UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Safford
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 13S	5. Location Sketch
2. Key Observation Point **P6-03**	Range 25E	32.317482913 x -109.73975448
3. VRM Class **N/A; Representative ROW would cross state lands in view**	Section 12	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Somewhat complex, multi-directional and concave land form in foreground. Rolling hills leading into relatively steep, jagged mountains visible along middleground and background.	Varied forms of vegetation in foreground (jagged, rounded, cylindrical) giving way to mostly flat scrub in far background.	No structures visible in view.
LINE	Topography in foreground appears diagonal, with jagged mountains as distant middleground skyline.	Evident transitional edge between larger vegetation in immediate foreground and more distant, uniform vegetation.	No structures visible in view.
COLOR	Light browns in foreground area, with reddish soils evident within bluish mountains in middleground.	The greens, grays and light browns of the scrub vegetation contrasts with the yellow grassland in the area.	No structures visible in view.
TEX-TURE	Gradational and contrasting.	Coarse and patchy in immediate foreground, with medium, more uniform texture in distant foreground.	No structures visible in view.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Two transmission structures would be primary structures visible in this view, but would not become views primary features.
LINE	No change.	No change.	Where visible above the skyline, new conductors would introduce a new, partially detectible linear form.
COLOR	No change.	No change.	Metal structures would introduce element of gray to view.
TEX-TURE	No change.	No change.	Transmission line would appear ordered across view.

SECTION D. CONTRAST RATING __SHORT TERM __LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X		X		
	LINE				X				X		X		
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? ___Yes ___No _X_ NA (Explain on reverse side)

3. Additional mitigating measures recommended _X___Yes __No (Explain on reverse side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Proposed transmission line would result in moderate degree of contrast with regard to form and line.
View is oriented 0 looking north away from Dos Cabezas toward Pinaleño Mountains.

Distance. The KOP is approximately 0.4 mile south of New Build segment P6c along Old Bowie Road. Segment P6c crosses private land and crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment P6c.

Length of Time the Project Is In View. Segment P6c would potentially be viewed for extended periods by viewers traveling the road.

Relative Size or Scale. The relative size of the structures would be the largest structures visible on the landscape. Because of the relative size of the structures when compared with the open landscape, and because of the close proximity to the structures, there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground includes some low lying hills and desert vegetation. There are mountains in the background. Because the proposed structures and conductors cross the view horizontally, they would be visible partially against the mountainous backdrop, which would contribute to the moderate visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be further reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment P6c would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Safford
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 14S	5. Location Sketch
2. Key Observation Point **P7-01**	Range 25E	32.195330657 x -109.748980624
3. VRM Class **Representative ROW is on private land.**	Section 24	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat area within and near Willcox Playa occupies the foreground and middleground of the view. The rolling/rugged hills and mountain ranges west of Willcox Playa are visible in the background.	Scrub vegetation appears mostly rounded or asymmetrical across the landscape.	Visible structures in foreground are bold and defined. Additional utility poles visible beyond foreground are somewhat less prominent and defined.
LINE	Highway extending into the near horizon appears as a band perpendicular to the bold line in back of middleground between edge of playa and elevated areas.	In segments separated by band of roadway, edges between scrub vegetation and grasses are either weak or diffuse.	Existing transmission line appears across the foreground.
COLOR	Subtle earth tones (brownish-grayish) beneath vegetation in foreground/middleground. Browns and reds of elevated areas in background are subdued.	Mostly dark greens and browns of scrub vegetation contrast with tans and lighter/brighter greens of grasslands.	Grays and browns.
TEX-TURE	Uniform foreground/middleground in playa area; gradational in background mountainous area.	Scattered and clumped scrub vegetation in foreground, in concert with grassland undergrowth, contributes to patchy, medium/coarse texture.	Built features are relatively smooth and directional.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	New transmission towers would be prominent vertical features in this view, appearing across the middle of the view (near the existing transmission corridor) and extending above the skyline.
LINE	No change.	No change.	Would reinforce smaller, existing linear feature (existing transmission line) visible across view.
COLOR	No change.	No change.	Due to galvanized steel finish, would appear lighter than existing transmission poles and stand out against somewhat darker backdrop.
TEX-TURE	No change.	No change.	Continuous and ordered across the view.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X		X		
	LINE				X				X			X	
	COLOR				X				X		X		
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? ___Yes ___No _X_ NA (Explain on reverse side)

3. Additional mitigating measures recommended _X_Yes __No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Though prominently visible, the proposed transmission towers and conductors would represent a weak contrast with the existing view since they would be aligned with an existing transmission corridor.

This view is due west of Willcox Playa, Dos Cabezas Mountains are 180 degrees east from this point. View is 0.5 mile from line, proposed staging area would be in the immediate foreground.

Distance. The KOP is approximately 0.5 mile east of New Build segment P7 along 186. Segment P7 crosses private land and crosses the view from the KOP north to south.

Angle of Observation. The KOP is at an even horizontal angle to segment P7.

Length of Time the Project Is In View. Segment P7 would potentially be viewed for limited periods by viewers traveling the road and crossing the segment at a perpendicular angle.

Relative Size or Scale. The relative size of the structures would be somewhat larger than the existing transmission structures visible on the landscape. Because of the relative size of the structures when compared with the existing structures and with the open landscape, there would be moderate contrasts.

Season of Use. The open landscape and desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is flat and open with taller vegetation growing along the roadside. There are mountains in the background. Because the proposed structures and conductors cross the view horizontally, they would be visible partially against the sky and the mountainous backdrop, which would contribute to the moderate visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be further reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment P7 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Safford
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 15S	5. Location Sketch
2. Key Observation Point **P7-02**	Range 25E	32.14528065 x -109.759882039
3. VRM Class **Representative ROW crosses BLM VRM III**	Section 11	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	The flat playa occupies the foreground and most of the middleground, while the far middleground and background include the rolling/rugged hills and mountain ranges north of Willcox Playa.	Mostly flat grasslands in foreground, punctuated by scrub vegetation of varying shapes (rounded, triangular).	Visible fence line and existing transmission structure in foreground each appear as a series of aligned vertical structures.
LINE	Near and far edges of playa area are clearly discernable.	Bold edge/border between vegetation in foreground and beginning of the playa area in which vegetation is not visible.	Fence line and transmission line, both in foreground, are linear features in front of and within the near portion of the playa.
COLOR	Luminosity of playa is apparent in contrast with vegetated foreground and the subtle variation in the dark mountains in the background.	Yellowish grasslands contrast with dark and muted greens of vegetation in foreground.	Fence posts and transmission poles are discernable as dark vertical features, though not prominent.
TEX-TURE	Smoothness of the playa influences apparent texture of the foreground and middleground and contrasts with the articulated outline of the mountains in the background.	Foreground characterized by finer texture of grassland, though it is interrupted by coarser scrub vegetation and unvegetated path.	Fence posts and transmission poles appear as subtle striations across landscape.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Vertical transmission structures visible across middle of view. Structures appear larger but similar in form to existing visible transmission poles.
LINE	No change.	No change.	Transmission structures appear collectively as a linear feature, and appear oriented in concert with existing transmission corridor.
COLOR	No change.	No change.	Structures appear dark in visible conditions, which contrasts with the sky where there is no mountain backdrop (for approximately 3 towers).
TEX-TURE	No change.	No change.	Transmission structures appear orderly.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE				X				X			X	
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended _X_ Yes __ No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Proposed transmission line meets management objectives for VRM Class III (to partially retain the existing character of the landscape).

Approximately 2 miles from edge of Willcox Playa, 4 miles north of Butterfield Trail. Surrounded by agricultural fields. Facing NNW
Distance. The KOP is approximately 1.2 mile east of New Build segment P7 along 186. Segment P7 crosses BLM VRM III administered land and private land. Segment P7 crosses the view generally from the KOP north to south.

Angle of Observation. The KOP is at an even horizontal angle to segment P7.

Length of Time the Project Is In View. Segment P7 would potentially be viewed for limited periods by viewers traveling the road and crossing the segment at a perpendicular angle.

Relative Size or Scale. The relative size of the structures would be somewhat larger than the existing transmission structures visible on the landscape, but similar in form. Because of the relative size of the structures when compared with the existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The open landscape and desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is flat and open with patches of taller vegetation. There are mountains in the background. Because the proposed structures and conductors cross the view horizontally, they would be visible partially against the sky and the mountainous backdrop, which would contribute to the weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be further reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment P7 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Safford
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 14S	5. Location Sketch
2. Key Observation Point **P7-03**	Range 24E	32.198738216 x -109.883954029
3. VRM Class **Portion of representative ROW in view crosses BLM VRM III**	Section 22	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	The flat playa area occupies the foreground and the middleground. In the distant middleground and background, the outline of a series of rugged mountains ascending to the west is visible.	The flat grassland of the eastern playa floor is visible, with intermittent, mostly rounded, scrub vegetation.	Rectilinear outline of Apache Station Power Plant only discernable structure along playa horizon.
LINE	The edge between the playa floor and the mountains and the somewhat jagged outline of the mountain range are the most prominent land-based lines.	Visible edge between clear area and grasslands in immediate foreground; boundary between grasslands and main playa area is not discernable from here.	Straight lines indicating presence of Apache Station Power Plant somewhat discernable in view.
COLOR	Light-colored playa soils visible in immediate foreground.	Yellowish grassland and intermittent brush are predominant sources of vegetative colors.	Dark outline of Apache Station Power Plant is visible.
TEX-TURE	The smooth, flat playa floor in the foreground and middleground appears in ordered contrast with the mountains in the distant middleground and background.	Grassland in the foreground appears clumped but continuous, interrupted only by the sparse coarseness of scrub vegetation.	From this distance, texture of power plant not discernible; appears as a smooth outline.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Proposed alignment would be 9 miles away from this viewpoint and if visible at all, would likely appear as a barely discernible series of specs along the playa horizon.
LINE	No change.	No change.	If visible at all, barely discernible specs would appear in a row along portions of playa horizon.
COLOR	No change.	No change.	If visible at all, barely discernible specs would appear light in color based on galvanized steel finish.
TEX-TURE	No change.	No change.	Row of towers, if visible at all, would appear granular from this location.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE				X				X			X	
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended X___Yes __No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

It is highly unlikely that the project would be visible from this distance. To the degree that it could be, any contrast resulting from the project would be weak.

1.4 miles from BLM Class II VRI/VRM on west side of Willcox Playa. KOP oriented 8 miles from line to the SE and 1 mile from agency route alternative.

Distance. The KOP is approximately 7.0 miles northwest of New Build segment P7. Segment P7 crosses BLM VRM III administered land and private land. Segment P7 crosses the view generally from the KOP northeast to southwest.

Angle of Observation. The KOP is at an even horizontal angle to segment P7.

Length of Time the Project Is In View. Because of the distance Segment P7 would potentially be viewed for limited periods.

Relative Size or Scale. The relative size of the structures would be small, and may not be visible at all depending on conditions.

Season of Use. The open landscape and desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is flat and open. There are mountains in the background. Because the proposed structures and conductors are so distant, they would not be very visible contributing to the weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be further reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment P7 would attract more attention to the project. During operation, the structures would be static and because of the distance may not be visible.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
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BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 28S	5. Location Sketch
2. Key Observation Point **S6-01**	Range 11W	31.822829161 x -107.995497078
3. VRM Class **II**	Section 32	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Undulations are visible in the terrain, with pronounced hills as backdrop.	Mostly rounded and triangular forms in the immediate foreground, reverting to less defined but widely dispersed ground cover in the area beyond.	A segment of a utility line stretches across the view; the poles are tall and slender.
LINE	A dirt road is in the immediate foreground. More prevalent lines are the tops of the undulations and hills/skyline.	No distinct lines associated with vegetation.	Utility poles appear in a line.
COLOR	Light tans, browns and reds in the foreground contrast with the darker hued hillsides visible in the back of this view.	A consistent shade of green is visible throughout the view; some vegetation without leaves appears as brown or grayish. Dried grasses appear tan.	Utility poles are wooden and appear in the view as light to medium brown.
TEX-TURE	Slightly rolling hills with larger, skylined hills in the background give view a gradational texture; undulations in foreground appear as lower extent of more distant hills.	Coarse and generally uniform.	Ordered and continuous.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Strong vertical features (towers), connected by conductors, would be visible across the view, extending in concert with, but appearing beyond, the existing transmission corridor.
LINE	No change.	No change.	The linear aspect of the proposed project would be much more pronounced than the existing transmission ROW.
COLOR	No change.	No change.	Light gray color (based on galvanized steel finish) of proposed project would contrast slightly with mostly natural setting in view and with wooden poles of existing alignment.
TEX-TURE	No change.	No change.	Would appear ordered and continuous, similar to existing row of towers.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X		X		
	LINE				X				X		X		
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended _X_ Yes __ No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Distance. The KOP is less than 0.1 mile north of New Build segment S6. Segment S6 parallels portions of NM 9. Segment S6 crosses BLM VRM Class II and private land in this area.

Angle of Observation. The KOP is at an even horizontal angle to segment S6.

Length of Time the Project Is In View. Segment S6 would potentially be viewed for extended periods from NM 9.

Relative Size or Scale. The size of the structures would be larger than existing distribution poles in the within the landscape. Because of the relative size of the structures when compared with the existing poles, and because of the close proximity to the structures, they would appear large, and there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open and flat. There are low mountains in the middle ground and background. The proposed structures and conductors would be primarily visible against the sky and partially visible against the mountains resulting in moderate contrasts.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape from vehicle traffic along NM 9. In the short term, motion associated with construction equipment along segment S6 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 28S	5. Location Sketch
2. Key Observation Point **S7-01**	Range 13W	31.864542815 x -108.171101986
3. VRM Class II	Section 16	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat valley floor, backdropped by mountains that increase in elevation in the right portion of the view.	With the exception of a few larger plants, most vegetation is low and either rounded or of a geometric type typical of ground cover.	Utility poles are tall and slender and extend along the right side of the highway. To the left of the highway is a rural residential / ranch complex consisting of varied structures.
LINE	The highway and parallel dirt road are noticeable lines in the land, as is the edge between valley and mountains and mountain skyline.	No line related to vegetation readily apparent.	Utility poles extend along the highway oriented in a linear fashion.
COLOR	Mostly light reds, browns and tans in the foreground area, in contrast with the distant mountains which appear dark.	Green scrub brush and tan grasslands.	Utility poles are wooden and brown. Structures associated with residence on the left side of the highway appear mostly dark in color.
TEX-TURE	The appearance of the roads as oriented emphasizes a directional valley landscape, framed by a continuous but increasingly angular mountain backdrop.	Coarse and rough.	Utility line is ordered and continuous. Residence and associated structures are difficult to discern, but are concentrated within the landscape.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Towers substantially larger than those in the existing view would be visible about 200 feet further away from the viewpoint, and would extend away from the KOP parallel to the line.
LINE	No change.	No change.	Existing transmission line would be reinforced by appearance of much larger series of towers and conductors appearing just beyond it from the viewpoint and extending in parallel. Towers would introduce diagonal lines to the landscape.
COLOR	No change.	No change.	Towers and conductors will appear light gray, based on galvanized steel finish.
TEX-TURE	No change.	No change.	Towers and conductors would appear smooth.

SECTION D. CONTRAST RATING __SHORT TERM _X_LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X		X		
	LINE				X				X		X		
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? __Yes X__No (Explain on reverse side)

3. Additional mitigating measures recommended X__Yes __No (Explain on reverses side)

Evaluator's Names: Josh Hohn
Date: October 12, 2012

SECTION D. (Continued)

Comments from item 2.

Based on proximity, size of towers will appear relatively large and conductors will occupy a relatively large portion of the view.

Distance. The KOP is less than 0.1 mile north of New Build segment S7. Segment S7 parallels portions of NM 9. Segment S7 crosses BLM VRM Class II and private land in this area.

Angle of Observation. The KOP is at an even horizontal angle to segment S7.

Length of Time the Project Is In View. Segment S7 would potentially be viewed for extended periods from NM 9.

Relative Size or Scale. The size of the structures would be larger than existing distribution poles in the within the landscape. Because of the relative size of the structures when compared with the existing poles, and because of the close proximity to the structures, they would appear large, and there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open and flat. There are low mountains in the middle ground and background. The proposed structures and conductors would be primarily visible against the sky and partially visible against the mountains resulting in moderate contrasts.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape form vehicle traffic along NM 9. In the short term, motion associated with construction equipment along segment S7 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 27S	5. Location Sketch
2. Key Observation Point **S7-02**	Range 15W	31.916425851 x -108.323756769
3. VRM Class **private lands**	Section 36	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Visible land appears relatively flat.	Scrub brush and grasslands appear mostly rounded, while some of the short trees within residential property are more geometric.	Residence in immediate foreground appears mostly rectilinear. Water tower is rounded. Utility poles are tall and slender.
LINE	Roads in immediate foreground appear linear; distant horizon is noticeable.	Edge of groundcover grasses in foreground formed by edge of roads.	Utility lines stretch across view. Pitched roofs of residence and water tower appear angular.
COLOR	Light color of dirt roads is predominant color in view.	Vegetation ranges from dark to light green, with light brown and gray grasses and brush visible near ground level.	Reds and whites are primary colors of residences visible; water tower is dark brown and distinct in the view; utility poles are wooden and appear dark brown in the view.
TEX-TURE	Gravel road and some evident variation in topography in beyond the foreground indicate a medium texture.	Vegetation visible throughout, adding an element of coarseness to the view.	Stucco walls of residence and sides of water tower appear smooth. Utility towers appear ordered and continuous, but multiple direction of lines adds element of scatteredness.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Single transmission tower is new vertically-oriented feature visible in view.
LINE	No change.	No change.	New conductors span across view.
COLOR	No change.	No change.	Both tower and conductors appear metallic in color and lighter than existing utility poles and lines.
TEX-TURE	No change.	No change.	From this distance, texture of new features appears smooth.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE				X				X			X	
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? ___Yes ___No _X_ NA (Explain on reverse side)

3. Additional mitigating measures recommended _X_Yes __No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie 2/24/2015

SECTION D. (Continued)

Comments from item 2.

New features would add to presence of transmission facilities visible across view but would not result in substantial contrast with existing view.

Simulation shows view from Hachita oriented northward within a rural residential community.

Distance. The KOP is 0.4 mile south of New Build segment S7. Segment S7 parallels portions of NM 9. Segment S7 crosses private land in this area.

Angle of Observation. The KOP is at an even horizontal angle to segment S7.

Length of Time the Project Is In View. Segment S7 would potentially be viewed for extended periods from the community of Hachita.

Relative Size or Scale. The relative size of the structures would appear similar to the existing distribution poles, water tower, and residential structures within the landscape. Because of the relative size of the structures when compared with the existing structures, and because of the proximity to the structures, there would be weak contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open and flat with some rural development. The proposed structures and conductors would be primarily visible against the sky.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed

structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape form vehicle traffic and activities in Hachita. In the short term, motion associated with construction equipment along segment S7 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 27S	5. Location Sketch
2. Key Observation Point **S7-03**	Range 15W	31.925278214 x -108.326493727
3. VRM Class **private lands.**	Section 25	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat valley floor with hills, prominent peak and mountains visible in distance.	Varied geometric shapes in brush visible as individual plants. Collection of vegetation on left side of the road and in distance on right appears more amorphous and horizontal.	Detectible larger buildings appear rectilinear. Roadside signs are vertical features within highway corridor. Cylindrical water tower partially visible. Utility poles extend across view.
LINE	Highway extends from viewpoint into center of view; edge of valley apparent but not visible; intermittent skyline visible.	Vegetation is present on either side of the highway and as the road recedes into the horizon, the vegetation appears to form a nearly continuous concave shape relative to viewpoint.	Location of structures and utility poles oriented in linear manner along near horizon. Roadway signs oriented along highway corridor.
COLOR	Immediate foreground color mostly gray (road) and light brown (soils). Nearby peak appears lighter in color than distant mountain range.	Ranges from dark to light green, with mostly tan grasses visible in the immediate foreground and as undergrowth.	Some color from roadway signs apparent. Colors of buildings and light roofs visible in distance.
TEX-TURE	Relatively smooth valley floor and rolling foothills; distant mountains appear somewhat more varied.	Vegetation appears coarse, and is more dense, on left side of highway.	Structures oriented along roadway and horizon appear ordered.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	The proposed transmission line would cross the roadway approximately 200 feet from the KOP, adding to the view large vertical features that would become the view's dominant element.
LINE	No change.	No change.	The linear collection of towers and lines extending across the entire view would be a large linear feature appearing perpendicular to the linear road and appearing above the distant skyline.
COLOR	No change.	No change.	Gray colors of galvanized steel would be noticeable in views.
TEX-TURE	No change.	No change.	From this distance, towers and lines would appear ordered and continuous.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X			X			X		
	LINE				X				X		X		
	COLOR				X				X		X		
	TEXTURE				X				X		X		

2. Does project design meet visual resource management objectives? ___Yes ___No _X_ NA (Explain on reverse side)

3. Additional mitigating measures recommended _X_ Yes __ No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Towers and lines would appear substantial in size and would be view's largest feature. However, view already contains strong linear feature (roadway corridor) and other structures (buildings, poles, etc.). Contrast would be moderate.

View is over 0.5 mile north of Hachita oriented toward the town. 180 degrees north of the viewpoint is a large proposed staging area.

Distance. The KOP is less than 0.1 mile north of New Build segment S7. Segment S7 parallels portions of NM 9. Segment S7 crosses private land in this area.

Angle of Observation. The KOP is at an even horizontal angle to segment S7.

Length of Time the Project Is In View. Segment S7 would potentially be viewed for extended periods from the community of Hachita.

Relative Size or Scale. The relative size of the structures would appear larger than the existing distribution poles, water tower, and residential structures within the landscape. Because of the relative size of the structures when compared with the existing structures, and because of the proximity to the structures, there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time. Vegetation disturbance associated with the proposed staging area would result in moderate contrasts to vegetation over the course of restoration.

Spatial Relationships. The landscape in the fore ground is open and flat with some rural development. The proposed structures and conductors would be primarily visible against the sky and there would be a moderate contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape form vehicle traffic and activities around Hachita. In the short term, motion associated with construction equipment along segment S7 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 26S	5. Location Sketch
2. Key Observation Point **S7-04**	Range 15W	31.9956008 x -108.380003192
3. VRM Class **III/IV**	Section 33	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Generally flat valley, though some undulations are apparent. Distant mountains vary from rounded to angular and appear in aggregate as a relatively complex form.	Rounded forms where discernible in the foreground and near the residential clusters; mostly dense and amorphous in other parts of the view.	Residential clusters noticeable across middle of view, but individual structures are difficult to discern.
LINE	Beyond road in extending away from viewpoint, primary lines are within mountain range and the complex form results in mainly curvilinear lines.	The edge of the area covered in scrub brush is clearly delineated. Relatively dense vegetation is apparent beyond the valley floor, as well.	Two areas including structures appear aligned across the middle of the view.
COLOR	Mostly light brown and gray soils, with distant mountains appearing darker in the view.	Mostly dark green with light brown and gray branches intermittently visible.	Color of structures range from light to dark.
TEX-TURE	Relatively smooth valley floor, with gradational, almost fluid appearance of mountains providing contrast.	Coarse in foreground, and smooth in views of distant foothills. Vegetation appears scattered and/or clumped in valley floor beyond residences.	Alignment appears directional.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Series of relatively tall towers would extend across view, in front of structures visible in center of view. The towers would extend above the skyline, as would portions of the conductors.
LINE	No change.	No change.	Conductors would replace divisions between land areas and skyline as predominant linear form in view.
COLOR	No change.	No change.	Light gray towers and conductors, given galvanized steel finish.
TEX-TURE	No change.	No change.	Ordered and continuous.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X		X		
	LINE				X				X	X			
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended _X_ Yes ___No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Proposed transmission line meets management objectives for VRM Class IV (to provide for activities that require major modification of the landscape).

View is located immediately adjacent to the CDNST and is 0.5 mile from the proponent's alternative.

Distance. The KOP is 0.5 mile west of New Build segment S7. Segment S7 crosses BLM Class III and IV in this area.

Angle of Observation. The KOP is at an even horizontal angle to segment S7.

Length of Time the Project Is In View. Segment S7 would potentially be viewed for limited periods from the KOP.

Relative Size or Scale. The relative size of the structures would appear larger than the existing fences and residential structures within the landscape. Because of the relative size of the structures when compared with the existing structures, and because of the proximity to the structures, there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open and flat with some rural development. The proposed structures and conductors would be primarily visible against the sky and there would be a moderate contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape from vehicle traffic. In the short term, motion associated with construction equipment along segment S7 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 26S	5. Location Sketch
2. Key Observation Point **S7-05**	Range 16W	32.073294152 x -108.461734375
3. VRM Class **state & BLM (VRM IV) lands**	Section 3	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Three distinct areas are apparent – a minor bluff in the foreground overlooks a long valley, beyond which are a series of mountain peaks.	All detectable vegetation is located within foreground. Individual plants are mostly rounded. Dense collection of vegetation beyond immediate foreground is amorphous.	Short, squat, rounded water tank in left portion of view is only discernible structure.
LINE	Three main lines cut across the view: the edge of the minor bluff, the far edge of the valley floor, and the mountain skyline.	Discernible vegetation ends at the edge of the minor bluff. There is also a somewhat distinct line at the near edge of dense vegetation.	None apparent.
COLOR	Reddish soils in the foreground give way to tannish color in the valley floor. Distant mountains appear darker.	Varying shades of green, with some very light green and tan grasses.	Water tank appears light.
TEX-TURE	With exception of rough outcropping in left of view, mostly gradational from elevated area in foreground, down into valley, then up to mountains.	Coarse, shifting from clumped to continuous in the foreground.	Water tank appears smooth.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	New towers would be visible spaced across the view, approximately 2 miles away from viewpoint.
LINE	No change.	No change.	New linear component would be marked by collective visibility of towers; conductors barely detectible from this distance, if visible at all.
COLOR	No change.	No change.	Light gray color from galvanized steel would likely be faintly apparent against dark backdrop.
TEX-TURE	No change.	No change.	Would appear ordered and continuous in this view.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE				X				X			X	
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? _X_ Yes ___No (Explain on reverse side)

3. Additional mitigating measures recommended _X_ Yes ___ No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Proposed transmission line meets management objectives for VRM Class IV (to provide for activities that require major modification of the landscape).

View is located 1.5 miles from proponent's alternative, and is indicative of a slightly more vegetated landscape, however no sensitive viewers are located nearby.
Distance. The KOP is 1.25 mile west of New Build segment S7. Segment S7 crosses state land and BLM Class IV in this area.

Angle of Observation. The KOP is at a slightly elevated viewing angle to segment S7.

Length of Time the Project Is In View. Segment S7 would potentially be viewed for limited periods from the KOP.

Relative Size or Scale. The relative size of the structures would appear larger than the existing fences and residential structures within the landscape. Because of the relative size of the structures when compared with the existing structures, and because of the proximity to the structures, there would be weak contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open and flat with some rural development. The proposed structures and conductors would be primarily visible against the sky and there would be a moderate contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment S7 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 23W	5. Location Sketch
2. Key Observation Point **S8-01**	Range 16W	32.262930686 x -108.524559733
3. VRM Class **private land**	Section 31	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat, with only variation in terrain raised areas for freeway and rail corridors.	Only a few individual plants – some rounded, some vertically oriented – are noticeable in the areas adjacent to the freeway.	Utility poles stretching across view are clearly defined. Roadside signs are horizontal elements.
LINE	The I-10 corridor is the view's dominant linear feature. The raised railroad corridor is noticeable, running parallel to the freeway.	Vegetation in immediate foreground is limited by linear roadway. Horizon appears to include distant vegetation.	Three separate utility corridors (lines and poles) span the view.
COLOR	Slightly reddish soils subordinate to gray colors of the roadway.	Mostly variants of green (light to dark).	Utility poles are wooden and appear dark in this view. Nearest billboard faces away from the viewpoint and is dark. More distant billboards face viewpoint and appear lighter in color.
TEX-TURE	Smooth and flat.	Soft grasses are contrasted by occasional coarse-looking brush.	Utility poles as a whole appear continuous, while billboards appear scattered.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	New transmission tower is dominant vertical form in view. Greater portion of view is occupied by structures / conductors.
LINE	No change.	No change.	New conductor lines appear consistent in orientation with existing linear features, but substantially raise profile of area, due to higher, larger number of lines.
COLOR	No change.	No change.	Tower and conductors appear gray in color.
TEX-TURE	No change.	No change.	Tower and conductors appear smooth.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X		X		
	LINE				X				X		X		
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? ___Yes ___No _X_ NA (Explain on reverse side)

3. Additional mitigating measures recommended _X_Yes __No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

N/A, KOP is on private land and representative ROW visible passes through private lands. The addition of a transmission tower of this scale and associated conductors would result in a moderate contrast in terms of form and line; however, the additional features would appear mostly aligned in horizontal space with existing transmission corridors.

Located along I-10 and simulation depicts proponent's alternative crossing the I-10 at a perpendicular angle.

Distance. The KOP is 0.25 mile west of New Build segment S8. Segment S8 crosses private land in this area. Segment S8 crosses a small portion of BLM VRM Class III lands 1.12 miles to the south of the KOP.

Angle of Observation. The KOP is at a horizontal viewing angle to segment S8.

Length of Time the Project Is In View. Segment S8 would potentially be viewed for limited periods from the KOP as travelers cross the segment along I-10.

Relative Size or Scale. The relative size of the structures would appear larger than the existing transmission structures within the landscape. Because of the relative size of the structures when compared with the existing structures, and because of the proximity to the structures, there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape is open and flat with some development along the I-10. The proposed structures and conductors would be primarily visible against the sky and there would be a moderate contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is motion within the landscape from vehicle traffic along the I-10. In the short term, motion associated with construction equipment along segment S8 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 31 August 2012
District/ Field Office: Las Cruces
Resource Area:
Activity (program): Transmission

SECTION A. PROJECT INFORMATION

1. Project Name **Southline Transmission Project**	4. Location Township 24S	5. Location Sketch
2. Key Observation Point **S8-02**	Range 16W	32.174949949 x -108.53694053
3. VRM Class **N/A; private lands**	Section 31	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat valley, backdropped by skyline of discrete peaks.	Roadside scrub is multidirectional, while agricultural land in the area beyond the road is flat and uniform.	Utility poles (vertically oriented) and a long agricultural watering machine (horizontally oriented) are the primary features visible beyond the roadside barbed wire fence.
LINE	The horizon is clearly defined in parts of the view.	There is a clear line between land in agricultural cultivation and that which is not.	The series of utility poles appears as a line across the view. The watering machine and property fence are also linear features.
COLOR	Reddish soils in foreground are widely unobservable throughout the rest of the view, which includes agricultural uses. Distant mountains appear relatively dark.	Vibrant green comes from the area currently in production. Greens, grays, purples and tans are found among the roadside vegetation.	All appear relatively dark.
TEX-TURE	Smooth agricultural valley; convex and pyramidal mountains in distance.	Patchy and coarse bushes in immediate foreground give way to smooth and continuous agricultural fields.	Utility lines and fence posts appear ordered within their respective spans.

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	No change.	No change.	Transmission towers would appear as collection of vertical forms extending across view, angling away from KOP, parallel to existing, smaller, line and extending above skyline.
LINE	No change.	No change.	Conductors likely to be visible, occupying relatively large amount of skyline.
COLOR	No change.	No change.	Light gray color due to galvanized steel finish would contrast somewhat with generally vivid agricultural lands.
TEX-TURE	No change.	No change.	New transmission line would appear ordered and continuous from this viewpoint.

SECTION D. CONTRAST RATING __SHORT TERM _X_ LONG TERM

1. DEGREE OF CONTRAST		FEATURES: LAND/WATER BODY (1) STRONG	MODERATE	WEAK	NONE	VEGETATION (2) STRONG	MODERATE	WEAK	NONE	STRUCTURES (3) STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X		X		
	LINE				X				X			X	
	COLOR				X				X			X	
	TEXTURE				X				X			X	

2. Does project design meet visual resource management objectives? ___Yes ___No _X_ NA (Explain on reverse side)

3. Additional mitigating measures recommended _X_Yes ___No (Explain on reverses side)

Evaluator's Names — Date
Josh Hohn
October 12, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

New transmission towers would alter skyline across view, but would otherwise contrast only weakly with existing features. The ROW would be located within an existing transmission corridor, and would relate to linear features already present in the agricultural landscape (crop boundaries, etc.).

Located Muir Road, view is oriented to the south looking toward agricultural fields.
Distance. The KOP is 1.0 mile west of New Build segment S8. Segment S8 crosses private land in this area.

Angle of Observation. The KOP is at a horizontal viewing angle to segment S8.

Length of Time the Project Is In View. Segment S8 would potentially be viewed for limited periods from the KOP as travelers cross the segment along I-10..

Relative Size or Scale. The relative size of the structures would appear larger than the existing transmission structures within the landscape. Because of the relative size of the structures when compared with the existing structures, and because of the proximity to the structures, there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Vegetation conditions in areas of disturbance are also expected to change over several years as restoration takes place. Because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape is open, flat, and horizontal with some rural development. There are several smaller mountains in the distant background. The proposed structures and conductors would be primarily visible against the sky and there would be a moderate contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is motion within the landscape from vehicle traffic along Muir Road. In the short term, motion associated with construction equipment along segment S8 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: **KOP H-01** – N. Cascabel Rd. – Community of Pomerene

3. VRM Class: Representative ROW would pass through non BLM land

4. Location

Township 16S

Range 20E

Section 27

5. Location Sketch
32.016674821x-110.298128337

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat, alluvial valley trending southwest toward San Pedro River MG: Flat valley floor rising sharply to large, range of angular mountain forms spanning across entire view BG: Distant mountain form in center of view No water visible	FG: Multiple vegetative layers; low groundcover and few trees dotted along roadway; flat, low agricultural vegetation along valley floor; distinctive line of trees and shrubs along San Pedro River embankment MG: Swaths of vegetation on mountain forms BG: Indistinct	FG: Long transmission lines spanning entire view; curvilinear paved roadway; short, blocky signage; linear and circular irrigation forms MG: Barely visible blocky residential structure in center of view BG: None visible
LINE	FG: Horizontal, linear plane MG: Contrast of flat, valley floor to rise of mountain forms; continuous, undulating mountain forms with pyramidal peaks spanning across entire view BG: Rounded mountain form No water visible	FG: Directional vegetative layer trending along the roadway and river embankment MG: Indistinct vegetative break at transition between alluvial plane and base of mountain forms; patches of vegetation on mountain forms BG: Indistinct	FG: Two parallel linear transmission lines; horizontal and vertical transmission structures; curvilinear flat roadway; vertical signage; long, linear irrigation lines MG: Barely detectable residential structure BG: Not visible
COLOR	FG: Tans, browns, sandy beige MG: Browns, gray, tans BG: Gray No water visible	FG: Greens, yellows, browns MG: Greens, browns, grays BG: Dark shades of gray	FG: Browns, grays, yellows, blacks, whites MG: Whites BG: Not visible
TEX-TURE	FG: Smooth valley floor MG: Smooth valley floor, coarse continuous mountain forms BG: Coarse distant mountain No water visible	FG: Medium to fine textured rounded shrubs and trees; smooth, fine, groundcover MG: Smooth, patchy BG: Smooth, fine; velvety appearance	FG: Coarse to medium transmission structures; smooth roadway; MG: Blocky medium textured residential structure BG: Not visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: two new monopole structures replace two H-frame structures
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: adding taller vertical elements; undulating horizontal lines visually similar to the existing line though of different span width
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; new galvanized steel gray tower structures
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: transmission poles contribute to additional coarse element to existing landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.

Distance. The KOP is approximately 0.4 mile south of segment H along North Cascabel Road. Segment H crosses private land. Segment H crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment H.

Length of Time the Project Is In View. Segment H would potentially be viewed for limited periods by viewers traveling the road and crossing the segment at a perpendicular angle.

Relative Size or Scale. The relative size of the replacement structures would be similar to the existing transmission structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The open landscape and vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is flat and open with patches of taller vegetation. There are mountains in the background.

Because the proposed structures and conductors cross the view horizontally, they would be visible partially against the sky and the mountainous backdrop, which would contribute to the weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment H would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: **KOP H-02** - Rural residential north of Mescal

3. VRM Class: Representative ROW would pass through non BLM land

4. Location

Township 17S

Range 19E

Section 6

5. Location Sketch
31.989551053x-110.434864840

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Panoramic view, gentle rising hilly forms of valley floor MG: Steep mountain forms in center of view with rounded peaks BG: Distant undulating mountain forms spanning the center-left side of view No water visible	FG: Patchy, irregular rounded forms of low lying desert vegetation on valley floor; groundcover MG: Irregular, dense swaths of vegetation on mountain forms BG: Swaths of vegetation on distant mountain forms	FG: Linear fencing; paved roadway, two parallel linear transmission lines consisting of corridor; diagonal line of railroad track spanning across entire view MG: None visible BG: None visible
LINE	FG: Horizontal, subtle undulating plane of valley floor MG: Series of undulating mountain forms BG: Jagged, mountains forms with rounded peaks No water visible	FG: Uniform groundcover; patchy; clumps of shrubs MG: Fine vegetative line stippled along transition of valley floor and mountain forms; patches of vegetation on mountains BG: Patches of vegetation on distant mountains	FG: Horizontal and vertical transmission structures; linear lines of fencing; strong diagonal line of railroad MG: None visible BG: None visible
COLOR	FG: Tans, browns, sandy beige MG: Light brown, gray mountains BG: Brown, gray mountains No water visible	FG: Greens, yellows, light brown, tans, whites MG: Greens, yellows, light brown, dark shades of gray BG: Browns, dark shades of gray	FG: Grays, browns, blacks, whites MG: None visible BG: None visible
TEXTURE	FG: Smooth MG: Valley floor contrasting with rise of jagged mountainous forms BG: Coarse, rough mountainous forms No water visible	FG: Patchy, clumped vegetative forms MG: Fine, patch-like; velvety appearance BG: Patch-like swaths on distant mountain forms, velvety appearance	FG: Coarse to medium transmission lines and fencing; smooth roadway; coarse railroad track MG: None visible BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: series of new proposed 230kV monopole structures replacing line of existing H-frame structures; skylined against backdrop of distant mountain forms
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: adding taller vertical elements than existing structures; undulating horizontal lines visually similar to the existing line spanning across entire view; emphasis of existing corridor
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; new galvanized steel gray tower structures; whitish appearance based on angle of the sun
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: transmission poles contribute to additional coarse element to existing landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.

Butterfield crossing in immediate foreground. 0.15 mile from AA. Very rural residential.

Distance. The KOP is approximately 0.2 mile south of segment H along North Mescal Road. Segment H crosses private land. Segment H crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment H.

Length of Time the Project Is In View. Segment H would potentially be viewed for limited periods by viewers traveling the road and crossing the segment at a perpendicular angle.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures, but similar in form to other existing structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The open landscape and vegetation would vary in color and texture across the seasons. The patches of taller desert vegetation would not vary much across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required

for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is rolling and includes patches of taller desert vegetation. There are mountains in the background. Because the proposed replacement structures and conductors cross the view horizontally, they would be visible partially against the sky and the mountainous backdrop, which would contribute to the weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment H would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: **KOP H-03** - Mescal rural residential – pasture land

3. VRM Class: Representative ROW would pass through non BLM land

4. Location

Township 17S

Range 18E

Section 13

5. Location Sketch
31.961825206x-110.451872358

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Gentle rising, undulating plane of valley floor MG: Steep mountain forms in right-center of view with pyramidal peaks BG: Distant undulating mountain forms spanning the right side of view No water visible	FG: Patchy, rounded forms of low lying desert vegetation on valley floor; few cacti; scattered groundcover MG: Irregular, scattered trees along skyline in left side of view; dense swaths of vegetation on mountain forms BG: Swaths of vegetation on mountain forms	FG: Linear fencing, tall, linear transmission structures; blocky rural residential structures; signage; paved roadway MG: Barely visible vertical transmission structures; barely visible blocky structure s along transition of valley floor to mountainous foothills in right side of view; paved roadway BG: None visible
LINE	FG: Horizontal, subtle undulating plane of valley floor MG: Discontinuous, undulating mountain forms BG: Jagged, mountains forms with rounded peaks No water visible	FG: Broken, patchy, vegetative layer MG: Discontinuous, horizontal vegetative line along skyline in left side of view; patches of vegetation on mountains BG: Patches of vegetation on distant mountains	FG: Horizontal and vertical transmission structures and fencing, blocky structures, weak diagonal line of roadway MG: Weak vertical transmission lines; barely visible blocky structures BG: None visible
COLOR	FG: Tans, browns, sandy beige, oranges MG: Brown, gray mountains BG: Brown, gray mountains No water visible	FG: Greens, yellows, light brown, tans MG: Greens, yellows, light brown, dark shades of gray BG: Light brown, dark shades of gray	FG: Grays, browns, blacks, whites MG: Blacks, browns, whites, grays BG: None visible
TEXTURE	FG: Smooth valley floor MG: Valley floor contrasting with rise of mountainous forms BG: Coarse, rough mountainous forms No water visible	FG: Patchy, clumped vegetative forms across valley floor MG: Fine, patch-like; velvety appearance BG: Patch-like swaths on mountain forms; velvety appearance	FG: Coarse to medium transmission lines and fencing; blocky structures MG: Fine transmission structures; blocky structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: new proposed monopole structures replace existing H-frame structures; skylined against backdrop of distant mountain forms
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: adding taller vertical elements than existing structures, undulating horizontal lines visually similar to the existing line though of different span width
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; new galvanized steel gray tower structures
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: transmission poles contribute to additional coarse element to existing landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.

Similar to KOP U2-04

Distance. The KOP is approximately 1.0 mile southeast of segment H along East Navajo Trail. Segment H crosses private land. Segment H crosses the view from the KOP north to south.

Angle of Observation. The KOP is at a slightly lower observational angle to segment H.

Length of Time the Project Is In View. Segment H would potentially be viewed for limited periods by viewers traveling the road.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures, but similar in form to other existing structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The open landscape and vegetation would vary in color and texture across the seasons. The patches of taller desert vegetation would not vary much across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is rolling and includes patches of taller vegetation. There are mountains in the background. Because the proposed replacement structures and conductors cross the view horizontally, they would be visible partially against the sky and the mountainous backdrop, which would contribute to the weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment H would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U1-01 – NW Coronado National Forest

3. VRM Class: Representative ROW would pass through non BLM land

4. Location

Township 16S

Range 23E

Section 28

5. Location Sketch
32.01636000000x-110.01371

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Panoramic view; flat horizontal plane gently trending north-northwest MG: Sweeping valley floor rises to undulating mountain forms spanning entire view BG: Distant undulating mountain forms in left side of view No water visible	FG: Uniform, low lying desert vegetation consisting of low shrubs and groundcover MG: Stippled low lying desert vegetation on mountain forms BG: Indistinct	FG: Two sets of parallel transmission lines spanning entire view; single transmission line in far FG, linear roadway in left side of view MG: Barely visible blocky residential structure obscured behind vegetation; curving dirt road along mountain form BG: None visible
LINE	FG: Horizontal, continuous line of valley floor MG: Horizontal, continuous line of valley floor rises to diagonal, jagged, mountains forms with pyramidal peaks BG: Jagged mountainous forms No water visible	FG: Single-story, horizontal vegetative layer on valley floor MG: Diagonal, swath-like patches on mountain forms BG: Indistinct	FG: Horizontal and vertical transmission structures; horizontal, linear roadway MG: Barely visible irregular horizontal line of residential structures; curving dirt road BG: None visible
COLOR	FG: Tans, browns, sandy beige MG: Tans, browns, sandy beige BG: Distant light brown, gray mountains No water visible	FG: Greens, yellows, light brown, tan MG: Greens, yellows, light brown, tan, dark shades of gray BG: Indistinct	FG: Browns, blacks, shade of gray MG: Browns, blacks, shade of gray, whites BG: None visible
TEXTURE	FG: Smooth valley floor MG: Valley floor contrasting with rise of course mountainous forms BG: Coarse, continuous mountainous forms No water visible	FG: Smooth, continuous vegetative plane blankets valley floor MG: Stippled vegetation rising up mountain form, patch-like swaths BG: Indistinct	FG: Coarse to medium transmission lines, granular, irregular dirt road MG: Fine residential structures and dirt road BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: bold, prominent, taller transmission structure replaces existing structure in landscape
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: prominent vertical structure, new conductor lines are more prominent and add new horizontal element above existing lines
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structure
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: transmission structure and conductors form course texture on landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.
On the edge of Coronado NF but facing N (away from Forest). No public sensitivity identified for this view orientation. Also, Coronado NF plan conformance indicates the scenic quality in this area would permit change to the aesthetic environment.

Distance. The KOP is approximately 0.2 mile south of segment U1a along the dirt road Lizard Lane. Segment U1a crosses private land. Segment U1a crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment U1a.

Length of Time the Project Is In View. Segment U1a would potentially be viewed for limited periods by viewers traveling the road and crossing the segment at a perpendicular angle.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be moderate contrasts.

Season of Use. The open landscape and low lying desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open and flat and includes patches of taller desert vegetation. There are mountains in the background. Because the proposed replacement structures and conductors cross the view horizontally, they would be visible primarily against the sky, which would contribute to the moderate visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be further visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U1a would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U2-01 - Recreational Park in Benson

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 17S
Range 20E
Section 9

5. Location Sketch
31.972924836x-110.299218202

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat, recreational field trending northeast MG: Indistinct BG: Range of undulating mountain forms with pyramidal peaks and associated foothills No water visible	FG: Uniform, low lying groundcover; strip of shrubs and trees at the edge of recreational field MG: Vegetation in FG blocks MG view BG: Swaths of vegetation on mountain forms	FG: Long, horizontal transmission lines spanning across entire view; tall light poles; linear fencing; surrounding recreational field; blocky residential forms on left side of view; flat paved parking lot; tall, blocky billboard structures MG: None visible BG: None visible
LINE	FG: Horizontal, linear plane MG: Indistinct BG: Indistinct line from valley floor to rise of mountainous forms; undulating, continuous mountain forms with pyramidal peaks spanning entire view No water visible	FG: Two horizontal vegetative layers consisting of groundcover and shrubs and trees MG: Indistinct BG: Patches of vegetation on distant mountains	FG: Horizontal and vertical transmission structures; tall linear light poles; linear, horizontal fencing, blocky vertical signage MG: None visible BG: None visible
COLOR	FG: Tans, browns, sandy beige MG: Indistinct BG: Brown, gray mountains No water visible	FG: Greens, yellows, light brown, tan MG: Indistinct BG: Browns, dark shades of gray	FG: Gray, silver, browns, yellow, whites, black MG: None visible BG: None visible
TEXTURE	FG: Smooth valley floor MG: Indistinct BG: Coarse, continuous mountainous forms No water visible	FG: Smooth groundcover, medium to fine strip of vegetation MG: Indistinct BG: Patch-like swaths on mountain forms	FG: Coarse to medium continuous transmission lines, coarse light poles; blocky structures, smooth parking lot MG: None visible BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: existing structures replaced with new taller monopole structures; skylined above distant mountain forms
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new 230kV lines visually similar to existing horizontal, undulating conductors yet with different span width; vertical height of new structures emphasizes vertical lines contrasting against skyline
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structures
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.
0.5 mile from line; 3.5 miles from alternative. KOP located on western edge of residential area between Hwy 80 and I-10.

Distance. The KOP is approximately 0.5 mile south of segment U2 in Benson. Segment U1a crosses private land. Segment U2 crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment U2.

Length of Time the Project Is In View. Segment U2 would potentially be viewed for extended periods by viewers in the recreational park.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structure, but would be similar in form to the existing tall light structures of the field. Because of the relative size of the structures when compared with other existing structures, there would be moderate contrasts.

Season of Use. The open landscape and vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, some screening provided by vegetation surrounding

the park, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open and flat and includes a line of taller desert vegetation. There are mountains in the background. Because the proposed replacement structures and conductors cross the view horizontally, they would be visible primarily against the sky, which would contribute to the moderate visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be further visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U2 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U2-02 - Future Benson residential development

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 17S
Range 19E
Section 12

5. Location Sketch
31.968105312x -110.356656752

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Unobstructed panoramic view; flat horizontal plane gently trending north-northeast MG: Sweeping valley floor rises to mountain foothills BG: Distinctive undulating mountain forms spanning the entire view No water visible	FG: Uniform, low lying desert vegetation blankets valley floor MG: Uniform, low lying desert vegetation BG: Swaths of vegetation on mountain forms	FG: Linear fencing; long, linear transmission line spanning across entire view MG: Barely visible vertical transmission structures; barely visible blocky structure s along valley floor in right side of view BG: None visible
LINE	FG: Horizontal, continuous line of valley floor MG: Horizontal, continuous line of valley floor rising to foothills BG: Jagged, mountains forms with conical peaks No water visible	FG: Single-story, horizontal vegetative layer blankets valley floor MG: Continuation horizontal line of low lying desert vegetation blanketing valley floor BG: Patches of vegetation on distant mountains	FG: Horizontal and vertical transmission structures and fencing MG: Weak vertical transmission lines, barely visible blocky structures BG: None visible
COLOR	FG: Tans, browns, sandy beige MG: Tans, browns BG: Brown, gray, sandy beige mountains No water visible	FG: Greens, yellows, light brown, whites MG: Greens, yellows, light brown, whites BG: Light brown, dark shades of gray	FG: Grays, browns, blacks MG: Blacks, browns, whites, BG: None visible
TEX-TURE	FG: Smooth valley floor MG: Continuous, valley floor contrasting with rise of mountainous forms BG: Coarse, continuous mountainous forms No water visible	FG: Smooth, continuous vegetative plane blankets valley floor MG: Smooth, continuous vegetative plane blankets valley floor BG: Patch-like swaths on mountain forms	FG: Medium to fine transmission lines and fencing MG: Fine transmission structures; blocky structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: prominent, taller transmission structures replace existing line in largely undeveloped landscape
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed 230kV transmission structures and conductors are more prominent than existing line, creating bolder vertical and horizontal elements in the landscape
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structures
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed transmission structures and conductors form coarse texture on landscape compared to existing line

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

Dark Star Rd. recently paved with turn-offs indicating additional future roads/development. Currently 1 ranch, no other sensitive viewers, existing "H" frame in middleground.

Distance. The KOP is approximately 0.3 mile south of segment U2 along Dark Star Road. Segment U2 crosses private land. Segment U2 crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment U2.

Length of Time the Project Is In View. Segment U2 would potentially be viewed for limited periods by viewers traveling the road.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be moderate contrasts.

Season of Use. The open landscape and patchy desert vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, and the screening by existing vegetation between the KOP and segment, there would be no visible contrast.

Spatial Relationships. The landscape in the fore ground is open and flat and includes patches of taller desert vegetation. There are mountains in the background. The proposed replacement structures would be visible primarily against the mountainous backdrops, which would contribute to a weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be further visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U2 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

U.S. GOVERNMENT PRINTING OFFICE: 1985-461-988/33094

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U2-03 - N. Mescal Rd - rural residential

3. VRM Class: Representative ROW would pass through non BLM land

4. Location

Township 17S

Range 19E

Section 8

5. Location Sketch
31.964829750x-110.434545533

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat, horizontal valley floor MG: Expansive, flat, horizontal valley floor rises sharply to mountainous foothills BG: Series of distinctive undulating mountain forms spanning the entire BG view with pyramidal peaks No water visible	FG: Linear strip of vegetation paralleling roadway; dense trees and shrubs in right side of FG obscuring MG view; low lying desert vegetation dotting valley floor MG: Low lying vegetation dotting valley floor BG: Stippled and swaths of vegetation on mountain forms	FG: Prominent, paved linear roadway, roadway signage, linear transmission lines; blocky residential structures within the rural residential area of Mescal MG: Vertical transmission structures; blocky residential structures dotting valley floor BG: None visible
LINE	FG: Horizontal, continuous line of valley floor MG: Horizontal, continuous line of valley floor rising to sharply to rolling foothills BG: Steep, jagged, mountain forms with pyramidal peaks No water visible	FG: Linear vegetative strip of trees along roadway; irregular vegetative layer stippled across valley floor MG: Irregular vegetative layer stippled across valley floor BG: Patches of vegetation on distant mountains	FG: Linear, undulating roadway, perpendicular transmission lines; repeating horizontal and vertical transmission structures paralleling roadway; short vertical signage; clumps of residential development MG: Weak vertical transmission lines; clumps of residential development BG: None visible
COLOR	FG: Tans, browns, sandy beige MG: Tans, browns, sandy beige BG: Brown, gray, sandy beige mountains No water visible	FG: Dark greens, yellows, light brown, tans MG: Dark greens, yellows, light brown, tans BG: Dark greens, light brown, dark shades of gray	FG: Grays, browns, blacks, yellows MG: Blacks, browns, whites, BG: None visible
TEXTURE	FG: Smooth valley floor MG: Continuous, valley floor contrasting with sharp rise of mountainous forms BG: Coarse, continuous mountainous forms with pyramidal peaks No water visible	FG: Medium to fine MG: Fine, smooth BG: Smooth, patch-like swaths and stippled areas on mountain forms	FG: Coarse to medium transmission lines, smooth paved roadway MG: Fine transmission structures, blocky structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: bold new transmission structure creates strong to moderate vertical form; proposed 230 kV line adds new element to existing lines
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new structures add contrasting perpendicular element to existing lines; conductor lines are relatively prominent since they cross the road
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structure
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new transmission line makes landscape somewhat more coarse

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names: Mark Greenig, MariaElena Conserva, and Angela Wolfe

Date: September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

Distance. The KOP is less than 0.1 mile south of segment U2 along North Mescal Road. Segment U2 crosses private land. Segment U2 crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment U2.

Length of Time the Project Is In View. Segment U2 would potentially be viewed for limited periods by viewers traveling the road and crossing the segment at a perpendicular angle.

Relative Size or Scale. The relative size of the replacement structures would be much taller than the existing transmission structures and substantially different form than the existing structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be strong contrasts.

Season of Use. The open landscape and patchy vegetation would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required

for the proposed project and the screening by existing vegetation between the KOP and segment, there would be no visible contrast.

Spatial Relationships. The landscape in the fore ground is open and flat and includes patches of taller vegetation. There are mountains in the background. The proposed replacement structures would be visible primarily against the sky which would contribute to the strong visual contrast.

Atmospheric Conditions. Because of the proximity to the segment, atmospheric conditions are not expected to result in changes to the visibility or contrast of the replacement structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U2 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

U.S. GOVERNMENT PRINTING OFFICE: 1985-461-988/33094

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U2-04 - Mescal rural residential – pasture land

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 17S
Range 18E
Section 13

5. Location Sketch
31.961825206x-110.451872358

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Gentle rising, undulating plane of valley floor MG: Steep mountain forms in right-center of view with pyramidal peaks BG: Distant undulating mountain forms spanning the right side of view No water visible	FG: Patchy, rounded forms of low lying desert vegetation on valley floor; few cacti; scattered groundcover MG: Irregular, scattered trees along skyline in left side of view; dense swaths of vegetation on mountain forms BG: Swaths of vegetation on mountain forms	FG: Linear fencing, tall, linear transmission structures; blocky rural residential structures; signage; paved roadway MG: Barely visible vertical transmission structures; barely visible blocky structure s along transition of valley floor to mountainous foothills in right side of view; paved roadway BG: None visible
LINE	FG: Horizontal, subtle undulating plane of valley floor MG: Discontinuous, undulating mountain forms BG: Jagged, mountains forms with rounded peaks No water visible	FG: Broken, patchy, vegetative layer MG: Discontinuous, horizontal vegetative line along skyline in left side of view; patches of vegetation on mountains BG: Patches of vegetation on distant mountains	FG: Horizontal and vertical transmission structures and fencing, blocky structures, weak diagonal line of roadway MG: Weak vertical transmission lines; barely visible blocky structures BG: None visible
COLOR	FG: Tans, browns, sandy beige, oranges MG: Brown, gray mountains BG: Brown, gray mountains No water visible	FG: Greens, yellows, light brown, tans MG: Greens, yellows, light brown, dark shades of gray BG: Light brown, dark shades of gray	FG: Grays, browns, blacks, whites MG: Blacks, browns, whites, grays BG: None visible
TEXTURE	FG: Smooth valley floor MG: Valley floor contrasting with rise of mountainous forms BG: Coarse, rough mountainous forms No water visible	FG: Patchy, clumped vegetative forms across valley floor MG: Fine, patch-like; velvety appearance BG: Patch-like swaths on mountain forms; velvety appearance	FG: Coarse to medium transmission lines and fencing; blocky structures MG: Fine transmission structures; blocky structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: new proposed monopole structures replace existing H-frame structures; skylined against backdrop of distant mountain forms
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: adding taller vertical elements than existing structures, undulating horizontal lines visually similar to the existing line though of different span width
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; new galvanized steel gray tower structures
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: transmission poles contribute to additional coarse element to existing landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

Located on Navajo Trail Road. Low density residential homesteads with existing views of "H" frames. Similar to KOP H-03

Distance. The KOP is 0.2 mile south of segment U2 along Navajo Trail Road. Segment U2 crosses private land. Segment U2 crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment U2.

Length of Time the Project Is In View. Segment U2 would potentially be viewed for limited periods by viewers traveling the road and extended periods from residential homesteads in the area.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures, but similar in form to other existing structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The open landscape and vegetation would vary in color and texture across the seasons. The patches of taller desert vegetation would not vary much across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is rolling and includes patches of taller vegetation. There are mountains in the background. Because the proposed replacement structures and conductors cross the view horizontally, they would be visible partially against the sky and the mountainous backdrop, which would contribute to the weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U2 would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

U.S. GOVERNMENT PRINTING OFFICE: 1985-461-988/33094

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-03 Transmission Line Crossing at Hwy 83

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 16
Range 16
Section 35

5. Location Sketch
32.00103x-110.68832

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Panoramic view, subtle, rolling, directional, plane trending north-northwest MG: Continuation of valley floor, transition to sharp rise of undulating mountain forms and associated foothills BG: Jagged, continuous mountain forms with pyramidal peaks spanning background view No water visible	FG: Clumps of low lying vegetation MG: Dense swaths and patches of vegetation on mountain forms and foothills BG: Dense, dark patches on distant mountains	FG: Linear and diagonal roadways, blocky residential structures; long transmission lines spanning entire view; vertical communication towers, roadway signage; linear fencing MG: Blocky residential structures, linear transmission lines, curvilinear roadways, roadway signage, communication towers; no structures visible on mountain forms BG: None visible
LINE	FG: Continuous line of valley floor MG: Subtle rolling plane rising sharply to undulating mountain forms, diagonal BG: Undulating, continuous mountain forms with pyramidal peaks across skyline of background No water visible	FG: Single, irregular vegetative layer, linear line of vegetation paralleling roadway MG: Indistinct vegetative break at transition between valley floor and mountain forms; patchy swaths on mountains BG: Patch-like swaths	FG: Linear roadway, vertical and horizontal transmission structures, blocky residential forms MG: Blocky residential forms create a line of development across valley floor and mountain foothill; curvilinear roadway BG: None visible
COLOR	FG: Tans, browns, reds MG: Tans, browns BG: Tans, browns, No water visible	FG: Greens, whites, light brown, tan MG: Greens, light brown, tan BG: Dark gray	FG: Range of white to black hues MG: Whites, browns, blacks, greens BG: None visible
TEX-TURE	FG: Smooth valley floor MG: Smooth valley floor, coarse, rough mountain forms BG: Coarse, rough mountain forms with pyramidal peaks No water visible	FG: Fine to medium, discontinuous, non-directional MG: Fine, patchy swaths BG: Fine, patchy swaths	FG: Fine smooth roadway, discontinuous blocky structures, medium to coarse transmission lines MG: Medium to fine line of development BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed linear sequence of transmission poles taller than existing H-frame structures, undulating conductor lines
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed 230kV line adds taller vertical elements; undulating horizontal lines span across entire landscape, distinctive over the roadway; visually similar to the existing line though of different span width
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; new galvanized steel gray tower structures
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed 230kV transmission structures create medium to coarse repeating design that mirrors pattern of existing line

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.
Located along SR 83.

Distance. The KOP is 0.2 mile south of segment U3a along SR83. Segment U3a crosses private land. Segment U3a crosses the view from the KOP east to west.

Angle of Observation. The KOP is at an even horizontal angle to segment U3a.

Length of Time the Project Is In View. Segment U3a would potentially be viewed for limited periods by viewers traveling the road.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures, but similar in form to other existing structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The open landscape and vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be limited, weak visible contrast over time.

Spatial Relationships. The landscape in the fore ground is rolling and includes patches of taller vegetation. There are mountains in the background. The proposed replacement structures and conductors cross the view horizontally; they would be visible partially against the sky and the mountainous backdrop, which would contribute to the weak visual contrast.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there would be reduced visibility of the proposed structures and reduced visual contrasts at times.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U3a would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-04- Sonoita Ranch Residential

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 16S
Range 16E
Section 27

5. Location Sketch
32.005748050 x -110.696156339

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat horizontal plane gently trending northwest MG: Not visible BG: Not visible No water visible	FG: Low lying sparse vegetative layer consisting of few short shrubs and groundcover MG: Not visible BG: Not visible	FG: Single transmission line in center view; one paved and several unpaved flat driveways transecting view; several single-story building forms and associated vehicles within the rural residential development of Sonoita Ranch; MG: None visible BG: None visible
LINE	FG: Horizontal, continuous line on valley floor MG: Not visible BG: Not visible No water visible	FG: Single irregular horizontal vegetative layer MG: Not visible BG: Not visible	FG: Diagonal driveways; long, linear parallel transmission lines, blocky residential forms MG: None visible BG: None visible
COLOR	FG: Tans, browns MG: Indistinct BG: Indistinct No water visible	FG: Greens, yellows, light brown, tan MG: Not visible BG: Not visible	FG: Soft white to tan road, dark brown transmission lines; tans and browns residential structures MG: None visible BG: None visible
TEX-TURE	FG: Smooth valley floor MG: Indistinct BG: Indistinct No water visible	FG: Fine to medium, discontinuous; non-directional MG: Not visible BG: Not visible	FG: Fine smooth driveways, discontinuous blocky structures, medium to coarse transmission lines MG: None visible BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: linear sequence of transmission structures similar in form as those of the existing line but taller; bold linear conductor lines skylined above residences MG and BG: no change
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: prominent vertical structures; linear sequence of transmission poles MG and BG: no change
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structures MG and BG: no change
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new 230kV transmission structures increase coarse texture than existing line against flat horizontal plane MG and BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Proposed upgrades are located on non BLM land.

Distance. The KOP is 0.01 mile north of segment U3a from South Sonoita Ranch Circle. Segment U3a crosses private land. Segment U3a crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a slightly lower observational angle to segment U3a.

Length of Time the Project Is In View. Segment U3a would potentially be viewed for extended periods from residences at the KOP.

Relative Size or Scale. The relative size of the replacement structures would be somewhat taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be moderate contrasts.

Season of Use. The sparse landscaped vegetation in the residential area would not vary dramatically across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is a single family residential area. The proposed replacement structures and conductors are in the immediate fore ground; they would be visible entirely against the sky, which would contribute to the moderate visual contrast.

Atmospheric Conditions. Because of the proximity of the KOP, changes in atmospheric conditions are not expected to result in changes to visual contrast, however, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U3a would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-05 - SW corner of Tucson Raceway Park

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 16S
Range 15E
Section 14

5. Location Sketch
32.034240949x -110.790942490

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat horizontal plane gently trending southeast MG: Continuation of horizontal plane BG: Series of parallel undulating mountain forms with pyramidal peaks spanning entire view No water visible	FG: Uniform, low lying vegetative layer consisting of short shrubs, trees, and groundcover MG: Continuation of uniform vegetative layer across valley floor BG: Dense swaths of vegetation on mountain forms and foothills	FG: Three parallel transmission lines spanning entire view; one paved roadway in center of view; roadway signage; blocky residential structures MG: Strip of blocky residential structures BG: Patch of blocky residential structures on lower mountain foothills on right side of view
LINE	FG: Horizontal, continuous line on valley floor MG: Flat, continuous horizontal plane BG: Jagged, parallel, undulating mountain forms spanning across entire view No water visible	FG: Single, continuous horizontal vegetative layer spanning across valley floor MG: Singular, uniform vegetative layer blankets valley floor BG: Patch-like swaths	FG: Long, vertical and horizontal parallel transmission structures sky lined against mountain forms, discontinuous line of blocky residential forms, curvilinear roadway MG: Barely visible strip of blocky residential structures in far MG BG: Barely visible blocky residential structures
COLOR	FG: Tans, browns MG: Indistinct BG: Browns, gray No water visible	FG: Greens, yellows, tans MG: Greens, yellows, tans BG: Dark patches of gray	FG: Range of black to white hues MG: Whites, browns, tans BG: Browns, tans
TEXTURE	FG: Uniform, smooth valley floor MG: Smooth valley floor BG: Jagged mountain forms contrasting from smooth valley floor No water visible	FG: Fine to medium, uniform MG: Fine, uniform BG: Fine, patchy swaths	FG: Fine smooth roadway; medium to coarse transmission lines; fine to medium residential structures MG: Fine residential structures BG: Fine residential structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: linear sequence of monopole transmission structures similar in form as existing line of H-frame structures but taller; bolder linear conductors
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: taller vertical structures added to landscape; horizontal lines visually similar to existing linear sequence of transmission lines; additional conductors add to existing corridor
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structures
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

Fairgrounds are 0.8 mile from E. Dawn Road, parking lot and raceways are located closest to the line (lowest sensitivity viewers are represented from this viewpoint)

Distance. The KOP is 0.06 mile north of segment U3a from South Harrison Road and Dawn Road at the Tucson Speedway. Segment U3a crosses private land. Segment U3a crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a horizontal viewing angle to segment U3a.

Length of Time the Project Is In View. Segment U3a would potentially be viewed for limited periods by viewers traveling the road.

Relative Size or Scale. The relative size of the replacement structures would be somewhat taller than the existing transmission structures. Because of the relative size of the structures when compared with other remaining existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The sparse vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is flat and open with some taller vegetation along the roadways. The paved road curves away from the view in the immediate foreground. There are mountains in the background. The proposed replacement structures and conductors would be visible against the sky, but would be similar to the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the KOP, changes in atmospheric conditions are not expected to result in changes to visual contrast, however, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U3a would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

U.S. GOVERNMENT PRINTING OFFICE: 1985-461-988/33094

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VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-06 – E Old Vail Hwy /S Broken Cactus Way Residential

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 15S
Range 14E
Section 32

5. Location Sketch
32.075773248x-110.937005121

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat horizontal plane MG: Not visible BG: Steep mountain form rising from flat valley floor in center-left side of view No water visible	FG: Low lying vegetative layer consisting of shrubs and trees MG: Uniform vegetative layer extending into MG BG: Swaths of vegetation on mountain forms	FG: Several transmission lines extending from FG into MG; one unpaved roadway in center of view; single-story blocky forms and associated vehicles within rural residential development; blocky transformer; linear fencing; signage MG: Long, linear transmission lines; un paved roadway BG: None visible
LINE	FG: Horizontal, continuous line on valley floor MG: Not visible BG: Continuous, undulating mountain forms No water visible	FG: Single, uniform horizontal vegetative layer MG: Single, uniform horizontal vegetative layer BG: Patches of vegetation on distant mountains	FG: Long, linear transmission lines, blocky residential forms; linear roadway MG: Several linear transmission lines; long, linear roadway BG: None visible
COLOR	FG: Tans, browns MG: Indistinct BG: Brown, gray mountains No water visible	FG: Greens, yellows, light brown, tan MG: Greens, browns BG: Browns, dark shades of gray	FG: Tans, browns, orange, greens, gray, blacks MG: Browns, black, gray BG: None visible
TEX-TURE	FG: Smooth valley floor MG: Indistinct BG: Course mountain forms No water visible	FG: Round, wispy, medium textured vegetative forms MG: Not visible BG: Not visible	FG: Fine smooth roadway; discontinuous blocky structures, medium to coarse transmission lines MG: Fine transmission structures barely visible in distant MG view BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: new sequence of poles, taller than those of existing transmission line MG: new sequence of poles creates thin vertical forms
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new transmission poles and lines visually similar to the existing line though taller and more prominent MG: new transmission poles converge in distance, creating singular fine vertical linear form
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG and MG: metallic conductors; galvanized steel gray tower structures with whitish appearance due to angle of sun
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG and MG: new transmission poles create more streamline view, decreasing clutter and coarse texture compared to existing transmission line against landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.
Potential EJ community to the south.

Distance. The KOP is less than 0.01 mile south of segment U3a from Old Vail Road. Segment U3a crosses private land. Segment U3a crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a slightly lower observational angle to segment U3a.

Length of Time the Project Is In View. Segment U3a would potentially be viewed for extended periods from residences at the KOP.

Relative Size or Scale. The relative size of the replacement structures would be similar but somewhat taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, there would be weak contrasts.

Season of Use. The vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is wide gravel surface road lined with vegetation and utility structures. There are metal fences and low rectangular residences. The proposed replacement structures and conductors are in the fore ground. There are mountains in the background. The proposed replacement structures and conductors would be visible against the sky, but would be similar to the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the KOP, changes in atmospheric conditions are not expected to result in changes to visual contrast, however, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment along segment U3a would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

U.S. GOVERNMENT PRINTING OFFICE: 1985-461-988/33094

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-07 –San Xavier

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 15S
Range 13E
Section 22

5. Location Sketch
32.106658x-111.0082

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat alluvial valley MG: Flat alluvial valley; foothills rising sharply BG: Rounded mountains No water visible	FG: Two distinct vegetative layers consisting of a smooth, uniform, low lying groundcover and continuous line of trees and shrubs spanning the entire view MG: Uniform vegetative layer blankets the valley; dense swaths and patches of vegetative forms on foothills BG: Dense, dark patches on distant mountains	FG: Flat, paved surface-level parking, parking signage, bollards; hardscape landscaping elements, rustic picnic area, waste bins MG: Long transmission line in FG/MG transition BG: None visible
LINE	FG: Flat, horizontal, continuous plane MG: Flat, horizontal plane; continuous mountain formations with pyramidal peaks BG: Soft undulating mountain formations with pyramidal peaks No water visible	FG: Horizontal, simple, continuous, swaths and patches on outcrop MG: Indistinct vegetative break at transition between alluvial plane and base of mountain forms BG: Patch-like swaths	FG: Level parking lot, vertical signage, blocky repeating hardscape elements create distinct linear line; rugged picnic structure, curvilinear walkway; diagonal planter; blocky waste bins MG: Long, continuous, repeating linear transmission lines BG: None visible
COLOR	FG: Tan and brown MG: Brown and gray foothills BG: Brown and gray mountains No water visible	FG: Greens, light brown, tan MG: Greens, blues, gray BG: Blues, gray	FG: Range of white to black hues MG: Brown and black transmission structures BG: None visible
TEXTURE	FG: Smooth, continuous valley floor MG: Indistinct valley floor transitioning to smooth velvety foothills BG: Coarse, continuous, mountain peaks No water visible	FG: Fine, soft wispy trees and groundcover MG: Fine and uniform BG: Fine and discontinuous	FG: Smooth parking area; granular, dotted, ordered hardscape; coarse signage, coarse picnic area MG: Medium to fine transmission structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	MG: fine linear sequence of monopole transmission structures similar in form as existing line but taller; linear conductors slightly more visible against backdrop of distant mountain forms
LINE	FG, MG, BG: no change	FG, MG, BG: no change	MG: taller vertical structures added to landscape, above tree line; horizontal lines visually similar to existing linear sequence of transmission lines creating weak contrast to existing line
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	MG: metallic conductors; galvanized steel gray tower structures
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.

Distance. The KOP is 2.0 miles west of segment U3a from Mission San Xavier Del Bac. Segment U3a crosses private land. Segment U3a crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3a.

Length of Time the Project Is In View. Segment U3a would potentially be viewed for extended periods from the Mission.

Relative Size or Scale. The relative size of the replacement structures would be similar but somewhat taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, and the distance to the upgrade structures there would be weak contrasts.

Season of Use. The vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open park like setting with a wide parking lot interspersed with trees and small signs. There are mountains in the background. The proposed replacement structures and conductors would be visible against the darker backdrop of the mountains, and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3a would attract more attention to the project. During operation, the structures would be static.

Proposed upgrades are located on private land.

1.5 miles from line. Line is not visible from this location.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-07a –San Xavier (*new to the Final EIS)

3. VRM Class:
Representative ROW would pass through non BLM land

4. Location
Township 15S
Range 13E
Section 22

5. Location Sketch
32.106658x-111.0082

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat alluvial valley MG: Flat alluvial valley; foothills rising sharply BG: Rounded mountains No water visible	FG: Two distinct vegetative layers consisting of a smooth, uniform, low lying groundcover and continuous line of trees and shrubs spanning the entire view MG: Uniform vegetative layer blankets the valley; dense swaths and patches of vegetative forms on foothills BG: Dense, dark patches on distant mountains	FG: Flat, paved surface-level parking, parking signage, bollards; hardscape landscaping elements, rustic picnic area; waste bins MG: Long transmission line in FG/MG transition BG: None visible
LINE	FG: Flat, horizontal, continuous plane MG: Flat, horizontal plane; continuous mountain formations with pyramidal peaks BG: Soft undulating mountain formations with pyramidal peaks No water visible	FG: Horizontal, simple, continuous, swaths and patches on outcrop MG: Indistinct vegetative break at transition between alluvial plane and base of mountain forms BG: Patch-like swaths	FG: Level parking lot; vertical signage; blocky repeating hardscape elements create distinct linear line; rugged picnic structure; curvilinear walkway; diagonal planter; blocky waste bins MG: Long, continuous, repeating linear transmission lines BG: None visible
COLOR	FG: Tan and brown MG: Brown and gray foothills BG: Brown and gray mountains No water visible	FG: Greens, light brown, tan MG: Greens, blues, gray BG: Blues, gray	FG: Range of white to black hues MG: Brown and black transmission structures BG: None visible
TEX-TURE	FG: Smooth, continuous valley floor MG: Indistinct valley floor transitioning to smooth velvety foothills BG: Coarse , continuous, mountain peaks No water visible	FG: Fine, soft wispy trees and groundcover MG: Fine and uniform BG: Fine and discontinuous	FG: Smooth parking area; granular, dotted, ordered hardscape; coarse signage, coarse picnic area MG: Medium to fine transmission structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	MG: fine linear sequence of monopole transmission structures similar in form as existing line but taller; linear conductors slightly more visible against backdrop of distant mountain forms
LINE	FG, MG, BG: no change	FG, MG, BG: no change	MG: taller vertical structures added to landscape, above tree line ; horizontal lines visually similar to existing linear sequence of transmission lines creating weak contrast to existing line
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	MG: metallic conductors; galvanized steel gray tower structures
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Pamela Cecere; Steve Leslie; Colin Agner

October 27, 2014
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.

Vantage is located on the east side of the San Xavier Mission Church oriented northeast toward proposed alternative. Due to vegetative and human-made obstruction and distance, the proposed upgrade line is barely discernable.

SIMULATED

Distance. The KOP is 2.0 miles west of segment U3a from Mission San Xavier Del Bac. Segment U3a crosses private land. Segment U3a crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3a.

Length of Time the Project Is In View. Segment U3a would potentially be viewed for extended periods from the Mission.

Relative Size or Scale. The relative size of the replacement structures would be similar but somewhat taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structures and with the open landscape, and the distance to the upgrade structures there would be weak contrasts.

Season of Use. The vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is open park like setting with a wide parking lot interspersed with trees and small signs. There are mountains in the background. The proposed replacement structures and conductors would be visible against the darker backdrop of the mountains, and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3a would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-08 – Santa Cruz River Bikeway East River Trail

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 15S
Range 13E
Section 2

5. Location Sketch
32.15223138ó-110.991211112

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Descending low lying floodplain with alluvial embankments MG: Low lying alluvial valley rising to prominent plateau formations in center-left view BG: Distant angular mountains in center and right side of view Water visible in FG	FG: Irregular, multi-layered vegetative layer along riverbed and embankment consisting of simple low lying patchy shrubs and trees MG: Medium dense strip of trees transitioning from the FG/MG, swaths of vegetation on mountain forms BG: Swaths of vegetation on mountain forms	FG: Bold transmission structures; signage; trail fencing; roadway infrastructure; blocky warehouse structures in right side of view; light poles MG: Several transmission lines, residential and commercial buildings across valley floor; barely visible residential and communication structures along ridgeline; roadway cut into the side of plateau formation BG: None visible
LINE	FG: Horizontal line of riverbed; water creates curvilinear pattern MG: Flat, horizontal valley; undulating hill forms rise to plateau formations BG: Distant discontinuous mountain formations with pyramidal peaks Water visible in FG	FG: Vegetative layer in floodplain creates curvilinear pattern; soft strip of low lying vegetation along embankment in the right side of the view MG: Horizontal vegetative line at FG/MG transition; swath BG: None	FG: Perpendicular transmission lines, linear and vertical structures, hard blocky commercial structures; vertical structures MG: Horizontal and vertical structures, irregular line of development; diagonal roadway BG: None visible
COLOR	FG: Sandy beige, tan MG: Indistinct valley floor; shades of brown on plateau formations BG: Brown and gray mountains Water visible in FG	FG: Greens, yellows, tan MG: Greens, browns BG: Browns, gray	FG: Range of white to black hues MG: Browns, blacks, white BG: None visible
TEX-TURE	FG: Sandy gradational riverbed and associated embankment; glossy smooth water MG: Smooth, continuous valley floor; coarse to medium plateau formations BG: Coarse, discontinuous mountain peaks Water visible in FG	FG: Smooth, fine to medium MG: Smooth, fine, stippled BG: Indistinct	FG: Coarse transmission and warehouse structures MG: Medium to fine transmission lines; scattered structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: prominent new transmission pole structures creates weak vertical forms along river embankment; replaces existing monopole and lattice structures
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new structures add weak vertical contrast to existing; skylined above distant mountain forms; new 230kV lines emphasize L-shaped turn
COLO R	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structure; whitish appearance depending on angle of the sun
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed transmission structures add additional coarse texture to landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

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

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

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

Evaluator's Names: Tom Priestley, MariaElena Conserva, and Angela Wolfe
Date: September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

View is representative of bike users along Santa Cruz Bikeway.

Distance. The KOP is within 0.01 mile of segment U3b from the Santa Cruz River Bikeway. Segment U3b crosses private land. Segment U3b crosses the view from the KOP generally north to south.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3b.

Length of Time the Project Is In View. Segment U3b would potentially be viewed for extended periods from the bikeway.

Relative Size or Scale. The relative size of the replacement structures would be similar but somewhat taller than the existing transmission structures. The replacement structures would be similar in form to the existing structures. Because of the relative size of the structures when compared with other existing structures there would be weak contrasts.

Season of Use. The vegetation would vary in color and texture across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground includes the Santa Cruz River Channel interspersed with trees and small signs. There are mountains in the background. The proposed replacement structures and conductors would be visible against the sky and against the darker backdrop of the mountains, and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the segment, changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3b would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-09- S. Newcastle Ct. – Residential development

3. VRM Class: Representative ROW would pass through non BLM land

4. Location

Township 15S

Range 13E

Section 3

5. Location Sketch
32.155422678 x -110.998305101

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat horizontal Santa Cruz valley MG: Pyramidal mountainous peaks in left and right extents of view BG: Not visible No water visible	FG: Strip of tall trees on valley floor MG: None visible BG: Swaths of vegetation on distant mountains	FG: Bold tall transmission lines; blocky residential structures; linear paved roadway; blocky roadway signage; hardscape elements includes blocky sound wall, planters, and rocky groundcover MG: Not visible BG: Not visible
LINE	FG: Flat, horizontal MG: Jagged, rugged pyramidal peaks BG: Not visible No water visible	FG: Single vegetative layer; vertical clump of palm trees in left side of view MG: Indistinct BG: Patches of vegetation on distant mountains	FG: Vertical and horizontal structures; irregular blocky forms; linear horizontal sound wall spanning entire view MG: Not visible BG: Not visible
COLOR	FG: Indistinct MG: Browns, tans BG: Not visible No water visible	FG: Greens and yellow hues MG: Indistinct BG: Browns, dark shades of gray	FG: Tans, range of white to black hues MG: Not visible BG: Not visible
TEX-TURE	FG: Indistinct MG: Coarse rocky mountainous peaks BG: Not visible No water visible	FG: Rounded, medium textured vegetative forms MG: None visible BG: Fine, sparse	FG: Coarse transmission structures; medium blocky structures; granular, uniform hardscape elements MG: Indistinct BG: Indistinct

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: bold new transmission structures replace H-frame structure and clump of three vertical forms in center of view; proposed 230 kV linear form adds prominent vertical and horizontal elements above vegetative layer
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed sequence of prominent transmission poles taller than existing line; conductor lines are undulating horizontal lines; skylined above vegetative layer
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structure
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.

Distance. The KOP is within 0.01 mile of segment U3c from a residential area. Segment U3c crosses private land. Segment U3c crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3c.

Length of Time the Project Is In View. Segment U3c would potentially be viewed for extended periods from the residential area.

Relative Size or Scale. The relative size of the replacement structures would be similar but somewhat taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structure, and the close proximity to the upgrade structures there would be moderate contrasts.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. This area is a developed residential area and there would be no natural vegetation recovery.

Spatial Relationships. The landscape in the residential with low block walls and rectangular structures. The proposed replacement structures and conductors would be visible against the sky and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the segment, changes in atmospheric conditions are not expected to contribute to changes in

contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3c would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-10 – Kennedy Park Fiesta Area – Outdoor Amphitheatre

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 14S
Range 13E
Section 28

5. Location Sketch
32.179196406x-111.013208314

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Simple, ascending smooth hilly forms; regional gradient trending northeast MG: Not visible BG: Not visible No water visible	FG: Two distinct vegetative layers consisting of medium-sized trees and low lying shrubs and groundcover; distinctive saguaros along hillside and ridgeline MG: Not visible BG: Not visible	FG: Blocky amphitheatre structures and associated hardscape; linear fencing; vertical light poles; singular transmission line; curving dirt road in center of view MG: None visible BG: None visible
LINE	FG: Continuous, undulating hilly forms MG: Not visible BG: Not visible No water visible	FG: Two distinctive horizontal vegetative layers transitioning at base of hilly forms; irregular vertical lines from scattered saguaros MG: Indistinct BG: Indistinct	FG: Vertical and horizontal transmission lines; linear, repetitious fencing; curvilinear roadway; vertical light poles MG: Not visible BG: Not visible
COLOR	FG: Browns, tans MG: Indistinct BG: Indistinct No water visible	FG: Greens, yellows MG: Indistinct BG: Indistinct	FG: Range of white to black hues MG: Not visible BG: Not visible
TEX-TURE	FG: Smooth, continuous hilly formations MG: Indistinct BG: Indistinct No water visible	FG: Soft to medium; coarse saguaros; transparent low density vegetation on hillside MG: Indistinct BG: Indistinct	FG: Medium textured transmission structures; smooth roadway; blocky, uniform hardscape structures MG: Not visible BG: Not visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: three H-frame perpendicular structures have been replaced with three taller monopole structures; taller pole structures are skylined above hill form compared to existing structures
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: taller transmission structures create weak degree of contrast compared to existing; long, horizontal, linear lines created by conductors visually similar to existing lines
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; new galvanized steel gray tower structures
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Mark Greenig, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.
Good representation of Kennedy Park.

Distance. The KOP is within 0.01 mile of segment U3d from Kennedy Park. Segment U3d crosses private land. Segment U3d crosses the view from the KOP generally north to south.

Angle of Observation. The KOP is at an inferior observational angle to segment U3d.

Length of Time the Project Is In View. Segment U3d would be viewed for extended periods from the park.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. This area in the immediate fore ground is a developed park and there would be no natural vegetation recovery. Outside the park, restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required, there would be no visible contrast.

Spatial Relationships. The landscape in the park is open with low grass fields, rectangular structures and trees interspersed throughout the area. The proposed replacement structures and conductors would be visible against the sky and the hills just beyond the park and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the segment, changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3d would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

SIMULATED

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Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-11 – Explorers Trail – Tucson Mountain Park

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 14S
Range 13E
Section 28

5. Location Sketch
32.180589907x-111.016308756

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Gravely trail; gentle descending plane trending to the east MG: Expansive, flat, horizontal valley plane BG: Panoramic, elongated pyramidal mountain forms with conical peaks No water visible	FG: Single low lying vegetative layer consisting of short rounded shrubs and trees MG: Fine low vegetation on valley floor BG: Swaths of low vegetative forms on mountain forms	FG: Meandering trails; flat paved roadway; blocky trail signage; linear fencing; linear and vertical transmission lines MG: Distinguishable development of South Tucson BG: Continuation of development of South Tucson; visible industrial structures located in center of far MG/BG view
LINE	FG: Smooth descending horizontal plane MG: Flat valley floor creates horizontal surface BG: Distinguishable transition from horizontal valley floor to rising mountain forms in far MG/BG; continuous, undulating hilly forms No water visible	FG: Uniform, single –story layer MG: Indistinct vegetative break at transition between alluvial plane and base of mountain forms BG: Patch-like swaths on distant mountains	FG: Vertical and horizontal transmission lines; curvilinear trails; flat paved roadway MG: Continuous horizontal line of development BG: Continuous horizontal line of development
COLOR	FG: Beige, tans, brown MG: Indistinct BG: Black and brown hues No water visible	FG: Yellow-greens, whites, orange MG: Greens BG: Browns, dark shades of gray	FG: Beige, browns, black, charcoal, white MG: Whites, tan, grays BG: Range of white to black hues
TEXTURE	FG: Coarse to medium, granular MG: Smooth valley flood BG: Coarse mountains No water visible	FG: Clumped, soft to medium MG. Fine, sparse BG: Fine and discontinuous	FG: Granular trail, medium textured transmission structures, smooth roadway; MG: Medium to fine buildings BG: Smooth, fine structures; blocky industrial structures along base of mountain forms

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: H-frame structure replaced with single monopole structure; skylined above distant mountain forms; prominent new conductors
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: Moderate to weak degree of contrast created by additional horizontal, linear conductors; vertical height of structures contrasts against skyline
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: Moderate to weak degree of contrast depending on time of day and angle of sun
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names Date
Mark Greenig, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

KOP is 0.11 mile from line.

Distance. The KOP is 0.1 mile west of segment U3d from the Explorer Trail. Segment U3d crosses private land. Segment U3d crosses the view from the KOP generally north to south.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3d.

Length of Time the Project Is In View. Segment U3d would be viewed for extended periods from the trail.

Relative Size or Scale. The relative size of the replacement structures would be substantially taller than the existing transmission structures as well as other visible structures within the landscape.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. This area in the immediate fore ground is a developed park and there would be no natural vegetation recovery. Outside the park, restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required, there would be no visible contrast.

Spatial Relationships. The landscape at the trail is open with taller native vegetation throughout. The development of Tucson is visible in the middle ground and there are distant mountains in the background. The proposed replacement structures and conductors would be visible against the sky resulting in moderate contrasts.

Atmospheric Conditions. Because of the proximity of the segment, changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3d would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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Form 8400 - 4
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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-12 - Sentinel Peak Observation Area

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 14S
Range 13E
Section 15

5. Location Sketch
32.208960414x-110.997062706

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Elevated panoramic view, large downward sloping mountain hillside transitioning to alluvial valley floor MG: Valley floor rising to multiple pyramidal mountain formations BG: Large, undulating, jagged distant mountain ridgeline across center of view No water visible	FG: Smooth, uniform, low lying vegetative layer blanketing southern facing mountain slope, distinctive saguaros MG: Uniform low vegetation on valley floor; fine, gradational low lying vegetation on mountain forms BG: Swaths of vegetative forms on distant mountains	FG: Meandering trails; flat paved roadway; long transmission lines; blocky commercial structures at base of mountain form in center of view; domed blocky structure at peak of mountain form in right side of view MG: Distinctive linear paved roadway continuing into far MG; distinguishable blocky development in left side of view; blocky structures cushioned between mountain forms BG: None visible
LINE	FG: Smooth diagonal downward trending plane to flat horizontal valley floor MG: Flat valley floor rising sharply to multiple pyramidal mountain formations BG: Undulating, continuous mountain formations with pyramidal peaks No water visible	FG: Simple, continuous low lying vegetative layer; vertical saguaros MG: Directional, horizontal, gradational transition between valley floor and mountain forms BG: Patch-like swaths on distant mountains	FG: Vertical and horizontal transmission lines; curvilinear trails; continuous linear roadway MG: Broken horizontal line of development BG: None visible
COLOR	FG: Tans, browns MG: Tans, browns BG: Black and brown distant mountains No water visible	FG: Greens, light brown, tan MG: Dark green, light brown, tan BG: Browns, dark shades of gray	FG: Beige, whites, browns MG: Beige, whites, browns BG: None visible
TEXTURE	FG: Smooth, continuous valley floor, clumped outcrop; Coarse, directional mountain, sloping to the south MG: Smooth valley floor; coarse, random pyramidal forms BG: Coarse, continuous, mountain peaks No water visible	FG: Smooth, continuous, directional vegetative plane; coarse saguaros MG: Stippled low lying vegetation on mountain forms BG: Fine and discontinuous	FG: Medium to fine textured transmission structures; fine, granular trails MG: Smooth roadway; medium to fine blocky buildings BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: fine linear sequence of 230kV transmission structures similar in form as existing line but taller; linear conductors slightly more visible along valley floor though creating weak contrast to existing line
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: adds additional element to existing corridor; barely distinguishable taller vertical structures added to landscape, horizontal lines visually similar to existing linear sequence of transmission lines creating weak contrast
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: weak degree of contrast compared to existing line
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

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

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

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

Evaluator's Names Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

Sentinel Peak,

Distance. The KOP is within 1.1 miles of segment U3d from Sentinel Peak. Segment U3d crosses private land. Segment U3d crosses the view from the KOP generally north to south.

Angle of Observation. The KOP is at a superior observational angle to segment U3d.

Length of Time the Project Is In View. Segment U3d would be viewed for extended periods from Sentinel Peak.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required, there would be no visible contrast.

Spatial Relationships. The landscape in the park is open with gentle slopes and jagged mountains in the background, rectangular structures and trees are interspersed outside the park area. The proposed replacement structures and conductors would be visible against the ground and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3d would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-13 –Tumamoc Hill Rd

3. VRM Class: Representative ROW would pass through non BLM land

4. Location

Township 14S

Range 13E

Section 10

5. Location Sketch
32.225561140x -111.001020954

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Diagonal plane; northern facing slope of Tumamoc hill MG: Indistinct BG: Distant, undulating mountain forms with rounded peaks in center – right side of view No water visible	FG: Uniform, low lying vegetative cover; distinctive saguaros and cacti MG: Not visible BG: Dense, dark patches on distant mountains	FG: Cluttered linear fencing; several linear, parallel transmission lines MG: None visible BG: Barely visible dirt road and residential structures on mountainous forms
LINE	FG: Diagonal, continuous plane MG: Indistinct BG: Soft undulating mountain formations with pyramidal peaks No water visible	FG: Uniform, continuous vegetative cover; distinctive vertical saguaros MG: Not visible BG: Patch-like swaths, stippled on distant mountain formations	FG: Horizontal and vertical transmission structures; horizontal lines of fencing MG: None visible BG: Meandering dirt road, simple residential structures
COLOR	FG: Tan and brown hillside MG: Indistinct BG: Brown and gray mountains No water visible	FG: Greens, yellows, tans MG: Indistinct BG: Dark greens, gray	FG: Brown and black transmission structures MG: None visible BG: Tans, browns
TEXTURE	FG: Smooth, continuous MG: Indistinct BG: Coarse, undulating, mountainous forms No water visible	FG: Fine to medium textures MG: Indistinct BG: Fine, stippled	FG: Medium to fine transmission structures MG: None visible BG: Soft dirt road; blocky structures

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: One H-frame and three-pole structure grouping are removed and replaced with single monopole structure; taller pole structure is skylined above hills
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: Additional conductors emphasize diagonal lines creating moderate to weak degree of contrast compared to existing lines
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: Five dark colored vertical structures replaced with two lighter colored elements creating less contrast
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: transmission structures add small degree of texture to existing pattern against smooth slope

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

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

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

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

Evaluator's Names — Date
Mark Greenig, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.
KOP shows historic fence.

Distance. The KOP is within 0.01 mile of segment U3g from Tumamoc Hill Road. Segment U3g crosses private land. Segment U3g crosses the view from the KOP generally north to south.

Angle of Observation. The KOP is at a superior observational angle to segment U3g.

Length of Time the Project Is In View. Segment U3g would be viewed for extended periods from the park.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures and would contribute to the moderate contrast.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required, there would be no visible contrast.

Spatial Relationships. The landscape in the park is open with rolling hills, dense desert vegetation, and jagged mountains in the background. There are numerous utility structures scattered throughout the scenery. The proposed replacement structures and conductors would be visible against the sky and would be similar to the existing sequence of linear structures, but because of their greater size would contribute to the moderate contrasts.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3g would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-15 – Santa Cruz riverbed crossing from trail near Juhan Park

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 13S
Range 13E
Section 34

5. Location Sketch
32.256317323x-111.003154915

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Prominent dry riverbed and associated alluvial wash; sloped embankment MG: Not visible BG: Undulating mountain forms with conical peaks No water visible; dry riverbed	FG: Uniform low lying vegetative clumps on riverbed; rounded low lying vegetative layer consisting of shrubs and trees along top of embankment MG: Indistinct BG: Indistinct	FG: Linear transmission lines; tall light poles, stop lights and associated signage; blocky warehouse and residential structures; domed and cylindrical structures; fencing; sound wall MG: None visible BG: None visible
LINE	FG: Flat horizontal riverbed; distinctive horizontal, continuous sedimentary layers along sloped embankment MG: Not visible BG: Undulating, continuous mountain formations with conical peaks along horizon of view No water visible; dry riverbed	FG: Patchy, stippled MG: Indistinct BG: Indistinct	FG: Linear and vertical structures, blocky, irregular building line; linear fencing MG: None visible BG. None visible
COLOR	FG: Tans, muddy browns, beige MG: Not visible BG: Brown and gray mountains No water visible; dry riverbed	FG: Greens, yellows, browns MG: Indistinct BG: Indistinct	FG: Range of black to white hues MG: None visible BG: None visible
TEX-TURE	FG: Smooth, continuous riverbed; uniform sedimentary alluvial layers MG: Not visible BG: Coarse, continuous, mountains with jagged peaks No water visible; dry riverbed	FG: Sparse, fine, wispy, soft clumps along riverbed and embankment MG: Indistinct BG: Indistinct	FG: Medium to fine transmission lines; medium textured, blocky structures MG: None visible BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: skylined, tall transmission structure replaces smaller existing H-framed structures; conductors visually similar to existing lines, but taller and different span width
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: adds additional element to existing corridor creating moderate to weak level of contrast; 230kV transmission structure adds additional form to several existing vertical lines
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors, galvanized steel gray tower structures; weak degree of contrast compared to existing lines within view
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed transmission structures and conductors slightly increase coarse pattern against sedimentary layers of wash

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

KOP shows multiple T line congestion and represents an area of low public sensitivity (very few receptors)

Distance. The KOP is 0.1 mile south of segment U3i from the Loop Trail. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for extended periods from the trail.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures and comparable to other existing structures in the landscape.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of desert vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required, there would be no visible contrast.

Spatial Relationships. The landscape in the foreground is the flat steep dirt channel of the river. On top of the channel there are numerous utility structures, poles, fences, and buildings scattered throughout the scenery. The proposed replacement structures and conductors would be visible against the sky and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-16 - Silverbell Public Golf Course

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 13 S
Range 13E
Section 28

5. Location Sketch
32.274089865x -111.025120095

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Subtle, sloped, smooth golf course transitions to flat valley floor; trending to the northeast MG: Flat alluvial valley floor BG: Distant rounded mountains with pyramidal peaks in center-left side of view No water visible	FG: Two distinct vegetative layers consisting of a smooth, uniform, low lying manicured lawn transitioning to a dense continuous line of trees MG: Dense, uniform vegetative layer blankets the valley floor BG: Velvety patches of vegetative on mountain forms	FG: Tall, vertical transmission structures; parking lot; tall, vertical poles and barely visible netting associated with driving range; blocky irrigation elements; vertical course markers; fencing MG: Vertical transmission lines; blocky residential structures BG: None visible
LINE	FG: Subtle curve; flat, horizontal, continuous plane MG: Flat, horizontal plane BG: Discontinuous mountain formations with pyramidal peaks No water visible	FG: Horizontal, uniform, continuous plane, distinct vegetative break along edge of course MG: Horizontal, continuous BG: Patch-like swaths	FG: Level parking lot; vertical and horizontal transmission structures; long transmission lines; repetitious vertical poles of driving range; irregular blocky irrigation elements MG: Barely visible transmission lines; subtle discontinuous line of residential development BG: None visible
COLOR	FG: Indistinct MG: Indistinct BG: Brown and gray mountains distant mountainous forms No water visible	FG: Light green, yellows, tans MG: Greens, yellows BG: Blues, gray	FG: Range of white to black hues MG: Brown and gray transmission structures; whites, tans residential structures BG: None visible
TEX-TURE	FG: Smooth, continuous MG: Indistinct valley floor transitioning to jagged mountains BG: Coarse, discontinuous, mountain peaks No water visible	FG: Fine, soft cover; fine, rounded wispy trees MG: Fine and uniform BG: Fine and discontinuous	FG: Coarse to medium transmission structures; granular parking lot, MG: Medium to fine transmission structures BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: visible H-frame structures replaced with taller 230kV structures; new conductors create weak degree of contrast
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: long, undulating, linear transmission lines visually similar to existing lines; additional conductors add to existing linear lines within corridor
COLO R	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structures
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names: Tom Priestley, MariaElena Conserva, and Angela Wolfe
Date: September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

KOP from Silverbell Golf Course links facing west

Distance. The KOP is less than 0.1 mile east of segment U3i from Silverbell Golf Course. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally north to south.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for extended periods from the course.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures but comparable to other existing structures in the landscape.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Because of existing vegetation screening and the small scale of vegetation disturbance required for the upgrade through this area, there would be no visible contrast.

Spatial Relationships. The landscape in the foreground is the flat steep dirt channel of the river. On top of the channel there are numerous utility structures, poles, fences, and buildings scattered throughout the scenery. The proposed replacement structures and conductors would be visible against the sky and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP. These changes would be minimal because of the proximity to the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

U.S. GOVERNMENT PRINTING OFFICE: 1985-461-988/33094

Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-17 – Silverbell Lake - Christopher Columbus Park

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 13S
Range 13E
Section 20

5. Location Sketch
32.281336721x-111.032775781

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat, small lake; subtle, sloped, smooth mounds on golf course MG: Flat alluvial valley floor rising gently to mountain foothills in far MG BG: Distant rounded mountains with pyramidal peaks in center-right side of view Water visible in immediate FG view	FG: Patch-like clumps of vegetation; rounded trees; smooth manicured groundcover MG: Linear horizontal strip of vegetation on valley floor BG: Velvety patches of vegetative on mountain forms	FG: Tall, vertical transmission structures contrasting over flat lake form; flat paved parking lots, blocky signage; short, blocky bollards, drainage element; construction equipment; cylindrical trash bin MG: Vertical and horizontal transmission structures; vertical light poles; blocky patches of development BG: None visible
LINE	FG: Water creates linear horizontal plane; transition to soft hilly mounds MG: Flat plane gently ascending to mountain foothills BG: Discontinuous mountain formations with pyramidal peaks Water visible in immediate FG view	FG: Horizontal, distinctive vegetative break along edge of lake MG: Horizontal, discontinuous BG: Patch-like swaths	FG: Level parking lots, vertical and horizontal repetitious transmission elements; vertical signage MG: Barely visible transmission lines and light poles; subtle discontinuous lines of development BG: None visible
COLOR	FG: Indistinct MG: Indistinct BG: Brown and gray distant mountainous forms Water visible in immediate FG view	FG: Light green, yellows, tans MG: Greens, yellows, browns BG: Blues, gray	FG: Range of white to black hues MG: Browns, gray BG: None visible
TEXTURE	FG: Glossy, smooth, rippled MG: Smooth valley floor BG: Coarse, discontinuous, mountain peaks Water visible in immediate FG view	FG: Fine, soft cover; fine, rounded wispy trees MG: Fine and discontinuous BG: Fine and discontinuous	FG: Coarse to medium transmission structures; smooth parking lot MG: Medium to fine transmission structures and light poles; fine, discontinuous patches of development BG: None visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: single visible H-frame structure replaced with two monopole structures; new conductors create weak degree of contrast
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new long, linear transmission lines visually similar to existing lines; additional conductors add to existing corridor
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structures
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

2. Does project design meet visual resource management objectives? ☐ Yes ☐ No X N/A

(Explain on reverse side)

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

Evaluator's Names Date
Mark Greenig, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.

KOP from Christopher Columbus park.

Distance. The KOP is 0.1 mile east of segment U3i from Christopher Columbus Park. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally north to south.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for extended periods from the course.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures but comparable to other existing structures in the landscape.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Because of existing vegetation screening and the small scale of vegetation disturbance required for the upgrade through this area, there would be no visible contrast.

Spatial Relationships. The landscape in the foreground is a flat lake with a park setting beyond that has small hills and clumps of the trees scattered throughout. There are mountains in the distant background. The proposed replacement structures and conductors would be visible against the sky and would be similar to the existing sequence of linear structures.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP. These changes would be minimal because of the proximity to the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-18 – Rural residential along Cruz River

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 13S
Range 12E
Section 2

5. Location Sketch
32.331625 x-111.082353

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Ascending, low lying floodplain with regional gradient trending northeast toward the Cruz River; rounded hillside on right side of view MG: Not visible BG: Not visible No water visible	FG: Dense multi-layered vegetative layer along roadway consisting of simple low lying shrubs and trees transitioning to medium dense vegetative layer with clump of saguaros along top of hillside MG: Not visible BG: Not visible	FG: Blocky residential forms within the rural residential area of Casas Arroyo; several parallel transmission lines spanning the entire view; long gently ascending roadway in center of view, roadway signage; tall communication tower MG: None visible BG: None visible
LINE	FG: Gentle ascending alluvial plane MG: Not visible BG: Not visible No water visible	FG: Directional vegetative layer trending along the roadway; irregular vertical lines from saguaros MG: Indistinct BG: Indistinct	FG: Linear, parallel transmission lines; long linear flat roadway; vertical signage and tower MG: Not visible BG: Not visible
COLOR	FG: Browns, tans MG: Indistinct BG: Indistinct No water visible	FG: Greens, yellows, browns, white MG: Indistinct BG: Indistinct	FG: Range of white to black hues MG: Not visible BG: Not visible
TEX-TURE	FG: Smooth, directional MG: Indistinct BG: Indistinct No water visible	FG: Medium to fine textured rounded shrubs and trees; coarse saguaros MG: Indistinct BG: Indistinct	FG: Coarse to medium transmission structures, smooth roadway; blocky medium textured residential structure MG: Not visible BG: Not visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: H-frame structures replaced with new 230-kV structures; new sequence of poles taller than those of existing transmission line
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new transmission poles and lines visually similar to the existing line though taller and more prominent; skylined; additional conductors add to existing corridor
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structures
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: new transmission poles slightly increases clutter and coarse texture compared to existing transmission line against landscape

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

Few/no rural residences along this road. Residences are located to the southwest.

Distance. The KOP is less than 0.1 mile north and east of segment U3i from Silverbell Road. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally northwest to southeast.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for limited periods from the road.

Relative Size or Scale. The relative size of the replacement structures would be much taller than the existing transmission structures.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Because of existing vegetation screening and the small scale of vegetation disturbance required for the upgrade through this area, there would be no visible contrast.

Spatial Relationships. The landscape in the gently rolling terrain and a two lane paved road with wide clear shoulders. There is taller desert vegetation on both sides fo the roads. Existing utility structures cross the view in multiple directions. The proposed structures that would be visible are larger, with greater conductor spans that would be visible against the sky and would create moderate contrasts.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP. These changes would be minimal because of the proximity to the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

U.S. GOVERNMENT PRINTING OFFICE: 1985-461-988/33094

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(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-19 - W. Picture Rocks Rd – Saguaro Nat'l Park Entrance

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 13S
Range 12E
Section 4

5. Location Sketch
32.325583x -111.123428

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Panoramic view; northeastern facing descending mountainous slope; rocky outcrop in left side of view MG: Flat valley floor BG: Sharp rise to prominent jagged, angular mountains No water visible	FG: Smooth, uniform, amorphous, low lying vegetative layer blanketing northeastern facing slope, distinctive saguaros MG: Linear lines of vegetation on valley floor BG: Swaths of vegetative forms on distant mountains	FG: Bold paved roadway; blocky roadway signage; residential development trending from FG to MG MG: Linear strip of development encompassing northern Tucson area on valley floor; transmission lines barely visible along valley floor BG: Uniform, horizontal line of development at base of mountain forms
LINE	FG: Continuous, decline MG: Flat, horizontal plane BG: Distinguishable transition of valley floor to rise of mountainous forms; undulating, continuous mountain formations with jagged pyramidal peaks No water visible	FG: Uniform, single-layer; continuous low lying vegetative layer, vertical, scattered saguaros MG: Horizontal, gradational transition indistinct between valley floor and mountain forms BG: Patch-like swaths on distant mountains	FG: Meandering roadway; vertical and horizontal structures MG: Uniform, horizontal line of development BG: Distinguishable horizontal line of development at base of mountains forms in far MG/BG transition
COLOR	FG: Tans, browns MG: Indistinct BG: Brown and gray mountains No water visible	FG: Greens, yellows, white; light brown, tan MG: Greens, yellows BG: Browns, dark shades of gray	FG: Range of white to black hues MG: Soft whites, tans BG: Soft whites, tans
TEX-TURE	FG: Coarse to medium rocky slope; clumped outcrop MG: Smooth, uniform, continuous valley floor BG: Coarse, continuous, mountain peaks No water visible	FG: Smooth, continuous, directional vegetative plane; coarse saguaros MG: Fine, smooth BG: Fine, discontinuous	FG: Smooth, medium to fine MG: Medium to fine, continuous BG: Fine, smooth line of development

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	MG: proposed structures barely visible on valley floor along existing corridor; new 230kV line creates weak contrast against existing landscape
LINE	FG, MG, BG: no change	FG, MG, BG: no change	MG: proposed new transmission poles and lines visually similar to existing line though taller; horizontal line blends into existing line of development creating weak degree of contrast
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.

Represents Saguaro NP, approximately 2 miles from line.

Distance. The KOP is 2.0 miles west of segment U3i from West Picture Rocks Road. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally northwest to southeast.

Angle of Observation. The KOP is at a superior observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for limited periods from the road.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures but because of the distance, would be barely visible.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Because of existing vegetation screening and the small scale of vegetation disturbance required for the upgrade through this area, there would be no visible contrast.

Spatial Relationships. The landscape in the foreground slopes down into the patchwork of shapes and colors associated with residential and other development of Tucson. There are large mountains in the background. The proposed replacement structures and conductors would be barely visible amidst the other existing developments.

Atmospheric Conditions. During times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP. These changes would be minimal because of the proximity to the upgrade structures.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-20 – Wade Rd - Residential

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 12S
Range 12E
Section 27

5. Location Sketch
32.354480433x-111.113992844

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat horizontal valley floor MG: Not visible BG: Distant mountain form with pyramidal peak in right side of view No water visible	FG: Simple, uniform, linear vegetative layer consisting of trees and shrubs across entire view MG: None visible BG: Swaths of vegetation on mountain forms	FG: Bold, tall transmission lines; vertical light poles; blocky structures; flat, linear paved roadway, linear fencing; transformer; utility signage MG: Not visible BG: Not visible
LINE	FG: Flat, horizontal MG: Not visible BG: Rugged mountain No water visible	FG: Horizontal, broken line of vegetation MG: Indistinct BG: Patches of vegetation on distant mountains	FG: Several intersecting transmission lines; vertical transmission and light pole structures; irregular blocky forms MG: Not visible BG: Not visible
COLOR	FG: Beige, tans MG: Not visible BG: Brown and gray mountains No water visible	FG: Greens, yellow, white hues MG: Indistinct BG: Browns, dark shades of gray	FG: Range of white to black hues MG: Not visible BG: Not visible
TEX-TURE	FG: Granular MG: Indistinct BG: Coarse mountainous peak No water visible	FG: Rounded, medium to fine textured vegetative forms MG: None visible BG: Fine, velvety	FG: Coarse to medium transmission lines; medium blocky structures; smooth roadway MG: Indistinct BG: Indistinct

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: series of proposed 230 kV structures replaces existing H-frame structures; taller, prominent structures emphasize strong to moderate contrast compared to existing; undulating conductors have different span width
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed sequence of prominent transmission poles taller than existing line; strong to moderate contrast of proposed conductors to existing lines; increase in vertical separation between existing line emphasizes perpendicular intersection
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structure
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.

Distance. The KOP is less than 0.1 mile south of segment U3i from Wade Road. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally northwest to southeast.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for extended periods from the residential area.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structure, and the close proximity to the upgrade structures there would be moderate contrasts.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. This area is a developed residential area and there would be no natural vegetation recovery.

Spatial Relationships. The landscape in the fore ground is wide road lined with vegetation, gravel, and utility structures. There are metal fences and low rectangular block structures. The proposed replacement structures and conductors are in the fore ground. The proposed replacement structures are larger, with greater conductor spans that would be visible against the sky and would create new moderate contrasts with the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the segment, changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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Form 8400 - 4
(September 1985)
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-21 – N Silverbell Rd SE of Rattlesnake Ridge

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 12S
Range 12E
Section 20

5. Location Sketch
32.372017564x -111.137464636

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Flat horizontal valley floor MG: Not visible BG: Distant rounded mountain form with pyramidal peak in center-left side of view No water visible	FG: Simple, linear vegetative layer consisting of rounded trees and shrubs MG: Continuous linear pattern extending from FG to MG BG: Swaths of vegetation on mountain forms	FG: Tall transmission lines; bulky vertical light poles; signage; blocky residential structures; linear sound wall; flat, paved parking lot MG: Not visible BG: Not visible
LINE	FG: Flat, horizontal plane MG: Not visible BG: Undulating mountain forms No water visible	FG: Continuous strip of vegetation along right-of-way; vegetation creates horizontal line MG: Strip of vegetation continuing into the MG view BG: Patches of vegetation on distant mountains	FG: Several repeating parallel vertical and horizontal transmission structure elements; horizontal, linear sound wall; flat, horizontal parking lot; vertical light pole s MG: Vertical and horizontal transmission elements converge from the FG to MG center of view BG: Not visible
COLOR	FG: Beige, tans, browns MG: Not visible BG: Gray mountains No water visible	FG: Greens, yellow, tans, white hues MG: Dark greens, yellows BG: Browns, dark shades of gray	FG: Brown, white, black, red, tans, black MG: Not visible BG: Not visible
TEXTURE	FG: Smooth, granular valley floor MG: Indistinct BG: Coarse mountainous peak No water visible	FG: Strip, rounded, medium to fine textured vegetative forms; fine groundcover MG: Fine BG: Fine, velvety	FG: Coarse to medium transmission lines; medium blocky structures; smooth parking lot MG: Fine transmission structures BG: Indistinct

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: series of proposed 230 kV structures replaces existing H-frame structures; taller, prominent structures emphasize strong to moderate contrast compared to existing; undulating conductors have different span width
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: proposed new transmission poles and lines visually similar to existing line though taller; series of vertical forms converge into fine singular vertical line; additional conductors add to existing corridor; emphasize s strong parallel lines
COLOR	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structure; moderate
TEXTURE	FG, MG, BG: no change	FG, MG, BG: no change	FG, MG, BG: no change

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names — Date
Tom Priestley, MariaElena Conserva, and Angela Wolfe

September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on private land.
View from parking lot.

Distance. The KOP is less than 0.1 mile south of segment U3i from a mixed commercial and residential area along North Silverbell Road. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally northwest to southeast.

Angle of Observation. The KOP is at a horizontal observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for extended periods from the commercial and residential area.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structure, and the close proximity to the upgrade structures there would be moderate contrasts.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. This area is a developed residential area and there would be no natural vegetation recovery.

Spatial Relationships. The landscape in the fore ground is wide paved parking lot and open corridor interspersed with trees and utility structures. The corridor is lined with block walls rectangular residences. The corridor extends away from the view. The proposed replacement structures and

conductors are in the fore ground. The proposed replacement structures are larger, with greater conductor spans that would be visible against the sky and would create new moderate contrasts with the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the segment, changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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VISUAL CONTRAST RATING WORKSHEET

Date: September 6, 2012

District: Southern Arizona

Resource Area: Tucson

Activity (program): Lands- Renewable Energy

SECTION A. PROJECT INFORMATION

1. Project Name: Southline Transmission Project

2. Key Observation Point: KOP U3-22 – W Twin Peaks Rd

3. VRM Class: Representative ROW would pass through non BLM land

4. Location
Township 12S
Range 12E
Section 20

5. Location Sketch
32.377665252 x -111.146635527

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG: Ascending blocky hilly forms MG: Not visible BG: Not visible No water visible	FG: Medium density multi-layered vegetative layer along roadway transitions to sparse vegetation along hillsides and ridgeline; low-lying desert shrubs; scattered geometric saguaros MG: Not visible BG: Not visible	FG: Two transmission lines, flat road, utility, roadway and residential signage MG: None visible BG: None visible
LINE	FG: Discontinuous ridgeline, gradational, rugged, irregular layers on hilly forms MG: Not visible BG: Not visible No water visible	FG: Two distinctive horizontal vegetative layers; trending to the east; irregular vertical lines from scattered saguaros MG: Indistinct BG: Indistinct	FG: Linear, parallel transmission lines; curvilinear roadway MG: Not visible BG: Not visible
COLOR	FG: Browns, tans MG: Indistinct BG: Indistinct No water visible	FG: Greens, yellows, white MG: Indistinct BG: Indistinct	FG: Brown, gray transmission line structures; gray, white, yellow roadway; range of white to black signage hues MG: Not visible BG: Not visible
TEX-TURE	FG: Coarse, rough, blocky hilly formations MG: Indistinct BG: Indistinct No water visible	FG: Soft to medium textured shrubs; coarse saguaros; transparent low density vegetation on hillsides MG: Indistinct BG: Indistinct	FG: Medium textured transmission structures; smooth roadway; bold signage MG: Not visible BG: Not visible

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	FG, MG, BG: no change	FG, MG, BG: no change	FG: bold, prominent, skylined, tall transmission structure replaces several smaller existing transmission structures
LINE	FG, MG, BG: no change	FG, MG, BG: no change	FG: prominent vertical structure skylined above ridgeline; new conductor lines are more prominent than existing emphasizing bolder linear lines above mountain forms
COLO R	FG, MG, BG: no change	FG, MG, BG: no change	FG: metallic conductors; galvanized steel gray tower structure
TEX-TURE	FG, MG, BG: no change	FG, MG, BG: no change	FG: transmission structure and conductors create coarse pattern against mountain forms

SECTION D. CONTRAST RATING ☐ SHORT TERM X LONG TERM

1. DEGREE OF CONSTRAST

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

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

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

Evaluator's Names: Tom Priestley, MariaElena Conserva, and Angela Wolfe

Date: September 6, 2012
Revised by Steve Leslie, 2/24/2015

SECTION D. (Continued)

Comments from item 2.
Proposed upgrades are located on non BLM land.
Simulation point represents a very specific point of interest.

Distance. The KOP is less than 0.1 mile north of segment U3i from West Twin Peaks Road. Segment U3i crosses private land. Segment U3i crosses the view from the KOP generally east to west.

Angle of Observation. The KOP is at a inferior observational angle to segment U3i.

Length of Time the Project Is In View. Segment U3i would be viewed for extended periods as it parallels West Twin Peaks Road.

Relative Size or Scale. The relative size of the replacement structures would be taller than the existing transmission structures. Because of the relative size of the structures when compared with other existing structures, and the close proximity to the upgrade structures there would be moderate contrasts.

Season of Use. There would be few changes to scenery across the seasons.

Light Conditions. Because of the open landscape, natural light conditions will vary across the day as well as across different times of the year. There would be a greater contrast where structures are back lit.

Recovery Time. Restoration of vegetation can take several years to complete. Although vegetation conditions in areas of disturbance are expected to change over several years as restoration takes place, because of the distance from the KOP, and the small scale of vegetation disturbance required for the proposed project, there would be no visible contrast over time.

Spatial Relationships. The landscape in the fore ground is two lane paved road lined with desert vegetation and utility structures curving away from the KOP. There are sloping steep rocky hills extending up from each side of the road. The proposed replacement structures and conductors are in the fore ground. The proposed replacement structures are larger, with greater conductor spans that would be visible against the sky and would create new moderate contrasts with the existing sequence of linear structures.

Atmospheric Conditions. Because of the proximity of the segment, changes in atmospheric conditions are not expected to contribute to changes in contrast. However, during times of cloudiness, haze, and increased dust in the area, there may be reduced visibility of the upgrade structures as they are further from the KOP.

Motion. There is limited motion within the landscape. In the short term, motion associated with construction equipment and installation of new structures along segment U3i would attract more attention to the project. During operation, the structures would be static.

Additional Mitigating Measures (See item 3)

The following measures are recommended to reduce the visual impact of the proposed transmission line.

- The project should incorporate non-specular conductors into their design to decrease reflectivity and visibility of the project features.
- Non-transmission line structures such as operations and maintenance buildings, microwave equipment buildings, regeneration structures, emergency generators, and other associated structures would be treated or painted with non-reflective, flat-toned surface treatment. The color of the structures would be painted BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.
- All lattice towers shall be "dulled" non-specular metal and monopoles properly color treated BLM Environmental Color Chart "Shadow Gray", unless otherwise directed by authorizing officer based on a field evaluation of color choices that will demonstrate better measureable performance over Shadow Gray.

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