

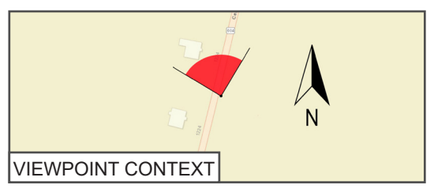
Figure 138: Aerial photograph depicting land use and photo view for 134-5887.



Existing View

Viewpoint Location UTM Zone 18N:	393999E 4060713N
View Direction:	345 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	767 feet
Horizontal Field of View:	90 degrees

Date of Photography:	27th August 2021 12:49
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 139
Viewpoint SP40a - HF Route 4
Centerville Turnpike South Near Murray Drive - 131-5887

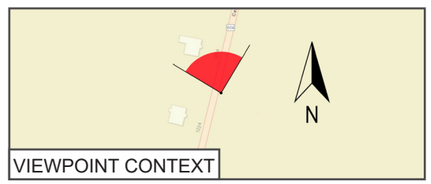
Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind Commercial Project



Photomontage showing proposed route - HF Route 3

Viewpoint Location UTM Zone 18N:	393999E 4060713N
View Direction:	345 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	767 feet
Horizontal Field of View:	90 degrees

Date of Photography:	27th August 2021 12:49
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 140
Viewpoint SP40a - HF Route 3
Centerville Turnpike South Near Murray Drive
131-5887

Pre-Application Analysis
Coastal Virginia Offshore Wind

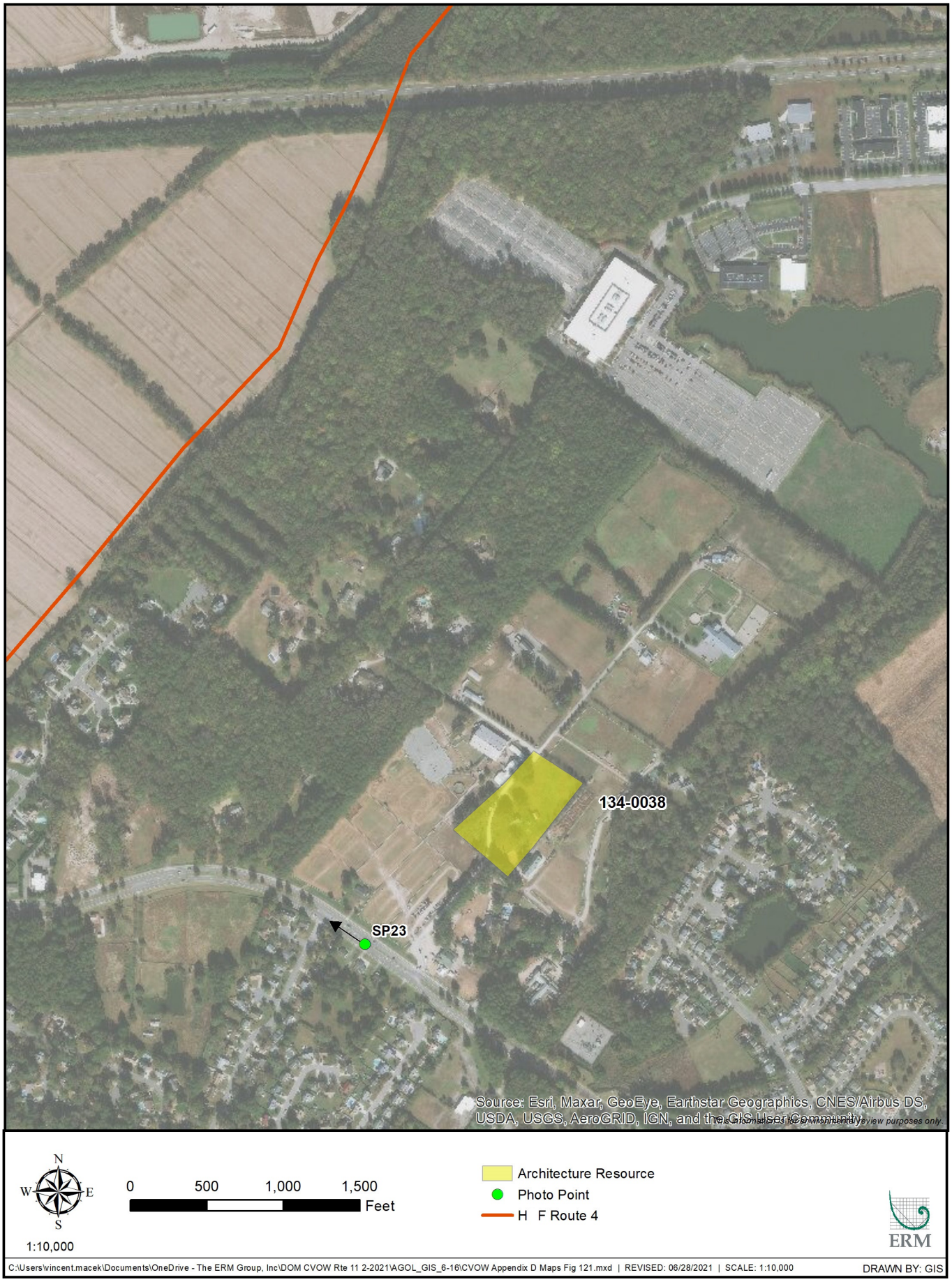


Figure 141: Aerial photograph depicting land use and photo view for 134-0038.

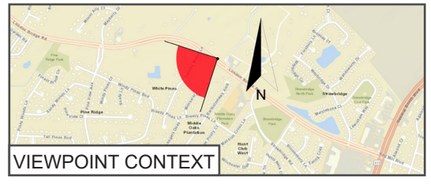


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	242 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 142:
Viewpoint SP23a - HF Route 4

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

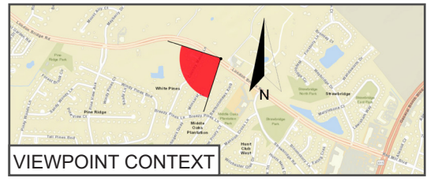
Transmission Line-over-Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	242 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 143:
Viewpoint SP23a - HF Route 4

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

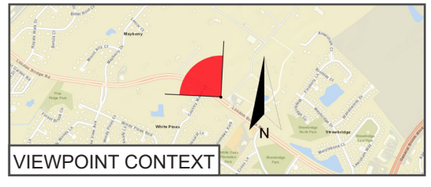


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	317 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 144:
Viewpoint SP23b - HF Route 4

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

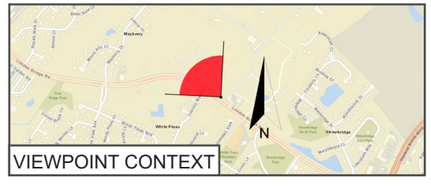
Transmission Line-over-Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	317 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 145:
Viewpoint SP23b - HF Route 4

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

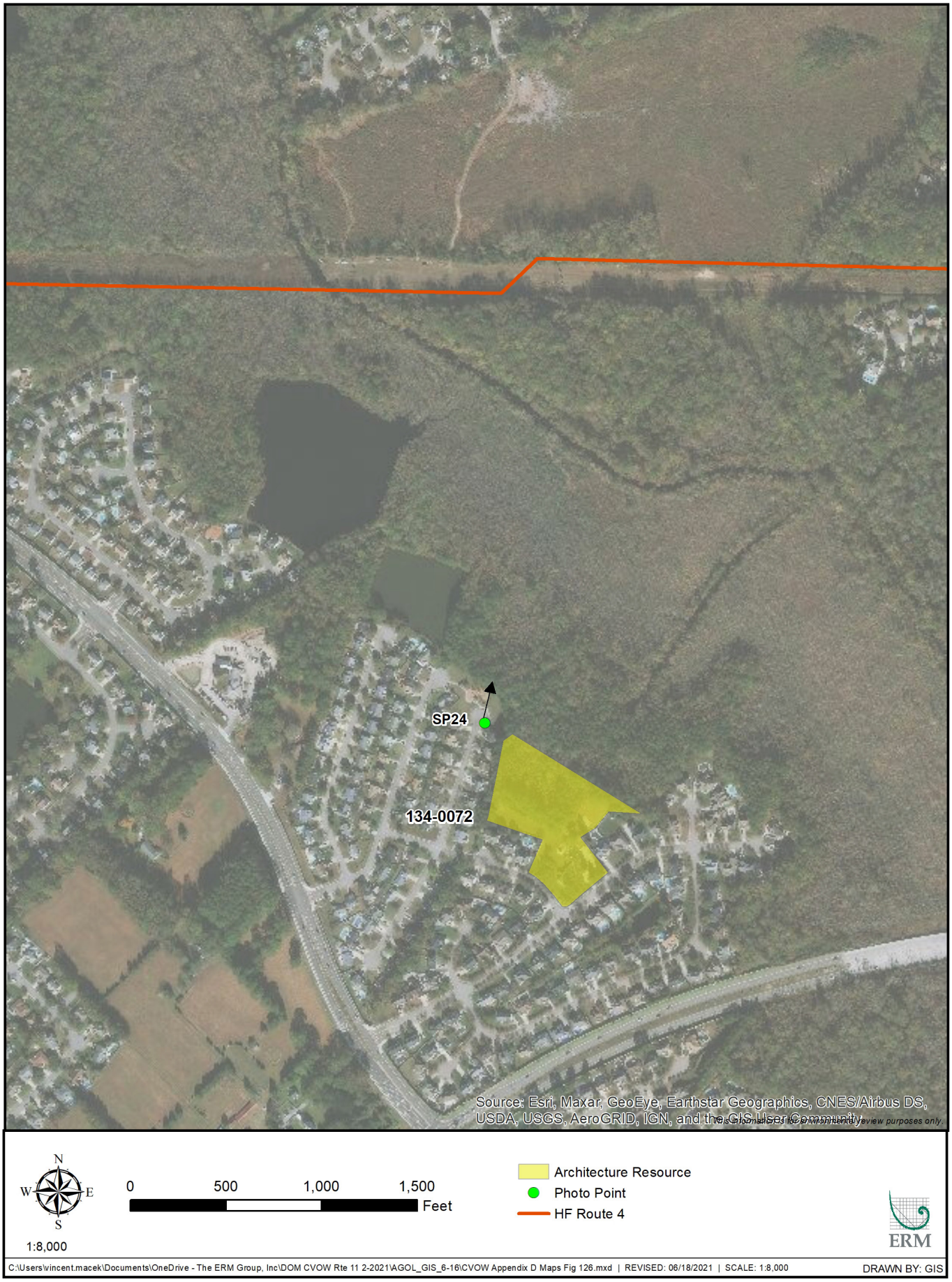


Figure 146: Aerial photograph depicting land use and photo view for 134-0072.



Attachment 5: Photosimulations

Existing View

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	405960E 4069349N
View Direction:	5 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	1587 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 11:17am
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 147:
Viewpoint SP24 - HF Route 4

On Hammer Stone Court north of 134-0072

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



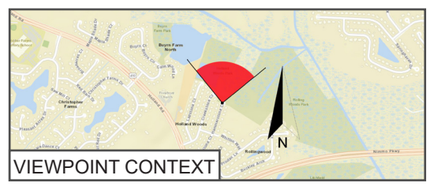
Attachment 5: Photosimulations

Transmission Line-over-Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	405960E 4069349N
View Direction:	5 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	1587 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 11:17am
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 148:
Viewpoint SP24 - HF Route 4

On Hammer Stone Court north of 134-0072

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

PHOTOSIMULATIONS – HF ROUTE 5



Figure 149: Aerial photograph depicting land use and photo view for 131-0044.



Existing View

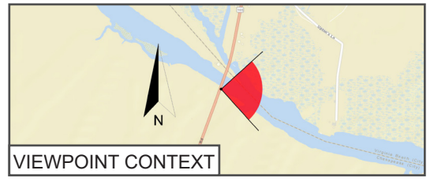
Attachment 5: Photosimulations

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N	732E 4064084N
View Direction:	92°
Viewpoint Elevation:	10 feet
Distance to Route:	580 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 150:
Viewpoint SP31 - HF Route 5
On south side of canal by bridge
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



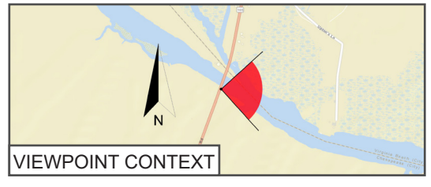
Photomontage showing proposed route - HF Route 5

Attachment 5: Photosimulations

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N	732E 4064084N
View Direction:	92°
Viewpoint Elevation:	10 feet
Distance to Route:	580 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 151:
Viewpoint SP31 - HF Route 5
On south side of canal by bridge
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

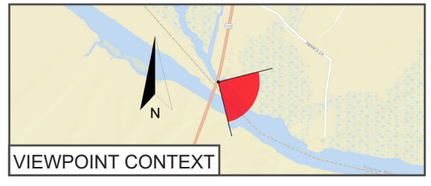


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	401780E 4064213N
View Direction:	120°
Viewpoint Elevation:	7 feet
Distance to Route:	915 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 152:
Viewpoint SP32 - HF Route 5

On canal 131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

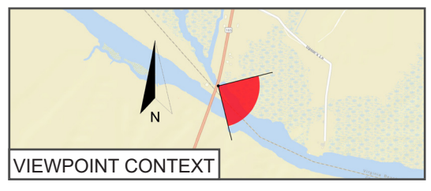


Attachment 5: Photosimulations

Photomontage showing proposed route - HF Route 5

Viewpoint Location UTM Zone 18N:	401780E 4064213N
View Direction:	120°
Viewpoint Elevation:	7 feet
Distance to Route:	915 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 153:
Viewpoint SP32 - HF Route 5

On canal 131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



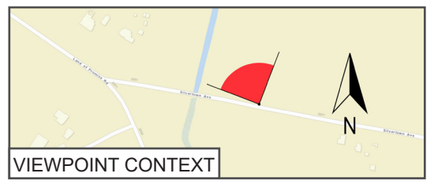
Figure 154: Aerial photograph depicting land use and photo view for 131-0156.



Existing View

Viewpoint Location UTM Zone 18N:	398515E 4056812N
View Direction:	3635degrees
Viewpoint Elevation:	13 feet
Distance to Route:	2979 feet
Horizontal Field of View:	90 degrees

Date of Photography:	21st September 2021 10:24
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 155
Viewpoint SP60 - HF Route 5
Silvertown Avenue At Entrance Of Silvertown Historic Cemetery

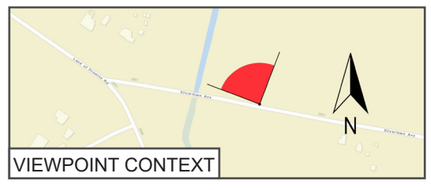
Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind Commercial Project



Transmission Line-over-Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Viewpoint Location UTM Zone 18N:	398515E 4056812N
View Direction:	335 degrees
Viewpoint Elevation:	13 feet
Distance to Route:	2979 feet
Horizontal Field of View:	90 degrees

Date of Photography:	21st September 2021 10:24
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 156
Viewpoint SP60 - HF Route 5
Silvertown Avenue At Entrance Of Silvertown Historic Cemetery

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind Commercial Project

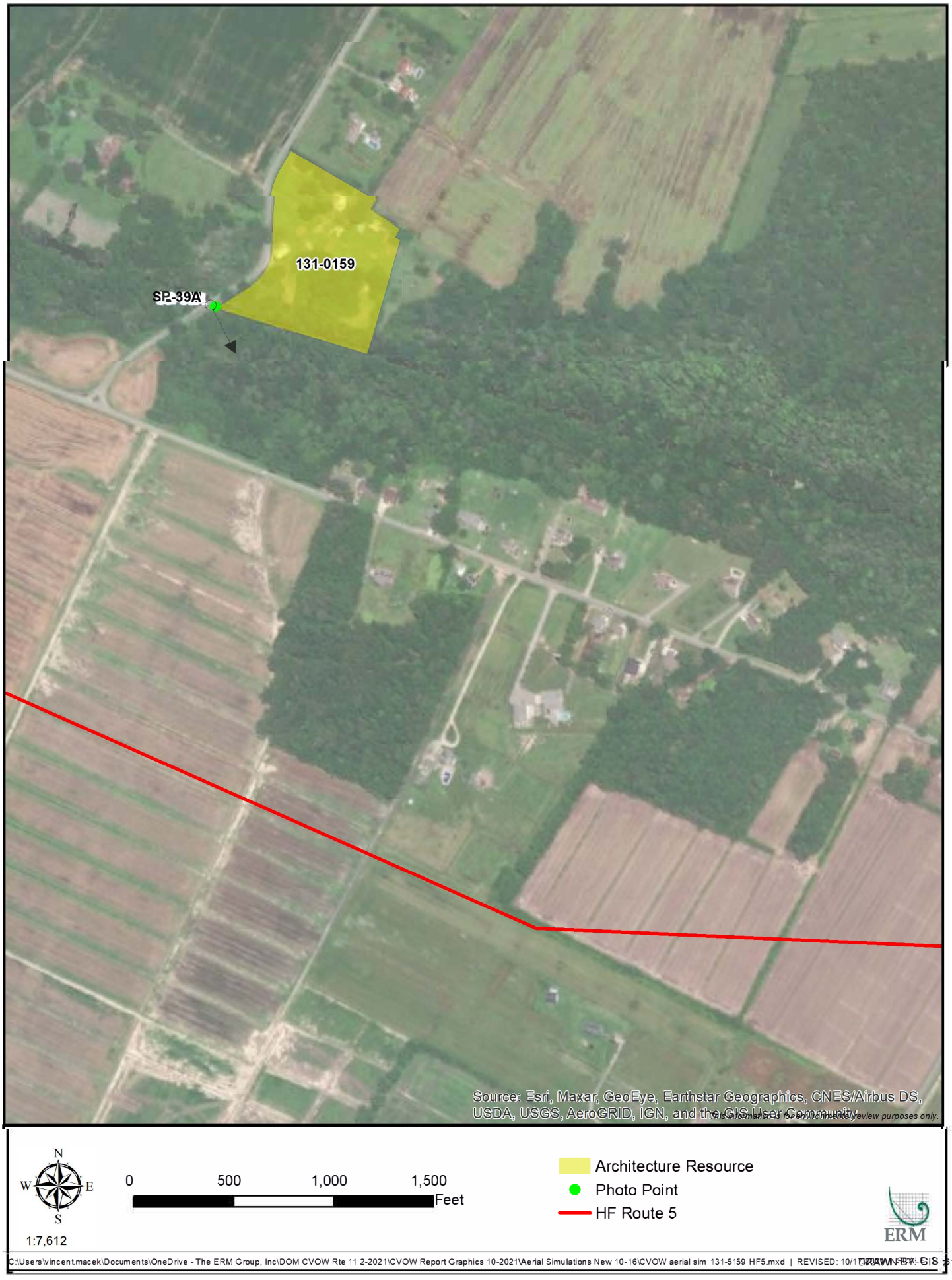


Figure 157: Aerial photograph depicting land use and photo view for 131-0159.



Existing View

Viewpoint Location UTM Zone 18N:	396772E 4058034N
View Direction:	148 degrees
Viewpoint Elevation:	13 feet
Distance to Route:	3573 feet
Horizontal Field of View:	90 degrees

Date of Photography:	28th August 2021 10:49
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet

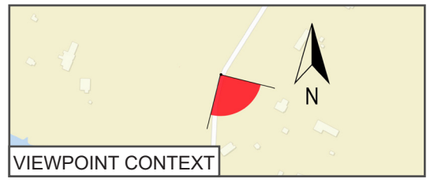


Figure 158
Viewpoint SP39a - HF Route 5
Fentress Airfield Road at Bridge
131-0159

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind Commercial Project



Transmission Line-over-Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	396772E 4058034N
View Direction:	148 degrees
Viewpoint Elevation:	13 feet
Distance to Route:	3573 feet
Horizontal Field of View:	90 degrees

Date of Photography:	28th August 2021 10:49
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet

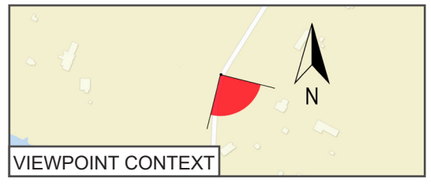


Figure 159
Viewpoint SP39a - HF Route 5
Fentress Airfield Road at Bridge
131-0159

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

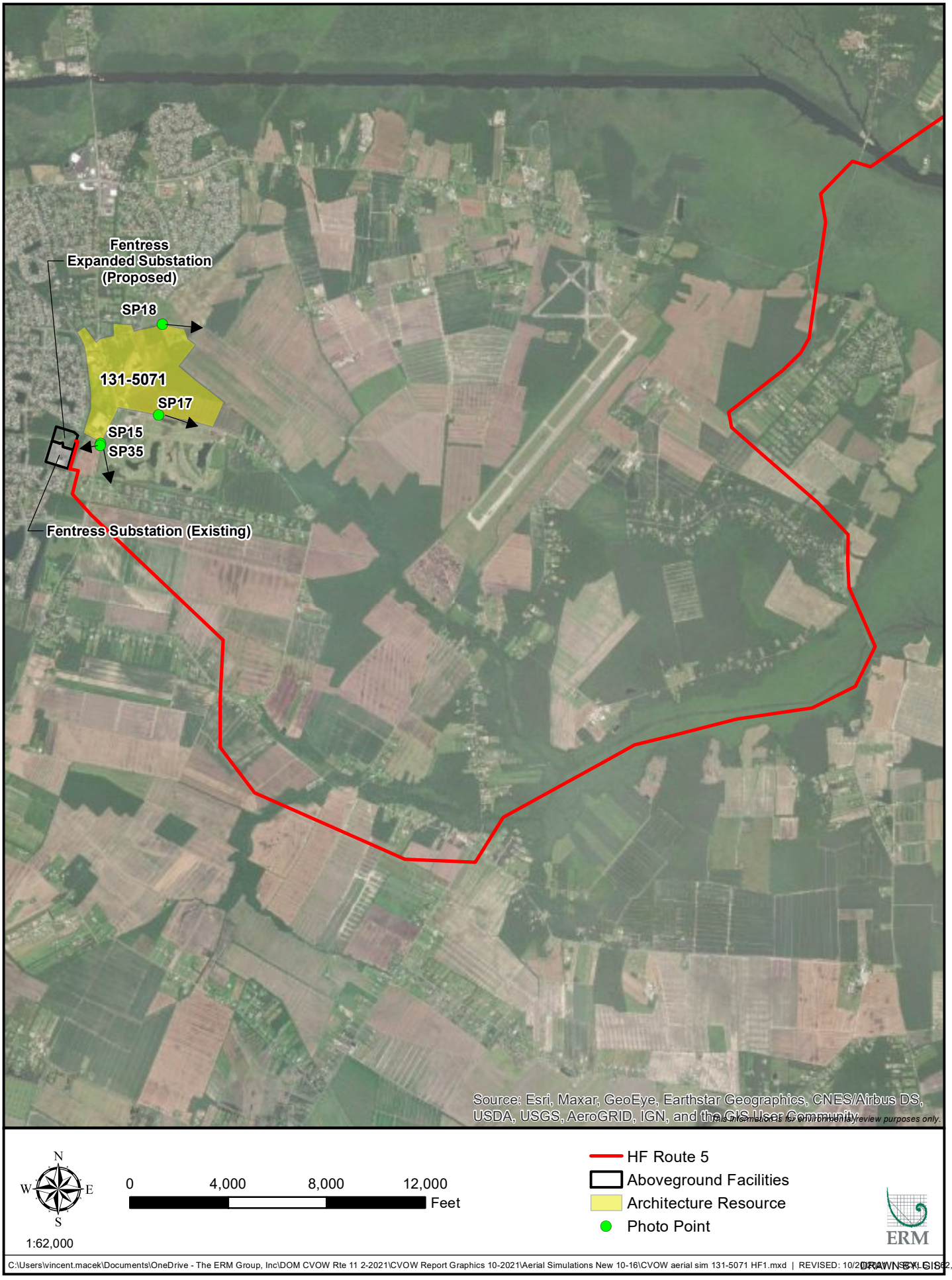


Figure 160: Aerial photograph depicting land use and photo view for 131-5071.

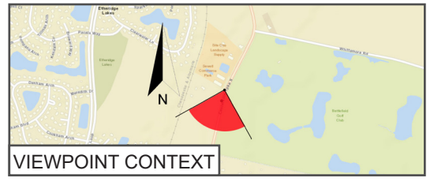


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	394102E 4061222N
View Direction:	195°
Viewpoint Elevation:	20 feet
Distance to Route:	856 feet
Horizontal Field of View:	90 degrees

Date of Photography:	6th April 2021 10:53
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 161:
Viewpoint SP15 - HF Route 5

On Centerville Turnpike south of 131-5071

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

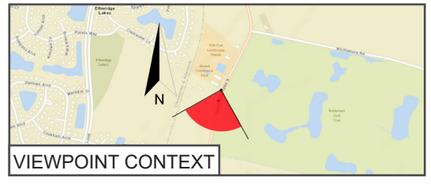


Attachment 5: Photosimulations

Photomontage showing proposed route - HF Route 5

Viewpoint Location UTM Zone 18N:	394102E 4061222N
View Direction:	195°
Viewpoint Elevation:	20 feet
Distance to Route:	856 feet
Horizontal Field of View:	90 degrees

Date of Photography:	6th April 2021 10:53
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 162:
Viewpoint SP15 - HF Route 5

On Centerville Turnpike south of 131-5071

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

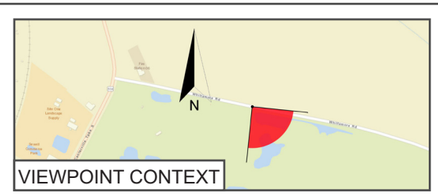


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	394378E 4061514N
View Direction:	140°
Viewpoint Elevation:	13 feet
Distance to Route:	2255 feet
Horizontal Field of View:	90 degrees

Date of Photography:	6th April 2021 11:44
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 163:
Viewpoint SP17 - HF Route 5

On Whittamore Road south of 131-5071

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

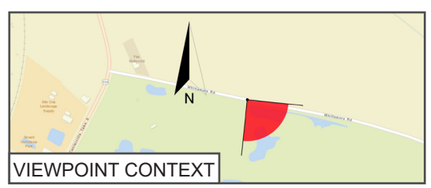


Attachment 5: Photosimulations

Photomontage showing proposed route - HF Route 5

Viewpoint Location UTM Zone 18N:	394378E 4061514N
View Direction:	140°
Viewpoint Elevation:	13 feet
Distance to Route:	2255 feet
Horizontal Field of View:	90 degrees

Date of Photography:	6th April 2021 11:44
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 164:
Viewpoint SP17 - HF Route 5

On Whittamore Road south of 131-5071

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



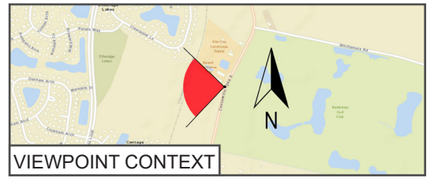
Attachment 5: Photosimulations

Existing View

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	394107E 4061242N
View Direction:	266 degrees
Viewpoint Elevation:	19 feet
Distance to Route:	685 feet
Horizontal Field of View:	90 degrees

Date of Photography:	27th August 2021 2:30pm
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 165:
Viewpoint SP35 - HF Route 5

On Centerville Turnpike south of 131-5071

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



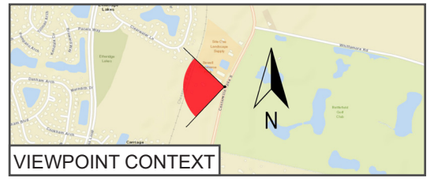
Attachment 5: Photosimulations

Photomontage showing proposed route - HF Route 5

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	394107E 4061242N
View Direction:	266 degrees
Viewpoint Elevation:	19 feet
Distance to Route:	685 feet
Horizontal Field of View:	90 degrees

Date of Photography:	27th August 2021 2:30pm
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 166:
Viewpoint SP35 - HF Route 5

On Centerville Turnpike south of 131-5071

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Figure 167: Aerial photograph depicting land use and photo view for 131-5333.



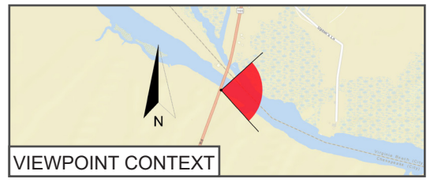
Existing View

Attachment 5: Photosimulations

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N	732E 4064084N
View Direction:	92°
Viewpoint Elevation:	10 feet
Distance to Route:	580 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 168:
Viewpoint SP31 - HF Route 5
On south side of canal by bridge
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



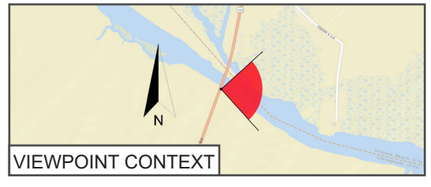
Photomontage showing proposed route - HF Route 5

Attachment 5: Photosimulations

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N	732E 4064084N
View Direction:	92°
Viewpoint Elevation:	10 feet
Distance to Route:	580 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 169:
Viewpoint SP31 - HF Route 5
On south side of canal by bridge
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

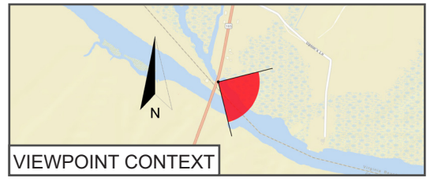


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	401780E 4064213N
View Direction:	120°
Viewpoint Elevation:	7 feet
Distance to Route:	915 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 170:
Viewpoint SP32 - HF Route 5

On canal 131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

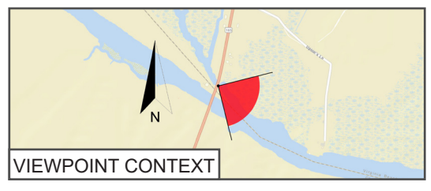


Attachment 5: Photosimulations

Photomontage showing proposed route - HF Route 5

Viewpoint Location UTM Zone 18N:	401780E 4064213N
View Direction:	120°
Viewpoint Elevation:	7 feet
Distance to Route:	915 feet
Horizontal Field of View:	90 degrees

Date of Photography:	5th April 2021 14:10
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 171:
Viewpoint SP32 - HF Route 5

On canal 131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



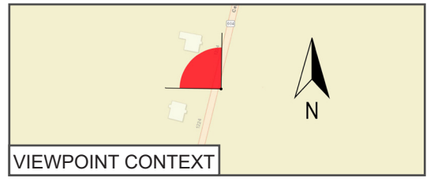
Figure 172: Aerial photograph depicting land use and photo view for 131-5887.



Existing View

Viewpoint Location UTM Zone 18N:	393999E 4060713N
View Direction:	315 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	561 feet
Horizontal Field of View:	90 degrees

Date of Photography:	27th August 2021 12:49
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 173
Viewpoint SP40a - HF Route 5
Centerville Turnpike South Near Murray Drive
131-5887

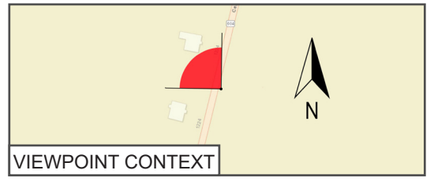
Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Photomontage showing proposed Route - HF Route 5

Viewpoint Location UTM Zone 18N:	393999E 4060713N
View Direction:	345 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	561 feet
Horizontal Field of View:	90 degrees

Date of Photography:	27th August 2021 12:49
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 174
Viewpoint SP40a - HF Route 5
Centerville Turnpike South Near Murray Drive
131-5887

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

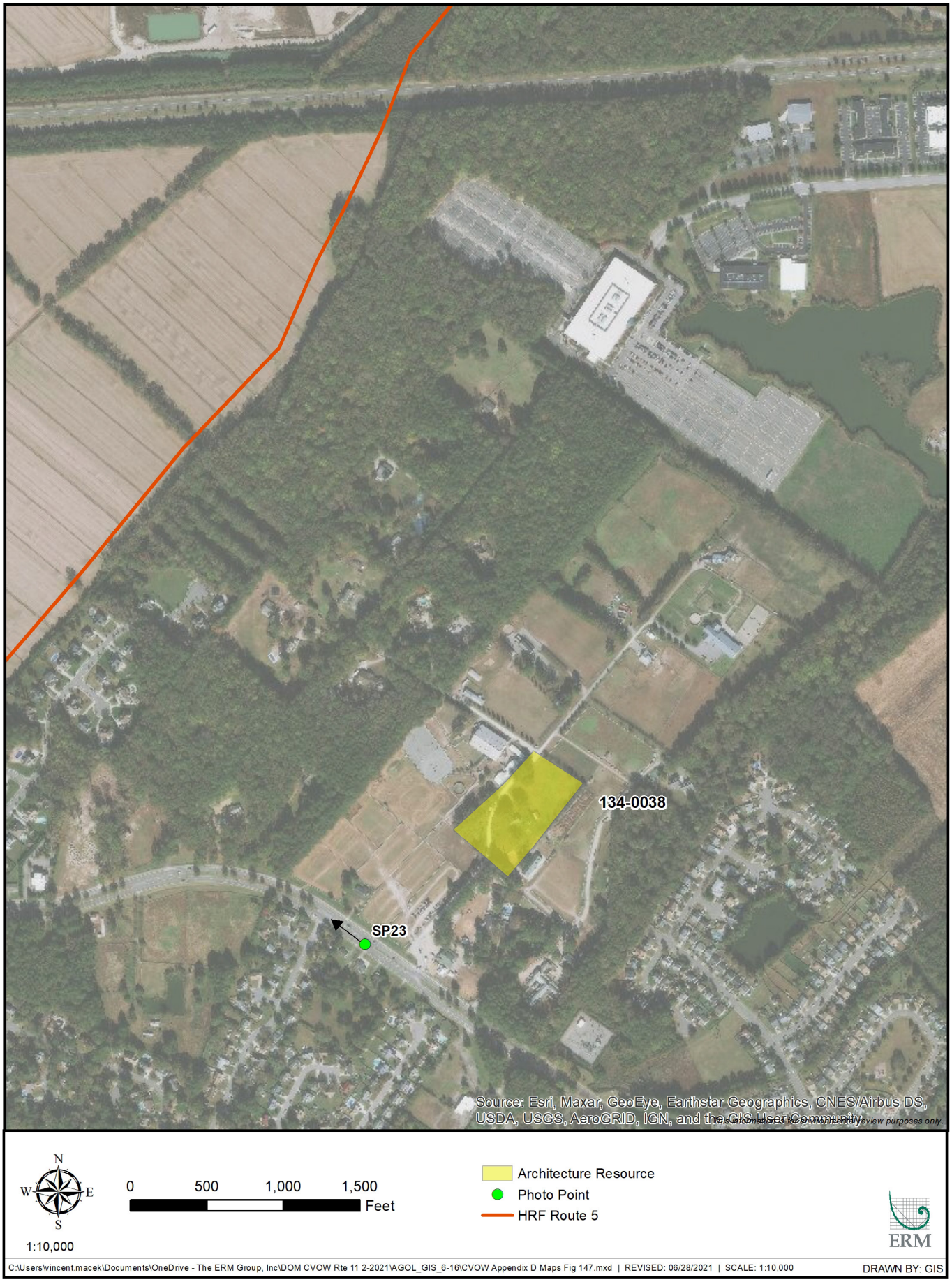


Figure 175: Aerial photograph depicting land use and photo view for 134-0038.

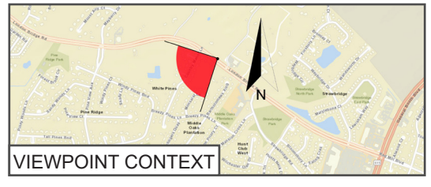


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	242°
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 176:
Viewpoint SP23a - HF Route 5

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

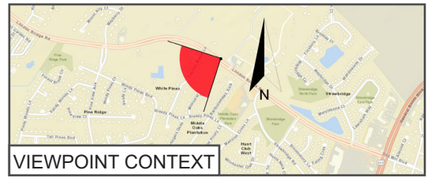
Transmission Line over Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	242°
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 177:
Viewpoint SP23a - HF Route 5

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

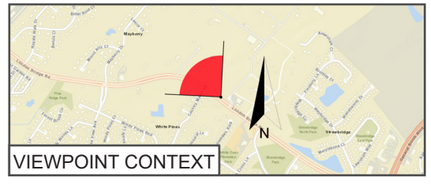
Existing View

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	317°
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 178:
Viewpoint SP23b - HF Route 5

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



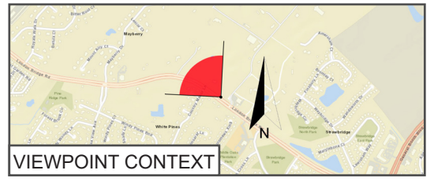
Attachment 5: Photosimulations

Transmission Line over Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	408678E 4070209N
View Direction:	317°
Viewpoint Elevation:	16 feet
Distance to Route:	3490 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 10:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 179:
Viewpoint SP23b - HF Route 5

On London Bridge Road southwest of 134-0038

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

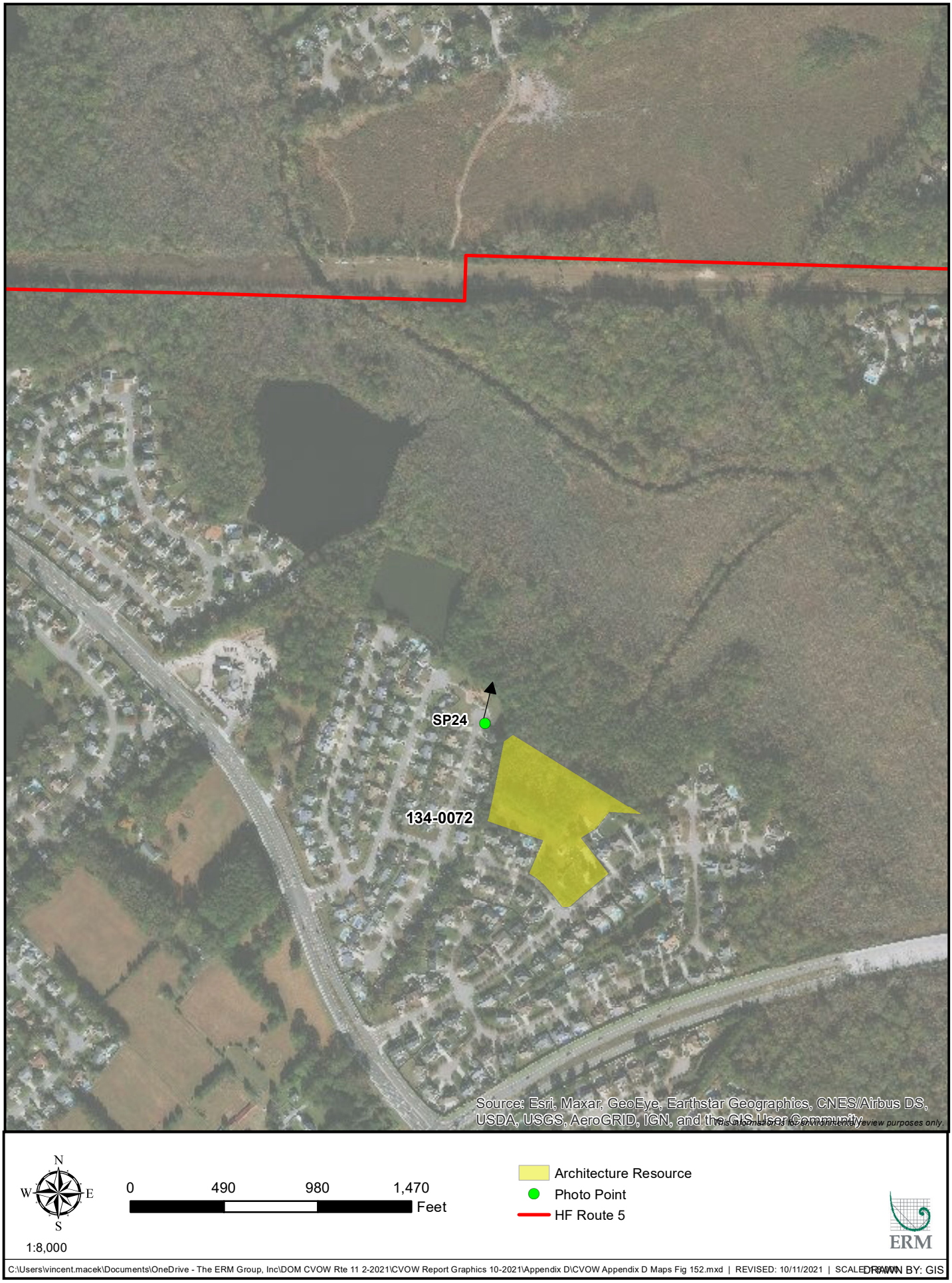


Figure 180: Aerial photograph depicting land use and photo view for 134-0072.

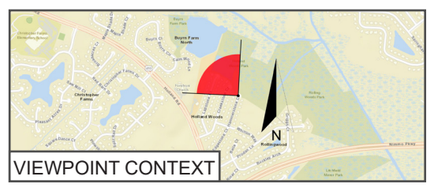


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	405960E 4069349N
View Direction:	317°
Viewpoint Elevation:	16 feet
Distance to Route:	2530 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 11:17
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 181:
Viewpoint SP24 - HF Route 5

On Hammer Stone Court north of 134-0072

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

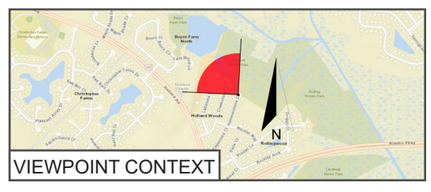
Transmission Line over Photo Image - No elements of the proposed route will be visible from this location due to foreground screening

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	405960E 4069349N
View Direction:	317°
Viewpoint Elevation:	16 feet
Distance to Route:	2530 feet
Horizontal Field of View:	90 degrees

Date of Photography:	2nd April 2021 11:17
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 182:
Viewpoint SP24 - HF Route 5

On Hammer Stone Court north of 134-0072

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

PHOTOSIMULATIONS – CLH



Figure 1: Aerial photograph depicting land use and photo view for 134-0003.

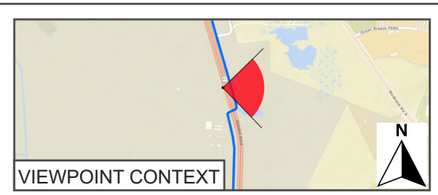


Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	413278E 4074652N
View Direction:	90 degrees
Viewpoint Elevation:	29 feet
Distance to Route:	155 feet
Horizontal Field of View:	

Date of Photography:	5th April 2021 10:52
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 2:
Viewpoint SP11 - CLH Route
On grass next to Oceana Boulevard by sign 134-0003

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)

Viewpoint Location UTM Zone 18N:	413278E 4074652N
View Direction:	90 degrees
Viewpoint Elevation:	29 feet
Distance to Route:	155 feet
Horizontal Field of View:	

Date of Photography:	5th April 2021 10:52
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



Figure 3:
Viewpoint SP11 - CLH Route
On grass next to Oceana Boulevard by sign 134-0003

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	410163E 4074606N
View Direction:	70 degrees
Viewpoint Elevation:	26 feet
Distance to Route:	541 feet
Horizontal Field of View:	

Date of Photography:	5th April 2021 10:52
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet

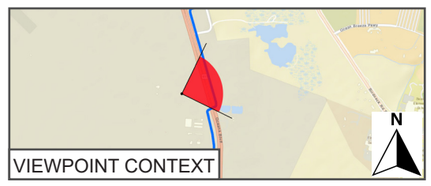


Figure 4:
Viewpoint SP12 - CLH Route

On grass to southeast of 134-0003

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



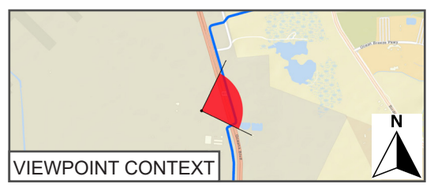
Attachment 5: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	410163E 4074606N
View Direction:	70 degrees
Viewpoint Elevation:	26 feet
Distance to Route:	541 feet
Horizontal Field of View:	

Date of Photography:	5th April 2021 10:52
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 5:
Viewpoint SP12 - CLH Route

On grass to southeast of 134-0003

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

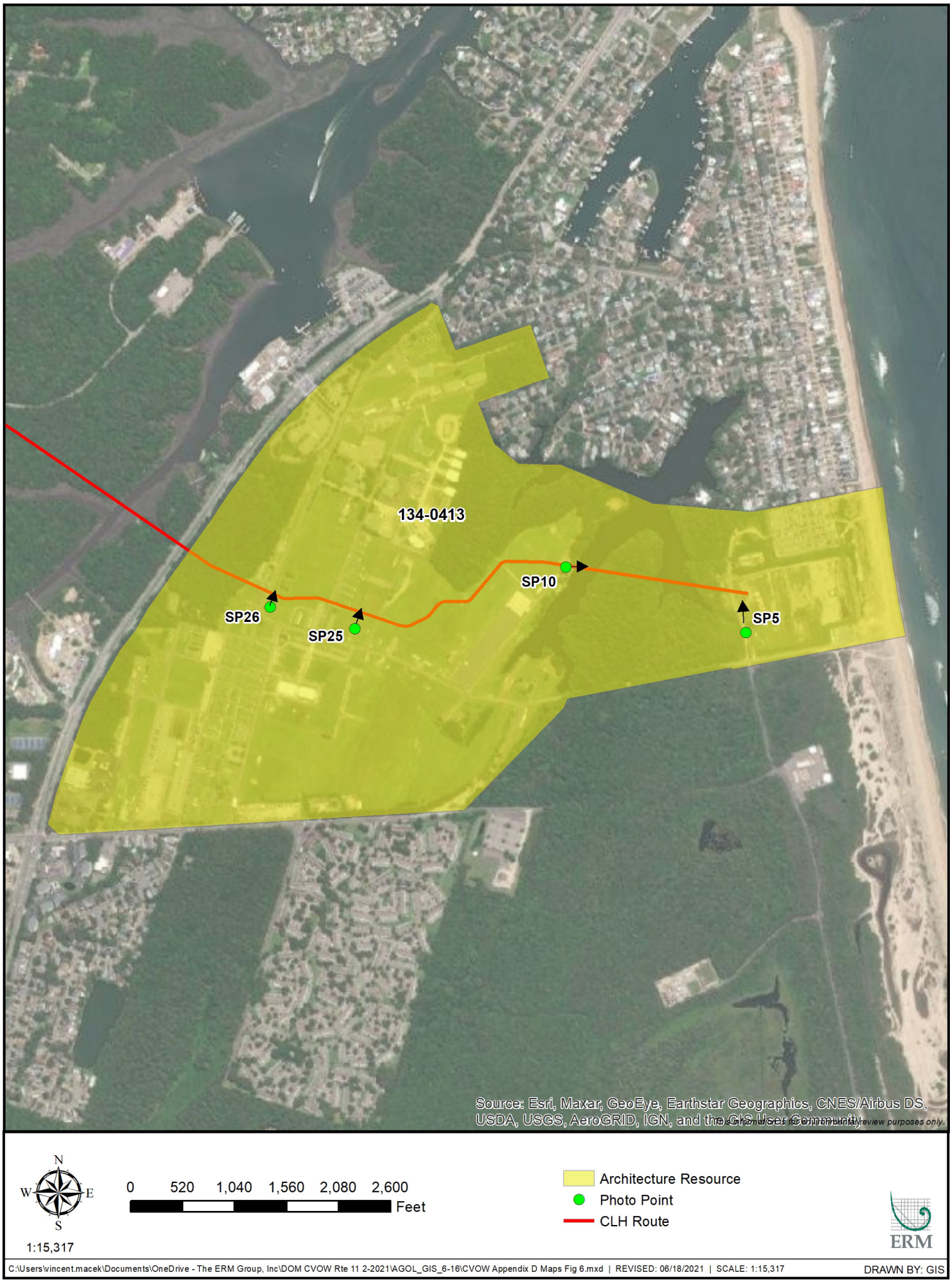


Figure 6: Aerial photograph depicting land use and photo view for 134-0413.



Attachment 5: Photosimulations

Existing view

Viewpoint Location UTM Zone 18N:	413436E 4074902N
View Direction:	318 degrees
Viewpoint Elevation:	13 feet
Distance to Route:	136 feet
Horizontal Field of View:	90 degrees

Date of Photography:	31st March 2021 11:56
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 7:
Viewpoint SP5 - CLH Route

On Regulus Road northwest of 134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	413436E 4074902N
View Direction:	318 degrees
Viewpoint Elevation:	13 feet
Distance to Route:	136 feet
Horizontal Field of View:	90 degrees

Date of Photography:	31st March 2021 11:56
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 8:
Viewpoint SP5 - CLH Route

On Regulus Road northwest of 134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Existing View

Viewpoint Location UTM Zone 18N:	413028E 4075014N
View Direction:	110 degrees
Viewpoint Elevation:	10 feet
Distance to Route:	35 feet
Horizontal Field of View:	

Date of Photography:	30th March 2021 10:59
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 9:
Viewpoint SP10 - CLH Route

Parking lot on end of Lake Road 134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	413028E 4075014N
View Direction:	110 degrees
Viewpoint Elevation:	10 feet
Distance to Route:	35 feet
Horizontal Field of View:	

Date of Photography:	30th March 2021 10:59
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 10:
Viewpoint SP10 - CLH Route

Parking lot on end of Lake Road 134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Existing view

Viewpoint Location UTM Zone 18N:	412495E 4074861N
View Direction:	335 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	140 feet
Horizontal Field of View:	

Date of Photography:	31st March 2021 14:25
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 11:
Viewpoint SP25 - CLH Route
Jefferson Avenue between buildings 57 and 83
134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5 Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	412495E 4074861N
View Direction:	335 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	140 feet
Horizontal Field of View:	

Date of Photography:	31st March 2021 14:25
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 12:
Viewpoint SP25 - CLH Route
Jefferson Avenue between buildings 57 and 83
134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Existing View

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	412495E 4074861N
View Direction:	347 degrees
Viewpoint Elevation:	13 feet
Distance to Route:	116 feet
Horizontal Field of View:	

Date of Photography:	31st March 2021 15:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 13:
Viewpoint SP26 - CLH Route

In field to west of church 134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	412495E 4074861N
View Direction:	347 degrees
Viewpoint Elevation:	13 feet
Distance to Route:	116 feet
Horizontal Field of View:	

Date of Photography:	31st March 2021 15:03
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 14:
Viewpoint SP26 - CLH Route

In field to west of church 134-0413

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Figure 15: Aerial photograph depicting land use and photo view for 134-0413-0110.



Attachment 5: Photosimulations

Existing view

Viewpoint Location UTM Zone 18N:	412602E 4075392N
View Direction:	180 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	1509 feet
Horizontal Field of View:	90 degrees

Date of Photography:	31st March 2021 08:02
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 16:
Viewpoint SP1 - CLH Route

On Warehouse Road south of 134-0413-0110

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Attachment 5: Photosimulations

Yellow line shows approximate position of proposed underground cable route (a dashed line means its location is behind foreground features)

Dominion Energy® ERM

Viewpoint Location UTM Zone 18N:	412602E 4075392N
View Direction:	180 degrees
Viewpoint Elevation:	16 feet
Distance to Route:	1509 feet
Horizontal Field of View:	90 degrees

Date of Photography:	31st March 2021 08:02
Camera:	Nikon D800
Lens:	Nikkor 50mm 1.4
Camera Height:	5 feet



VIEWPOINT CONTEXT

Figure 17:
Viewpoint SP1 - CLH Route

On Warehouse Road south of 134-0413-0110

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

ATTACHMENT 6 3D RENDERINGS OF CANAL CROSSING (131-0044 & 131-5333)

RENDERINGS OF CANAL CROSSING (131-0044 & 131-5333) – HF ROUTE 1



Figure 1: Aerial photograph depicting land use and rendering view for 131-0044.



Existing View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

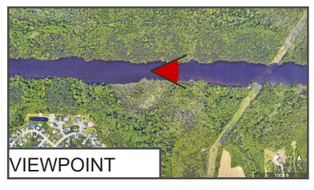


Figure 2
Viewpoint - HF Route 1
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Proposed View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

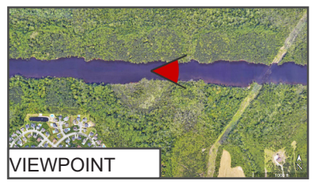


Figure 3
Viewpoint - HF Route 1
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Figure 4: Aerial photograph depicting land use and rendering view for 131-5333.



Existing View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

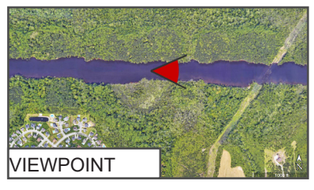


Figure 5
Viewpoint - HF Route 1
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Proposed View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

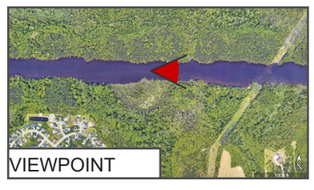


Figure 6
Viewpoint - HF Route 1
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

RENDERINGS OF CANAL CROSSING (131-0044 & 131-5333) – HF HYBRID ROUTE



Figure 7: Aerial photograph depicting land use and rendering view for 131-0044.



Existing View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

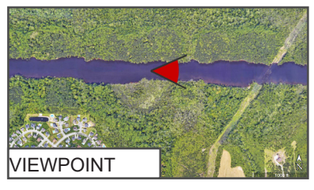


Figure 8
Viewpoint - HF Hybrid Route
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Proposed View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

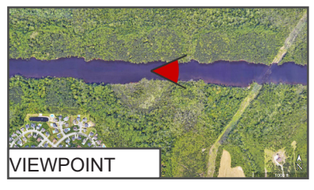


Figure 9
Viewpoint - HF Hybrid Route
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Figure 10: Aerial photograph depicting land use and rendering view for 131-5333.



Existing View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

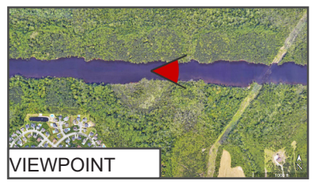


Figure 11
Viewpoint - HF Hybrid Route
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project



Proposed View

Attachment 6: 3D Renderings of Canal Crossing (131-0044 & 131-5333)

Dominion Energy®

ERM

Viewpoint Location UTM Zone 18N:	395432E 4064851N
View Direction:	85 degrees
Viewpoint Elevation:	3 feet
Distance to Development:	2053 feet
Horizontal Field of View:	40 degrees

Simulated 50mm camera using google earth and 3dsmax as seen from a boat

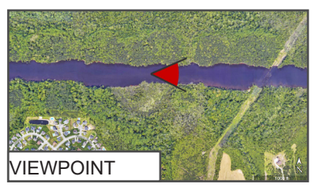


Figure 12
Viewpoint - HF Hybrid Route
Albermarle & Chesapeake Canal
131-0044 and 131-5333

Phase I Historic Architectural Survey
Coastal Virginia Offshore Wind
Commercial Project

ATTACHMENT 7 SECTION 106 CULTURAL RESOURCES DRAFT MITIGATION PLAN - ONSHORE HISTORIC PROPERTIES

Introduction

Project Overview

This component of the Mitigation Plan is prepared in support of the Coastal Virginia Offshore Wind (CVOW) Commercial Project (Project) onshore electric transmission line historic properties survey associated with the proposed Coastal Virginia Offshore Wind (CVOW) Commercial Project (Project). This work was performed for the Virginia Electric and Power Company, doing business as Dominion Energy Virginia (Dominion Energy). The Project is located in the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS) Offshore Virginia (Lease No. OCS-A-0483, Lease Area), which was awarded to Dominion Energy (Lessee) through the Bureau of Ocean Energy Management (BOEM) competitive renewable energy lease auction of the Wind Energy Area (WEA) offshore of Virginia in 2013. The Lease Area covers approximately 112,799 acres (ac; 45,658 hectares [ha]) and is approximately 27 statute miles (mi) (23 nautical miles [nm], 43 kilometers [km]) off the Virginia Beach coastline. The CVOW Offshore Export Cable Route Corridor will connect the Lease Area to a Cable Landing Location at the State Military Reservation (SMR) in Virginia Beach, VA.

Regulatory Context

The purpose of this Mitigation Plan is to support Dominion Energy in its compliance to Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations, 36 CFR Part 800 – Protection of Historic Properties, with the requirements of the National Environmental Policy Act (NEPA). Coordination of the Section 106 process and NEPA is authorized under 36 CFR Part 800.8 Coordination with the National Environmental Policy Act. The integration of Section 106 and NEPA was adopted by BOEM as the Federal agency's preferred approach in December 2020.

This Mitigation Plan was developed to present the findings of the Historic Resources Visual Effect Analysis (HRVEA) investigation and to provide potential mitigation measures to mitigate the adverse effects of the Project. Total avoidance or minimization of the adverse effects to historic properties identified in the current investigation is anticipated to be impracticable owing to the nature, scale, and complexity of the Project WTGs. Mitigation measures to address adverse effects to historic properties are designed to be commensurate with the scope and nature of the adverse effect and should align with public interests

Above Ground Architectural Historic Properties Avoidance, Minimization, And Mitigation Measures

Environmental Resources Management (ERM) conducted an analysis of potential cultural resource impacts for the alternative onshore routes under consideration in accordance with the VDHR's 2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia* (VDHR 2008). ERM additionally prepared a methodology document for the analysis, titled *Coastal Virginia Offshore Wind Commercial Project Onshore Aboveground Historic Properties Survey Plan* that was reviewed and approved by BOEM and the VDHR. The analysis was also conducted in accordance with:

- OCS Study BOEM 2021-032, Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States (BOEM 2021);

- National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation (National Park Service 1995);
- NHPA Section 106; and
- NHPA Section 110(f).

Fieldwork for the proposed routes was conducted under the direction of Secretary of Interior Qualified architectural historian Mary Beth Derrick between June 23 and July 19, 2021. ERM architectural historians surveyed properties determined to be 45 years or older in the APE. Each resource was photographed and marked on the applicable U.S. Geological Survey (USGS) quadrangle map. Digital photographs were taken to record each resource's overall appearance and details. Sketch maps were drawn depicting the relationship of dwellings to outbuildings and associated landscape features. Additional information on the structures' appearance and integrity were recorded to assist in making recommendations of NRHP eligibility. Observations were limited to what could be observed from the nearest public road. Sufficient information was gathered on resources to determine eligibility for listing on the NRHP, and what effect the proposed undertaking might have on a resource determined to be eligible.

According to 36 CFR 60.4 (Andrus and Shrimpton 2002), cultural resources eligible for listing on the NRHP are defined as buildings, structures, objects, sites, and districts that have "integrity" and that meet one or more of the criteria outlined below. Criterion D is typically relevant to archaeological sites. Historic resources are generally evaluated in relation to Criteria A, B, and C. Criterion C is typically applicable to architectural resources but also may be relevant in the case of resources that are associated with landscape architecture (like cemeteries or battlefields) or engineering (like bridges, railroads, and mines).

- Criterion A (Event). Association with one or more events that have made a significant contribution to the broad patterns of national, state, or local history.
- Criterion B (Person). Association with the lives of persons significant in the past.
- Criterion C (Design/Construction). Embodiment of distinctive characteristics of a type, period, or method of construction; or representation of the work of a master; or possession of high artistic values; or representation of a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D (Information Potential). Properties that yield, or are likely to yield, information important in prehistory or history. Criterion D is most often (but not exclusively) associated with archaeological resources. To be considered eligible under Criterion D, sites must be associated with specific or general patterns in the development of the region. Therefore, sites become significant when they are seen within the larger framework of local or regional development.

"Integrity" is perhaps the paramount qualification of NRHP eligibility, and can be related to any or all of the following (Andrus and Shrimpton 2002):

- Location: the place where the historic property (or properties) was/were constructed or where the historic event(s) occurred;
- Design: the combination of elements that create the form, plan, space, structure, and style of a property (or properties);

- Setting: the physical environment of the historic property (or properties);
- Materials: the physical elements that were combined to create the property (or properties) during the associated period of significance;
- Workmanship: the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory;
- Feeling: the property's (or properties') expression of the aesthetic or historic sense of the period of significance; and
- Association: the direct link between the important historic event(s) or person(s) and the historic property (or properties).

Each identified resource was evaluated in relation to these criteria and considerations. Those resources recommended eligible for listing on the NRHP, and that will be adversely affected by the Project are summarized in Section DD.4.2.2. ERM surveyed seven route options, including one Cable Landing to Harpers (CLH) Route and six route alternatives associated with the Harpers to Fentress (HF) Route options. 322 resources were documented within the APE for all seven routes. Of the proposed routes, 30 resources were identified in the APE for the CLH Route, and 127 resources were identified in the APE for the proposed HF Route 1.

Of the 30 resources documented in the APE for the CLH Route, one is NRHP-listed (134-0413, Camp Pendleton State Military Reservation (SMR), one is eligible for the NRHP (134-0003, James Bell House), 24 are not eligible for the NRHP, and four are no longer extant. Based on their assessments, ERM recommended that the CLH Route would result in a severe impact for 134-0413, and a minimal impact for 134-0003. Thus, only 134-0413 would be adversely affected by the CLH Route.

Of the 127 resources documented in the APE for HF Route 1, two are NRHP-listed (131-5071, Centreville-Fentress Historic District and 131-5333, Albemarle & Chesapeake Canal Historic District), two are eligible for the NRHP (131-0044, Albemarle & Chesapeake Canal and 131-5887, Vernacular Dwelling), 92 are not eligible for the NRHP, and 31 are no longer extant. Based on their assessments, ERM recommended that HF Route 1 would result in a minimal impact for all four resources, and thus would not be adversely affected by the proposed Project.

The assessment of Project effects for NRHP-eligible resources took into account effects to each element of the resource that contributes to its eligibility, including elements of the landscape within the entire parcel boundary when they contribute to qualities that constitute the resource's significance.

Summary of Identified Resources

The Camp Pendleton/SMR Historic District occupies 343 acres on the Atlantic Ocean in the City of Virginia Beach. The boundaries of the district consist of the Croatan residential neighborhood to the north, the Atlantic Ocean to the east, Birdneck Avenue to the south, and General Booth Boulevard to the west. 134-0413 has been surveyed multiple times between 1988 and 2014. Simone Monteleone Moffett completed the majority of the survey and description of the resource in 2001.

Camp Pendleton was established in 1911 as the State Rifle Range. It has served as a training facility for the Virginia National Guard, as well as for the U.S. Navy during World War I, and the U.S. Army during World War II and at other times since then. The historic district includes 130 contributing

resources, consisting of 113 buildings, eight structures, eight sites, and one object. The buildings are primarily utilitarian-type military buildings, including barracks, mess halls, classroom buildings, administration buildings, and maintenance and storage facilities, but they also include residential cottages, a firehouse, a chapel, an officers' club, an armory, and a service station. Contributing structures include building foundations, loading docks, an observation deck, a water tower, and the road network on the base. Six of the eight contributing sites are historic landscapes that include the parade ground, camp area, drill field, two rifle ranges, and the beachfront. The district is surrounded by modern development, but within the boundaries of the camp, the setting is mostly open grassy lawns and training areas, with areas of park-like woods, a lake, and ordered, modest buildings arranged by function. The Camp Pendleton SMR Historic District represents a well-preserved example of a twentieth century military training facility that includes a large number of historical buildings, structures, and landscapes.

The majority of the buildings in the district date to the period of expansion during World War II. They were constructed in the style of temporary military structures, but have continued to serve the needs of the Virginia National Guard and its tenants. A handful of buildings from the original State Rifle Range remain, along with those from the period between the world wars. The majority of the buildings in the district are of frame construction and reflect function over form. No changes have occurred since the original survey.

NRHP Assessment: The Camp Pendleton/SMR Historic District was originally listed in the VLR in 2004 and the NRHP in 2005. Additional documentation was conducted in 2013. The updated registration form added a number of contributing resources and defined six contributing historical landscapes. The district meets Criterion A of the NRHP as a well-preserved twentieth century military training facility that adapted to state and federal defense needs. It is also meets Criterion C for its representative examples of twentieth century military architectural styles from different periods of the early and mid-twentieth century. ERM agrees with this assessment.

Assessment of Effects: The underground transmission line associated with the Project would run east to west, through the entire district, for 0.92 miles. 134-0413's eastern portion would not be impacted by the underground route because the circuits in this area would be installed by horizontal directional drill (HDD), a trenchless installation method, and the HDD operation would not require the removal of any existing vegetation. The area around Lake Christine would be bored and no tree cut would occur. However, the proposed route would remove trees and vegetation near the western edge of the district, to the north of the main entrance. In addition to the tree cut, installation of the transmission line would also result in the demolition of two contributing structures to the district, Building 410 and Building 59. Building 410 is a fire house constructed between 1940 and 1942. Building 59 is a mess hall constructed in 1934, during the period in which the State Rifle Range was expanded between the world wars; it is one of nine nearly identical buildings. Building 410 is a unique structure, constructed for a specific purpose during the World War II expansion of the base. The loss of this building would have a greater impact on the overall integrity of the district, since it represents a specific activity that took place at the facility. While the vegetation is part of the district's historic landscape, it is not as integral to the resource's historic setting and feeling as the built environment. Efforts have been made to maintain mature trees that contribute to the historic viewshed. Those trees that would be demolished are not integral to the district.

Because Buildings 410 and 59 would be removed, the Project would have an adverse effect on the historic district.

Recommended Mitigation Measures

Dominion Energy used the routing process for the onshore export cable as a tool to avoid or minimize impacts on the Camp Pendleton/SMR Historic District. Dominion Energy worked cooperatively with staff from the SMR through regular meetings and weekly calls to identify a route that minimizes impacts on military training/readiness; natural and cultural resources, including elements of the historic district; and future development plans at the base. As noted above, installation of the underground transmission circuits would require the demolition of two structures, Buildings 410 and 59, which are considered contributing elements of the historic district. SMR staff preferred a route requiring the demolition of these buildings, which allowed for the preservation of other elements of the historic district, including trees and landscape features also considered contributing elements. Use of the HDD method to cross Lake Christine, for example, avoids tree clearing and surface disturbing activities in this portion of the base. The route across the SMR was also designed to overlap with portions of two potential future developments (parking lots) at the base that would be compatible with an underground transmission line. For example, the required tree clearing near Headquarters Road (needed for an HDD beneath General Booth Boulevard) was sited within a potential future parking lot.

The proposed construction methods selected for installation of the new transmission infrastructure additionally will minimize impacts to the district. The offshore export circuits will be installed beneath the beach and dunes using the direct pipe method, a trenchless installation method similar to HDD, with the onshore workspace sites located within a parking lot and the SMR rifle range, which would be restored to pre-construction conditions. Use of an underground transmission line, as opposed to an overhead line, eliminates the need for a switching station at SMR as well as overhead transmission towers and conductors, which if built would impact the viewshed of the district. Use of the HDD method to cross Lake Christine additionally eliminates the need for tree clearing along and near the shoreline of the lake. Post-construction, disturbed areas along the onshore export cable route will be restored as near as practicable to pre-construction conditions, which for most of the route consists of an open parade ground.

Appropriate mitigation measures will be determined through consultation with BOEM, VDHR, SMR, and consulting parties. Options under consideration include documentation of the SMR landscapes and contributing resources with large-format photography, as well as photogrammetry that could capture the resources in three dimensions using modern digital techniques. The documentation would focus on the buildings that will be demolished (Buildings 410 and 59), as well as any changes to SMR as a result of the Project. This would include pre- and post-construction digital photo documentation of the district where it is traversed by the Project. The technology uses hundreds of photos to create a model of the resources that can be viewed from any angle, as well as interior views. This would permit digital users to do a virtual tour of the resources to experience them as they existed before the Project. The virtual tour could be integrated with other information on the history of the Camp Pendleton/SMR Historic District to provide context for the virtual experience. As another option, photographs of resources could also be used to develop interpretive panels or a brochure on the historical landscape, highlighting what has changed and what remains intact, framing the discussion in the context of the facility's history and significance. A more general historical marker that summarizes the history of the SMR also could be prepared as a mitigation option. Such a marker could be located outside of the boundaries of the facility where it would be more visible to the public, such as along General Booth Boulevard.

Consulting Party Engagement for Mitigation Planning

In developing the alignment of the CLH, Dominion Energy worked cooperatively with SMR staff through regular meetings and weekly calls to identify a route that would minimize impacts on military training/readiness, natural and cultural resources, and future development plans at the base. The Camp Pendleton/SMR Historic District, and its constituent components, was a key factor considered in the routing process. Installation of the underground transmission circuits along the CLH Route would require the demolition of two structures, Buildings 410 and 59, which are considered contributing elements of the district. SMR staff preferred a route alignment requiring the demolition of these buildings to preserve other contributing elements of the district, including trees and other landscape features.

In a letter to Dominion Energy dated April 13, 2021, the Office of the Adjutant General of the Commonwealth of Virginia's Department of Military Affairs (VDMA) agreed in principle with the alignment of the CLH Route across the SMR. In a second letter to the Company dated June 24, 2021, the VDMA provided an overview of the route selection process, including a discussion of factors affecting SMR's identification of a preferred alignment for the CLH Route. Furthermore, the Company has engaged in informal consultation via phone meetings with SMR to discuss appropriate potential treatment options. Consultation is ongoing, with two consultation party meetings hosted by BOEM to date; held on September 9, 2022 and December 15, 2022

References

Andrus, Patrick W. (and edited by Rebecca H. Shrimpton)
2002 *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin 15, U.S. Department of the Interior, National Park Service, Washington D.C. Located online at: http://www.cr.nps.gov/nr/publications/bulletins/nrb15/. Accessed April 17, 2014.

BOEM (Bureau of Ocean Energy Management)
2021 Assessment of Seascape, Landscape, and Visual Impacts of Offshore Wind Energy Developments on the Outer Continental Shelf of the United States. OCS Study BOEM 2021-032. Accessed: May 2021. Retrieved from: https://www.boem.gov/sites/default/files/documents/environment/environmental-studies/BOEM-2021-032.pdf.

Malvasi, Meg Greene
2013 Camp Pendleton State Military Reservation Historic District 2013 Update. Prepared by William and Mary Center for Archaeological Research. U.S. Department of the Interior, National Park Service. Located online at: https://npgallery.nps.gov/GetAsset/46f17782-de55-4398-8930-20efb830fcaf/.

National Park Service (NPS)
1995 *National Register Bulletin: How to Apply the National Register Criteria for Evaluation (NRB 15)*. Revised for Internet 1995. Accessed June 25, 2021. Retrieved from https://www.nps.gov.

Virginia Department of Historic Resources (VDHR)
2008 *Guidelines for Assessing Impacts of Proposed Electric Transmission Lines and Associated Facilities on Historic Resources in the Commonwealth of Virginia.*

Https://www.dhr.virginia.gov/wp-content/uploads/2018/08/DHR_Guidelines_for_Transmission_Line_Assessment.pdf. Accessed June 2021.

ERM has over 160 offices across the following countries and territories worldwide

Argentina
Australia
Belgium
Brazil
Canada
Chile
China
Colombia
France
Germany
Hong Kong
India
Indonesia
Ireland
Italy
Japan
Kazakhstan
Kenya
Malaysia
Mexico
The Netherlands
New Zealand
Norway
Panama
Peru
Poland
Portugal
Puerto Rico
Romania
Russia
Singapore
South Africa
South Korea
Spain
Sweden
Switzerland
Taiwan
Thailand
UAE
UK
US
Vietnam

ERM
3300 Breckinridge Boulevard
Suite 300
Duluth, Georgia, USA 30096

T: 678-781-1370

www.erm.com

The business of sustainability

ERM