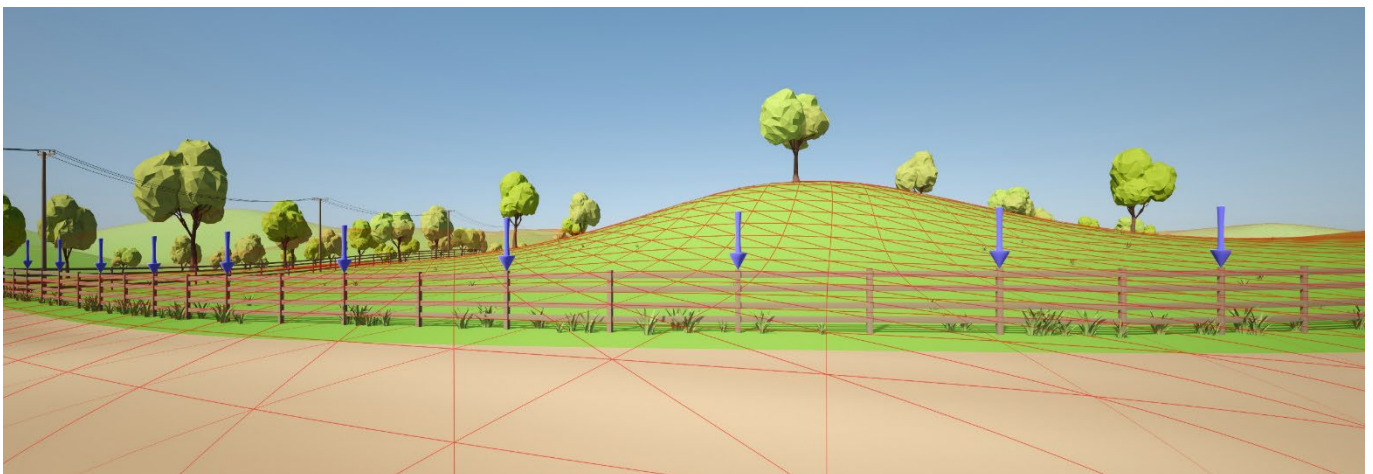
Aligning the surveyed reference points

The next step is to construct the 3D computer model. Using Autodesk® 3ds Max® 3D computer simulation software the survey-fixed camera and reference points are imported. We also source digital elevation models to create an accurate 3D terrain model which is used to further confirm the accuracy of the alignment.

A “computer camera” is created which accurately matches the field of view of the 360° image. The simulated “computer camera” is then positioned at the same survey coordinates as the physical viewpoint positions.

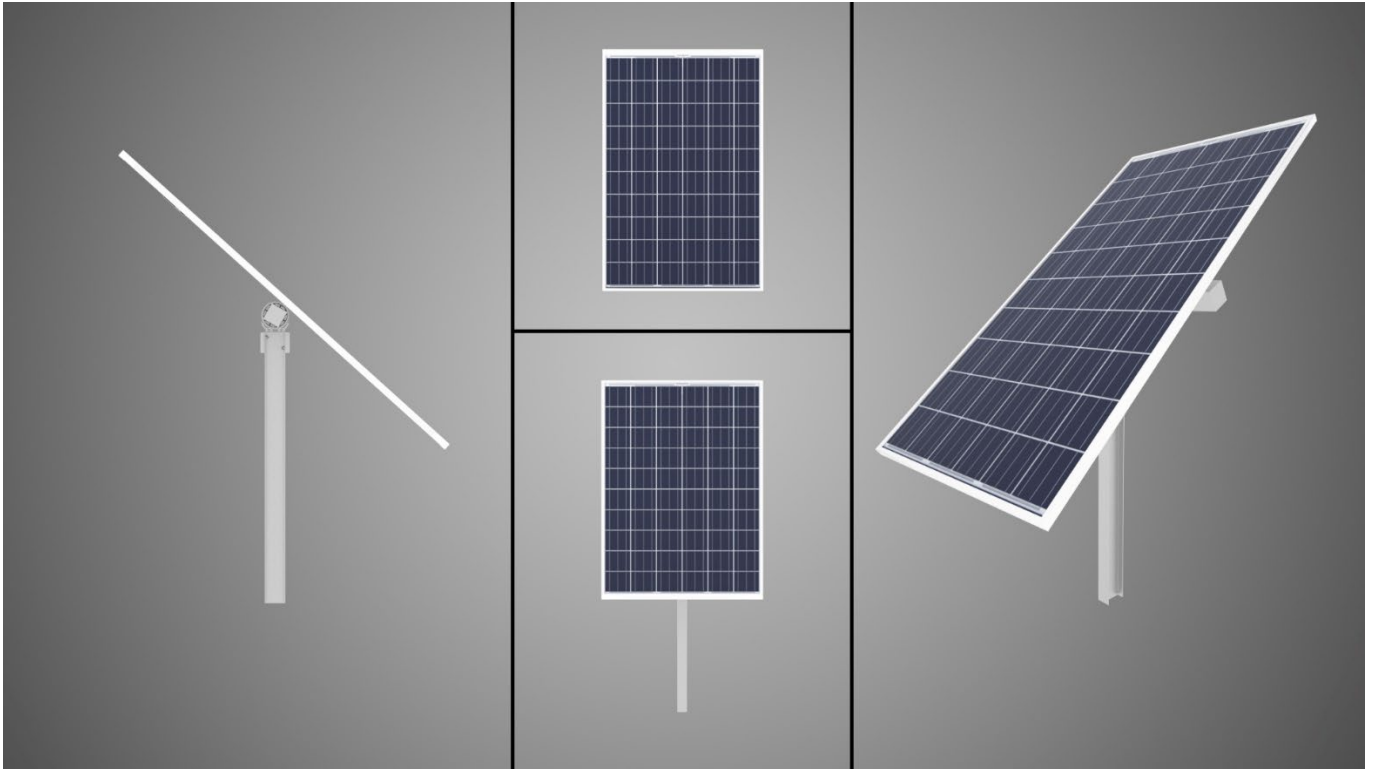


The 360° panorama image is referenced within the software and the “computer camera” is aligned by matching the reference points and terrain to the image.

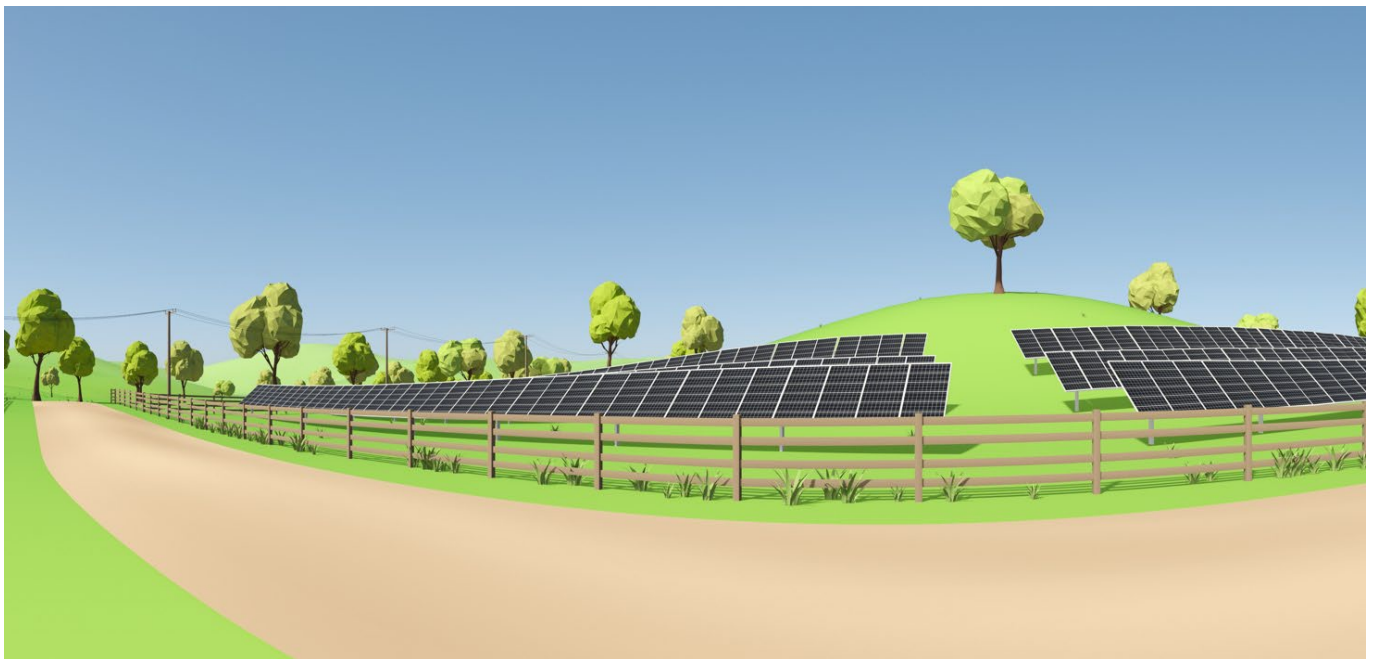


Building the proposed project in 3D

The proposed changes or additional objects are modelled accurately in 3D and placed correctly into the simulation.

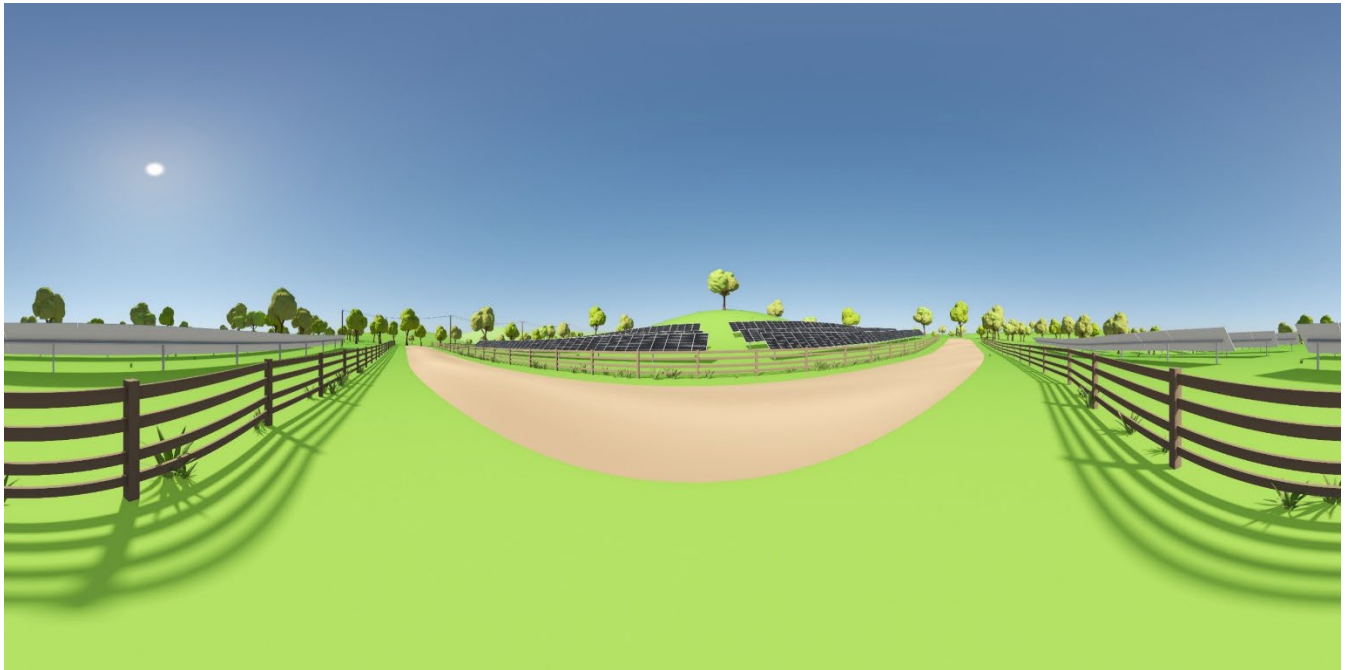


The simulation software allows the sun to be simulated at the precise time (including date and geographic location) to match where and when the original photography was captured. This ensures the lighting of the proposed structures as well as the shadows they cast are an accurate depiction of how the Project would appear in the photograph at the same time of day and reflecting the same lighting conditions as those experienced at the time the photography was taken. The model is rendered out of the simulation software to be composited into the photography.



The final 360° photo-simulation

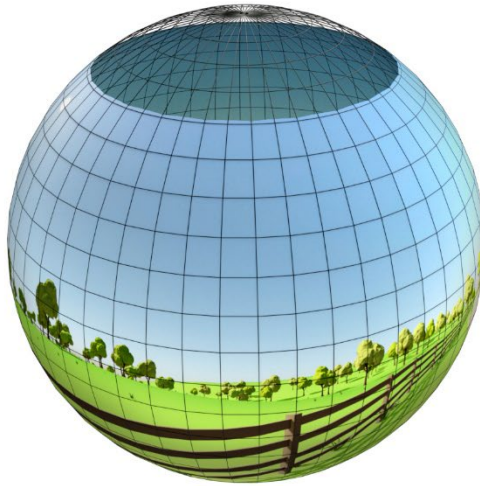
In order to correctly simulate the visual impact of the proposed development, the rendered model is masked behind objects that will appear in front of the development such as trees and terrain using photo editing software.



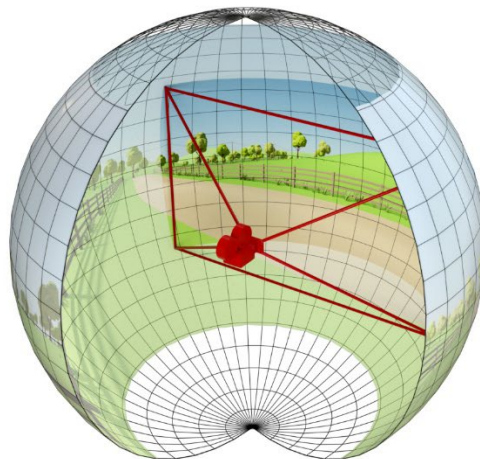
Visualization Extraction from a 360° photo-simulation

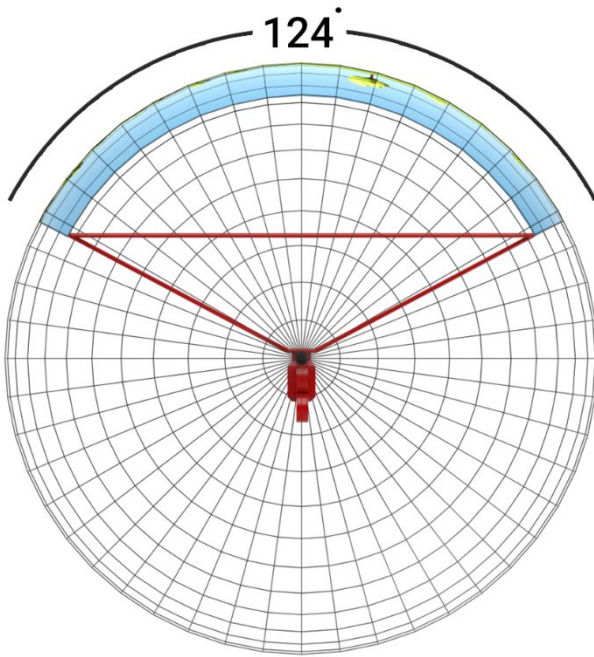
In order to extract a visualization, we need to take the full 360 and identify an area of $124^\circ \times 55^\circ$ to extract a static image from. The following steps are used to extract a visualization from a 360° photo-simulation.

1. Identify and collect the 360° photo-simulation.

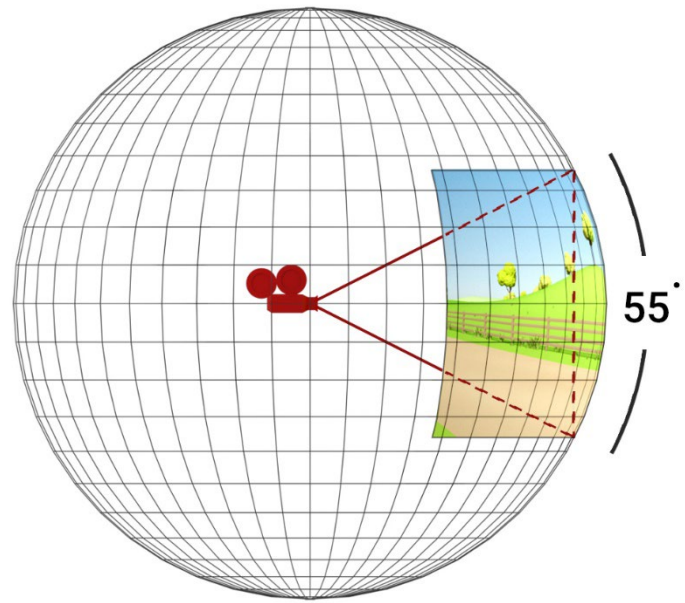


2. Insert a virtual camera with the field of view of $124^\circ \times 55^\circ$ into the 360° photo-simulation. (For demonstration purposes the 360°-spheres below are shown partially opened and transparent)



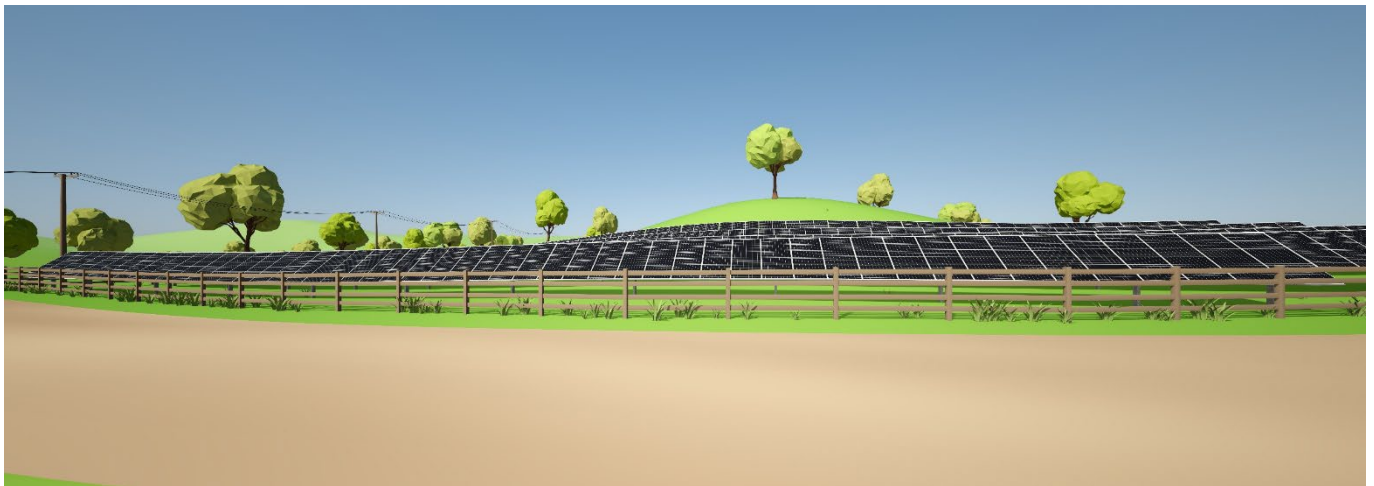


Top view (Horizontal field of view)



Side View (Vertical field of view)

3. The visualization is then extracted from the 360° photo-simulation as a static flat image, which can be used for print or digital purposes.



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**TrueView Photo Simulations - Existing & Proposed
October 2023**

Viewpoint Locations

Viewpoint 1 - S Derrick Ave & West Side Fwy

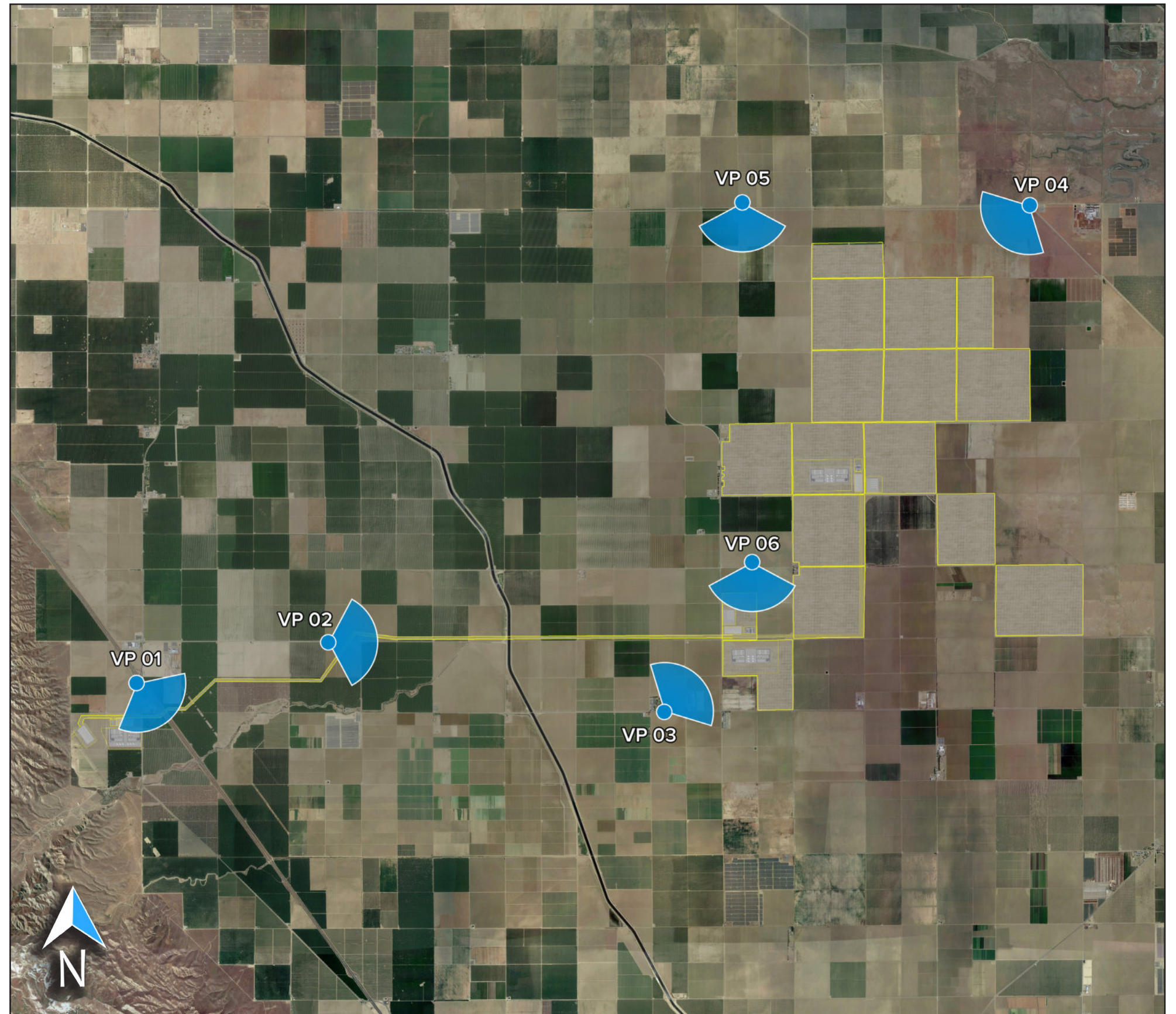
Viewpoint 2 - W Harlan Ave - Corner

Viewpoint 3 - W Mt Whitney Ave - Residences

Viewpoint 4 - S. Yuba Avenue & W. Kamm Avenue

Viewpoint 5 - W Kamm Ave

Viewpoint 6 - W Cerini Ave - Residences



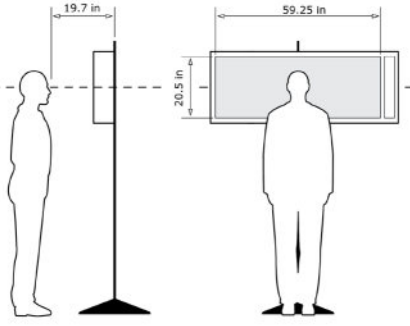


Viewpoint 1 - S Derrick Ave & West Side Fwy, Looking Southeast - Existing View

For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Easting Position: 120.394500°
Northing Position: 36.434767°
Elevation of Viewpoint Position (MAD3): 504.5
Height of Camera Above Ground (ft): 5.58
Date of Photography: 16-Aug-23 at 5:06 pm
Orientation of View: SW
Horizontal Field of View: 124°
Vertical Field of View: 55°





Viewpoint 1 - S Derrick Ave & West Side Fwy, Looking Southeast - Proposed View

For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Easting Position: 120.394500°
Northing Position: 36.434767°
Elevation of Viewpoint Position (MAD3): 504.5
Height of Camera Above Ground (ft): 5.58
Date of Photography: 16-Aug-23 at 5:06 pm
Orientation of View: SW
Horizontal Field of View: 124°
Vertical Field of View: 55°

CORRECT VIEWING OF TRUEVIEW™ PHOTO SIMULATIONS

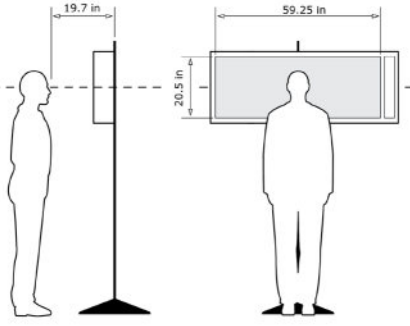


Photo Simulation Created Using
TrueView™ Technology
(Patent No.: US 8,184,906 B2)
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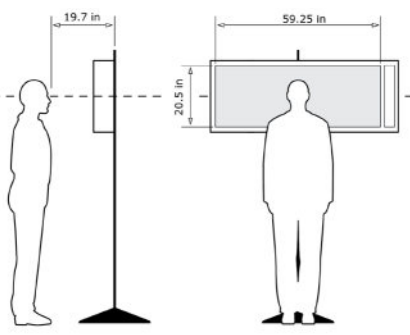


Viewpoint 1 - S Derrick Ave & West Side Fwy, Looking Southeast - Proposed Overlay View

For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Easting Position: 120.394500'
Northing Position: 36.434767'
Elevation of Viewpoint Position (MAD3): 504.5
Height of Camera Above Ground (ft): 5.58
Date of Photography: 16-Aug-23 at 5:06 pm
Orientation of View: SW
Horizontal Field of View: 124'
Vertical Field of View: 55'



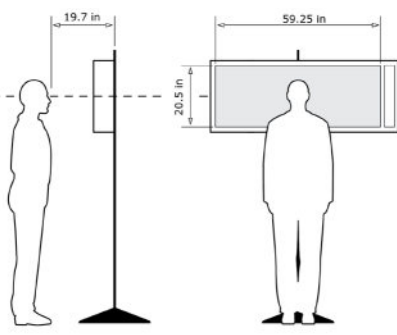


Viewpoint 1 - S Derrick Ave & West Side Fwy, Looking Southeast - Proposed View with Crop Outline

For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Easting Position: 120.394500°
Northing Position: 36.434767°
Elevation of Viewpoint Position (MAD3): 504.5
Height of Camera Above Ground (ft): 5.58
Date of Photography: 16-Aug-23 at 5:06 pm
Orientation of View: SW
Horizontal Field of View: 124°
Vertical Field of View: 55°





For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Viewpoint 2 - W Harlan Ave - Corner, Looking East - Existing View

For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Project Darden

Viewpoint 2
W Harlan Ave - Corner
Looking East

Viewpoint Location Project Area



Easting Position: 120.346257'
Northing Position: 36.443098'
Elevation of Viewpoint Position (MAD83): 399.8
Height of Camera Above Ground (ft): 5.58
Date of Photography: 16-Aug-23 at 11:47 am
Orientation of View: E
Horizontal Field of View: 124°
Vertical Field of View: 55°

CORRECT VIEWING OF TRUEVIEW™ PHOTO SIMULATIONS

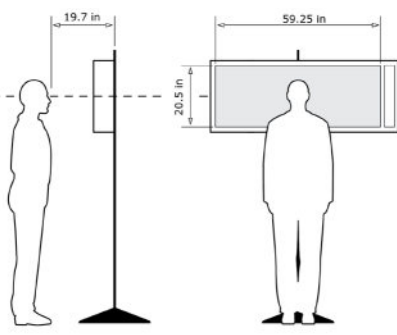


Photo Simulation Created Using
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(Patent No.: US 6,184,906 B2)
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Viewpoint 2 - W Harlan Ave - Corner, Looking East - Proposed View

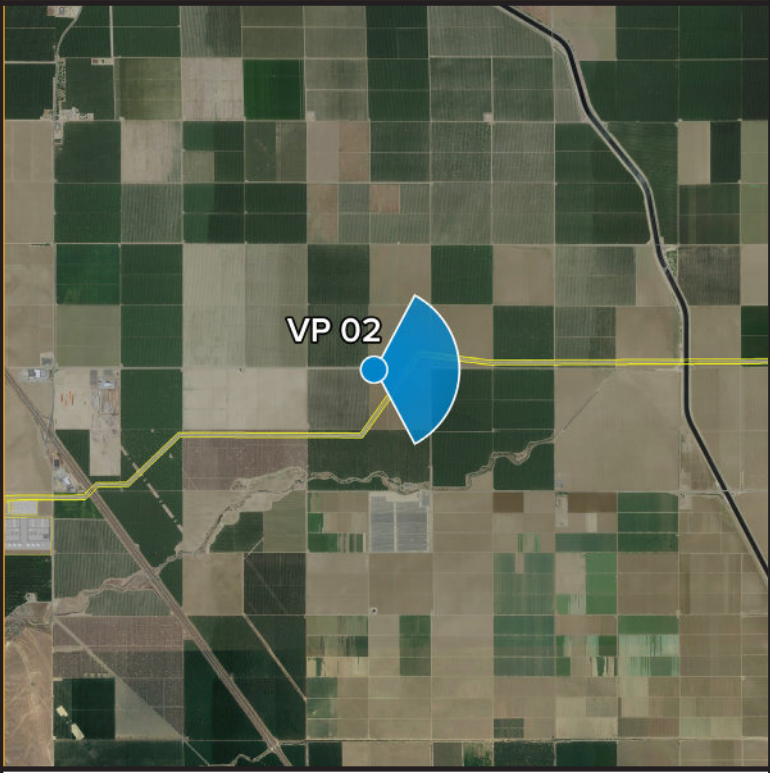
For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Project Darden

Viewpoint 2
W Harlan Ave - Corner
Looking East

Viewpoint Location Project Area



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CORRECT VIEWING OF TRUEVIEW™ PHOTO SIMULATIONS

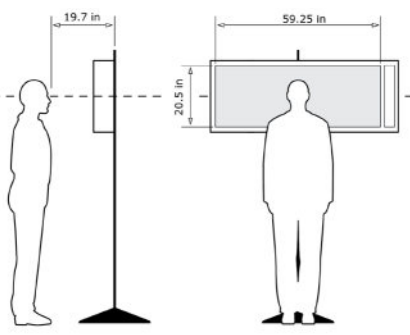


Photo Simulation Created Using
TrueView™ Technology
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Viewpoint 2 - W Harlan Ave - Corner, Looking East - **Proposed Overlay View**

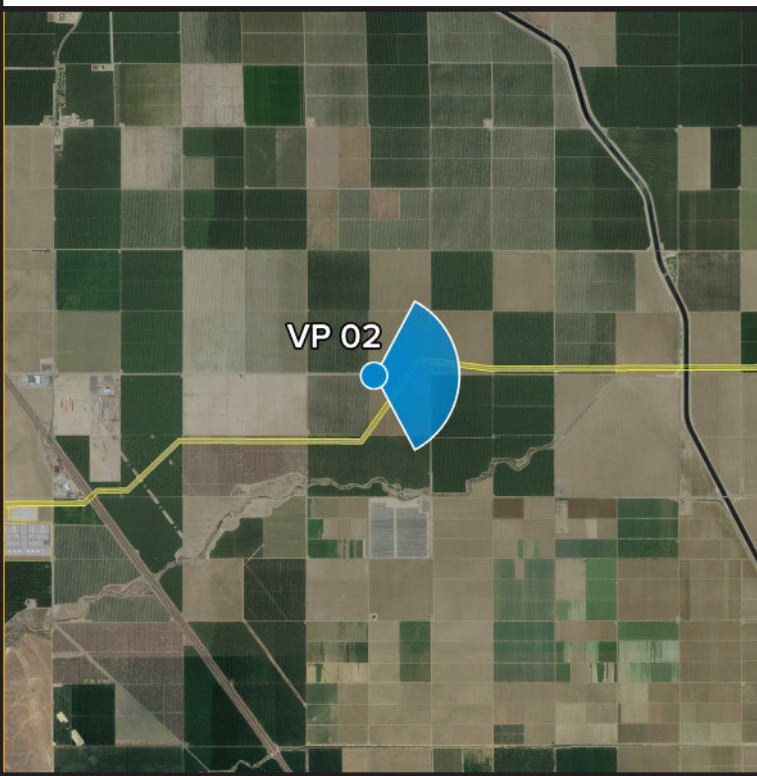
For on-screen display:
Scale bar to be 4 inches wide
Viewing distance 19.7 inches



Project Darden

Viewpoint 2
W Harlan Ave - Corner
Looking East

● Viewpoint Location ● Project Area



Easting Position: 120.346257'
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CORRECT VIEWING OF TRUEVIEW™ PHOTO SIMULATIONS

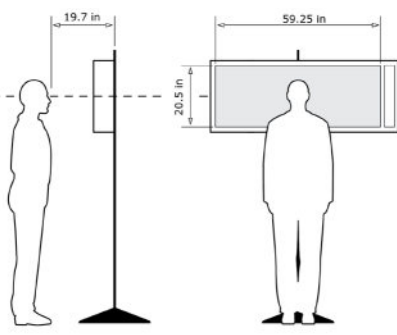


Photo Simulation Created Using
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