6.11 Aviation

Federal Aviation Administration ("FAA") Regulations, Part 77, establishes standards for determining obstructions in navigable airspace and sets forth requirements for FAA notification of proposed construction. These regulations require FAA notification for any construction over 200 feet in height above ground level. Also, notification is required if the obstruction is more than specified heights and falls within any restricted airspace in the approach to airports. For airports with runways longer than 3,200 feet, the restricted space extends 20,000 feet (3.3 nautical miles) from the runway. For airports with runways 3,200 feet or less, the restricted space extends 10,000 feet (1.7 nautical miles). For heliports, the restricted space extends 5,000 feet (0.8 nautical miles). No airports or airstrips are within 3.3 nautical miles of the project. No structures along the VCSNS-Killian, VCSNS-St. George or VCSNS-Lake Murray #2 230 kV Lines will exceed 200 feet in height and no airports are located within 3.3 nautical miles of the potential routes or actual route of the VCSNS-Lake Murray #2 Line. A heliport is located on the V.C. Summer Nuclear Station property and will be within 0.8 nautical miles on one or more of the lines; therefore, following preliminary engineering of the lines on the V.C. Summer Nuclear Station Site, SCE&G will file proper notifications with the FAA and consult with them as necessary to resolve any conflicts and determine any measures that must be implemented to insure safety.

6.12 Noise, Radio, and Television Interference

When a substation or transmission line is in operation, an electric field is generated in the air surrounding the current-carrying conductors. This electric field allows corona to occur, and this corona can create an audible noise. Corona is the partial electrical breakdown of the insulating properties of the air in the vicinity of the conductors of a transmission line. When the intensity of the electric field at the conductor surface exceeds the breakdown strength of the surrounding air, a corona discharge occurs at the conductor surface. Energy and heat are dissipated in very small volumes near the surface of the conductors. Part of this energy is in the form of small local pressure changes that result in audible noise.

Corona-generated audible noise can be characterized as a hissing, cracking sound which, under certain conditions, is accompanied by a 120-hertz (Hz) hum. Corona-generated audible noise is of concern primarily for electrical lines and equipment that are operated at 230 kV and higher during inclement weather conditions. The conductors of high voltage transmission lines are designed to be corona-free under ideal conditions. However, slight variations and irregularities in the conductor surface can cause distorted electric fields near the conductor surface, and the

occurrence of corona. The most common source of distorted electric fields at the conductor surface is water droplets on, or dripping from, the conductors. Therefore, audible noise from high-voltage transmission lines is generally associated with, and enhanced by, wet weather (i.e., wet conductor) phenomenon, which can occur during periods of rain, fog, snow or icing. These conditions are expected to occur infrequently and will usually be limited to a "hissing" sound that will be 40 dB or less (40 dB is comparable to a quiet library). During fair weather, insects and other contaminants on the conductor can also serve as sources of corona.

Corona on transmission line conductors can also generate electromagnetic interference for radio and television receivers. Corona generated interference is localized and not very noticeable outside the transmission line right-of-way.

Another type of radio and television interference, known as gap-type noise, is caused by an oxidized film at the point of contact between two metallic electric hardware pieces. The film acts as an insulator between the surfaces and small electric sparks, which produce noise and interference. Gap type interference normally causes radio or television interference within a mile or less of the source. When such an interference condition occurs, corrective actions can be taken to eliminate the source.

SCE&G's construction and maintenance practices will ensure proper connections of current carrying equipment throughout the operational life of the VCSNS-Killian, VCSNS-St. George and VCSNS-Lake Murray #2 230 kV Lines; therefore, no adverse audible noise or radio and television interference effects are expected to be associated with their operation.

6.13 Safety

To provide for public safety and protection, SCE&G will design and construct the VCSNS-Killian, VCSNS-St. George and VCSNS-Lake Murray #2 230 kV Lines in a manner that will comply with, or exceed, the latest standards of the National Electrical Safety Code in effect at the time of construction. SCE&G commits to continue their long-standing tradition of operating and maintaining their facilities in a manner that will ensure public safety over the life of these facilities.

6.14 Electric and Magnetic Fields

Electric and magnetic fields ("EMF") exist anywhere there is electricity, whether that electricity is being produced, distributed, or consumed. Thus EMF is created by power lines, residential wiring, appliances, and even by the earth itself. Since the early 1970's, hundreds of

studies have debated the possible health effects of EMF. In 1996, the National Academy of Sciences ("NAS"), National Research Council, completed its review of the literature on the possible health risks of residential exposure to power-frequency electric and magnetic fields. In 1999, the National Institute of Environmental Health Sciences ("NIEHS") completed a comprehensive program of research and analysis to clarify the potential health risks from exposure to extremely low frequency electric and magnetic fields.

The NAS report stated, "Based on a comprehensive evaluation of published studies relating to the effects of power frequency electric and magnetic fields on cells, tissues, and organisms (including humans), the conclusion of the committee is that the current body of evidence does not show that exposure to these fields presents a human-health hazard." The NAS went on to say, "No conclusive and consistent evidence shows that exposures to residential electric and magnetic fields produce cancer, adverse neurobehavioral effects, or reproductive and developmental effects."

NIEHS concluded that the evidence for a risk of cancer and other human disease from the electric and magnetic fields around power lines is "weak." They stated that "the results of the EMF-RAPID program do not support the contention that the use of electricity poses a major unrecognized public-health danger." NIEHS Director Kenneth Olden, Ph.D., said, "The lack of consistent, positive findings in animal or mechanistic studies weakens the belief that this association is actually due to EMF, but it cannot completely discount the epidemiological findings. For that reason, and because virtually everyone in the United States is routinely exposed to EMF, efforts to encourage reductions in exposure should continue."

EMF levels drop sharply with increased distance from a power source. SCE&G has published information listing the typical 60 hertz magnetic field levels associated with 115 kV lines. Directly under the line, the range is 2.1-19.3 milliGauss (mG); at the edge of the right-of-way, the range is 0.6-3.4 mG; 50' from the edge of the right-of-way, the range is 0.3-1.9 mG. This data is the same as published by Duke Energy Corporation with respect to 100 kV lines. Moreover, Duke Energy publishes the following information regarding 230 kV Lines (SCE&G has not published similar data for 230 kV lines):

Under the line: 4.5 - 29.0 mG Edge of right-of-way: 1.9 - 6.4 mG 50' from edge of right-of-way: 1.0 - 3.5 mG Generally, the normal background magnetic field strength levels away from electrical devices are 0.6-1.5 mG. In homes, typical daily magnetic field strength levels around common electrical devices and appliances are higher. The following are typical magnetic field strength ranges for certain equipment as published by SCE&G and Duke Energy:

Equipment	1 Inch	1 Foot	3 Feet
Microwave oven	140.0 mG	65.0 mG	10.0 mG
Refrigerator	6.0 mG	4.0 mG	1.2 mG
Electric Range	250.0 mG	25.0 mG	2.0 mG
Electric Razor	500.0 mG	-	-
Hair Dryer	100.0 mG	30.0 mG	-
Electric can opener	5,000.0 mG	-	-
Computer terminal / TV	26.0 mG	3.4 mG	1.2 mG
Electric Clock	130.0 mG	15.5 mG	2.5 mG

6.15 Ozone

High-voltage transmission facilities may, under some conditions, produce small amounts of ozone as a consequence of corona discharge. This discharge is caused by abrasions on conductors or foreign-particle contamination of the insulators or hardware. SCE&G takes care to eliminate or minimize corona discharge from random arcing through careful design of the connections, fittings, hardware, and insulation.

Organizations such as the Illinois Institute of Technology have conducted extensive field tests under various weather conditions to detect ozone around high-voltage substations and 765 kV lines. These tests showed no significant adverse effects on plants, animals, or humans from levels of ozone that may be produced in operating transmission facilities at voltages up to 765 kV.

The VCSNS-Killian, VCSNS-St. George and VCSNS-Lake Murray #2 230 kV Lines should not produce any detectable amount of ozone under any operating condition, and thus will pose no threat to environmental quality.

CONSTRAINT WEIGHTS SCE&G VC Summer - Killian 230 kV Line

	0-5	0-5	0-5	0-5	0-5	6-10	11-15	16-20	21-100
	LOW	MODERATE / LOW	MODERATE	MODERATE / HIGH	HIGH				
	LOW	LOW	WODERATE	THOT	півп				
JRAL RESOURCES									
Archaeological Site - Eligibility for the NR* Undetermined					25				
Archaeological Site - Eligibility for the NR* Undetermined - 50' Buffer			15						
Archaeological Site - Eligible for the NR					25				
Archaeological Site - Eligible for the NR - 50' Buffer			15						
Archaeological Site - Ineligible for the NR	5								
Archaeological Site - Ineligible for the NR - 50' Buffer	1								
Archaeological Site - Potentially Eligible for the NR					25				
Archaeological Site - Potentially Eligible for the NR - 50' Buffer			15						
Historic District - Listed on the NR					100				
Historic District - Listed on the NR - 500' Buffer					25				
Historic District - Listed on the NR - 1000' Buffer			15						
Historic Site - Eligible for the NR					100				
Historic Site - Eligible for the NR - 100' Buffer					100				
Historic Site - Eligible for the NR - 500' Buffer				22					
Historic Site - Eligible for the NR - 1000' Buffer			15						
Historic Site - Ineligible for the NR				16					
Historic Site - Ineligible for the NR - 100' Buffer			11						
Historic Site - Ineligible for the NR - 500' Buffer		8							
Historic Site - Ineligible for the NR - 1000' Buffer	4								
Historic Site - Listed on the NR					100				
Historic Site - Listed on the NR - 100' Buffer					100				
Historic Site - Listed on the NR - 500' Buffer				22					
Historic Site - Listed on the NR - 1000' Buffer			15						
No Recorded Cultural Resource Sites	0								
*National Register of Historic Places									

WETLANDS

Palustrine Emergent			12	
Palustrine Forested				25
Palustrine Scrub / Shrub			15	
50' Buffer		7		
100' Buffer	5			
Upland	0			

LAND COVER

		11		
		12		
		12		
				25
				25
			19	
				25
			19	
				25
			19	
5				
	8			
5				
		15		
2				
2				
		11		
	5	5	12 12 12 13 5 8 5 15 2 2	12 12 12 19 19 19 5 8 5 15 2 2

NATURAL RESOURCES

JRAL RESOURCES			
Adder's-Tongue			100
Adder's-Tongue - 50' Buffer			50
Eastern Floater			100
Eastern Floater - 50' Buffer			50
Granite Rock Stonecrop			100
Granite Rock Stonecrop - 50' Buffer			50
One-Flower Stitchwort			100
One-Flower Stitchwort - 50' Buffer			50
Piedmont Quillwort			100
Piedmont Quillwort - 50' Buffer			50
No Recorded Natural Resource Sites	0		

SOILS

Farmland Of Statewide Importance			11	
Prime Farmland		9		
Prime Farmland If Drained And Protected From Flooding Or Not Frequently Flooded		6		
Not Prime or Important Farmland	0			

FEMA FLOOD ZONES

Zone A - Areas of 100-Year Flood (No Base Flood Elevations Determined)		14	
Zone AE - Areas of 100-Year Flood (Base Flood Elevation Determined)		14	
Zone AE - Floodway			100
Zone X - Areas of 500-Year Flood	3		
Zone X - Areas Outside of 500-Year Flood	0		

CONSTRAINT WEIGHTS SCE&G VC Summer - Killian 230 kV Line

0-5	6-10	11-15	16-20	21-100
	MODERATE /		MODERATE /	
LOW	LOW	MODERATE	HIGH	HIGH

EXISTING LAND USE

Airport Facilities				100
Airport Landing Strip - 2500' Buffer				100
Cemetery				100
Communication Tower with 100' Buffer				100
Educational Institution				25
Electrical Transmission Right of Way - Duke Energy	0			
Electrical Transmission Right of Way - Santee Cooper	0			
Electrical Transmission Right of Way - South Carolina Electric & Gas	0			
Gas Pipeline Right of Way - Carolina Gas Transmission Company	5			
Gas Pipeline Right of Way - Dixie Gas Company	5			
Health Institution				25
Land Dedicated to Public Use				100
Major Roadway				25
Place of Worship				100
Power Facility	0			
Power Generation	0			
Railroad Right of Way	5			
Recreational Land				25
Secondary Road			16	
Strip Mines, Quarries and Gravel Pits				50
Transportation, Communications, and Utilities			16	
Water		10		
Water Tower with 100' Buffer				100
No Designated Land Use	5			

OCCUPIED BUILDINGS

Occupied Building				100
Occupied Building 500' Buffer			16	
Occupied Building 1000' Buffer		10		
No Occupied Buildings	0			

POPULATION DENSITY

< 0.05 Acres per Person					25
0.051 - 0.0625 Acres per Person				20	
0.06251 - 0.08 Acres per Person				16	
0.081 - 0.125 Acres per Person			14		
0.1251 - 0.25 Acres per Person			11		
0.251 - 0.5 Acres per Person		6			
0.51 - 1 Acres per Person	4				
1.1 - 2 Acres per Person	3				
2.1 - 4 Acres per Person	2				
4.1 - 10 Acres per Person	0				
< 10 Acres per Person	0				

3

	0-5	6-10 MODERATE /	11-15	16-20 MODERATE /	25
	LOW	V LOW	MODERATE	HIGH	HIGH
JRAL RESOURCES					
Archaeological Site - Eligibility for the NR* Undetermined					25
Archaeological Site - Eligibility for the NR* Undetermined - 50' Buffer			15		20
Archaeological Site - Engineer for the NR	5		13		
Archaeological Site - Ineligible for the NR - 50' Buffer	1				
Archaeological Site - Ineligible for the NR - 50 Bullet					25
Archaeological Site - Listed on the NR - 50' Buffer			15		
Archaeological Site - Potentially Eligible for the NR			13		25
Archaeological Site - Potentially Eligible for the NR - 50' Buffer			15		2:
			15		10
Historic District - Eligible for the NR					10
Historic District - Eligible for the NR - 500' Buffer					75
Historic District - Eligible for the NR - 1000' Buffer					2!
Historic District - Ineligible for the NR				40	2:
Historic District - Ineligible for the NR - 500' Buffer		10		16	
Historic District - Ineligible for the NR - 1000' Buffer		10			40
Historic District - Listed on the NR					10
Historic District - Listed on the NR - 500' Buffer			45		25
Historic District - Listed on the NR - 1000' Buffer			15		40
Historic Site - Contributes to an Eligible District					10
Historic Site - Contributes to an Eligible District - 100' Buffer					10
Historic Site - Contributes to an Eligible District - 500' Buffer					75
Historic Site - Contributes to an Eligible District - 1000' Buffer					25
Historic Site - Eligible for the NR					10
Historic Site - Eligible for the NR - 100' Buffer					10
Historic Site - Eligible for the NR - 500' Buffer				22	
Historic Site - Eligible for the NR - 1000' Buffer			15	- 10	
Historic Site - Ineligible for the NR				16	
Historic Site - Ineligible for the NR - 100' Buffer			11		
Historic Site - Ineligible for the NR - 500' Buffer		8			
Historic Site - Ineligible for the NR - 1000' Buffer	4				
Historic Site - Listed on the NR					10
Historic Site - Listed on the NR - 100' Buffer					10
Historic Site - Listed on the NR - 500' Buffer				22	
Historic Site - Listed on the NR - 1000' Buffer			15		
Historic Site - Potentially Eligible for the NR					10
Historic Site - Potentially Eligible for the NR - 100' Buffer					10
Historic Site - Potentially Eligible for the NR - 500' Buffer					75
Historic Site - Potentially Eligible for the NR - 1000' Buffer					25
No Recorded Cultural Resource Sites	0			1	

No Recorded Cultural Resource Sites
*National Register of Historic Places

HYDR<u>OGRAPHY</u>

River / Stream / Lake / Pond				50
50' Buffer				25
100' Buffer			16	
Upland	0			

WETLANDS

Palustrine Emergent			12	
Palustrine Forested				25
Palustrine Scrub / Shrub			15	
50' Buffer		7		
100' Buffer	5			
Upland	0			

LAND COVER

ID COVER					
Bottomland / Floodplain Forest					25
Closed Canopy Evergreen Forest / Woodland					25
Cultivated Land			15		
Dry Deciduous Forest / Woodland					25
Dry Mixed Forest / Woodland				19	
Dry Scrub / Shrub Thicket	5				
Fresh Water			11		
Grassland / Pasture	2				
Marsh / Emergent Wetland			12		
Mesic Deciduous Forest / Woodland					25
Mesic Mixed Forest / Woodland				19	
Needle-Leaved Evergreen Mixed Forest / Woodland				19	
Open Canopy / Recently Cleared Forest	5				
Urban Development	2				
Urban Residential			11		
Wet Scrub / Shrub Thicket		8			

NATURAL RESOURCES

THE RECOUNTED			
A Crayfish			100
A Crayfish - 50' Buffer			50
Awned Meadowbeauty			100
Awned Meadowbeauty - 50' Buffer			50
Bald Eagle			100
Bald Eagle - 330' Buffer			50
Bald Eagle - 660' Buffer			25
Baldwin Nutrush			100
Baldwin Nutrush - 50' Buffer			50
Black Swamp Snake			100
Black Swamp Snake - 50' Buffer			50
Blue Maiden - Cane			100
Blue Maiden - Cane - 50' Buffer			50
Boykin's Lobelia			100
Boykin's Lobelia - 50' Buffer			50
Canby's Dropwort			100
Canby's Dropwort - 330' Buffer			50
Carolina Bay			100
Carolina Bay - 50' Buffer			50
Carolina Bugleweed			100
Carolina Bugleweed - 50' Buffer			50
Carolina Slabshell			100
Carolina Slabshell - 50' Buffer			50
Chapman Beakrush			100
Chapman Beakrush - 50' Buffer			50
Chapman's Yellow - Eyed Grass			100
Chapman's Yellow - Eyed Grass - 50' Buffer			50

	0-5	6-10 MODERATE /	11-15	16-20 MODERATE /	25
Calliala Cadaa	LOW	LOW	MODERATE	HIGH	HIGH 100
Collin's Sedge Collin's Sedge - 50' Buffer					50
Colonial Waterbird Colonial Waterbird - 400' Buffer					100 50
Columbo Columbo - 50' Buffer					100 50
Corkwood					100
Corkwood - 50' Buffer Creeping St. John's - Wort					50 100
Creeping St. John's - Wort - 50' Buffer Dodder; Love - Vine					50 100
Dodder; Love - Vine - 50' Buffer					50
Drowned Hornedrush Drowned Hornedrush - 50' Buffer					100 50
Dwarf Burhead					100
Dwarf Burhead - 50' Buffer Dwarf Milkwort					50 100
Dwarf Milkwort - 50' Buffer Dwarf Siren					50 100
Dwarf Siren - 50' Buffer					50
Eastern Coral Snake Eastern Coral Snake - 50' Buffer					100 50
Eastern Creekshell Eastern Creekshell - 50' Buffer					100 50
Eastern Floater					100
Eastern Floater - 50' Buffer Eastern Fox Squirrel					50 100
Eastern Fox Squirrel - 50' Buffer Georgia Beargrass					50 100
Georgia Beargrass - 50' Buffer					50
Gopher Frog Gopher Frog - 50' Buffer					100 50
Granite Rock Stonecrop					10
Granite Rock Stonecrop - 50' Buffer Harper Beakrush	<u> </u>				50 100
Harper Beakrush - 50' Buffer Harperella					50 100
Harperella - 50' Buffer					50
Incised Groovebur Incised Groovebur - 50' Buffer					100 50
Kidneyleaf Mud - Plantain Kidneyleaf Mud - Plantain - 50' Buffer					100 50
Lobed Spleenwort					100
Lobed Spleenwort - 50' Buffer Lobelia					50 100
Lobelia - 50' Buffer					50
Narrow Leaved Bluestem Narrow Leaved Bluestem 50' Buffer					100 50
Northern Burmannia Northern Burmannia - 50' Buffer					100 50
One-Flower Stitchwort					100
One-Flower Stitchwort - 50' Buffer Outcrop					50 100
Outcrop - 50' Buffer Paper Pondshell					50 100
Paper Pondshell - 50' Buffer					50
Pickering's Morning - Glory Pickering's Morning - Glory - 50' Buffer					100 50
Piedmont Bladderwort					100
Piedmont Bladderwort - 50' Buffer Piedmont Quillwort					50 100
Piedmont Quillwort - 50' Buffer Piedmont Three - Awned Grass					50 100
Piedmont Three - Awned Grass - 50' Buffer					50
Piedmont Water - Milfoil Piedmont Water - Milfoil - 50' Buffer					100 50
Pine or Gopher Snake Pine or Gopher Snake - 50' Buffer					100 50
Pine - Leaved Golden Aster					100
Pine - Leaved Golden Aster - 50' Buffer Pondspice					50 100
Pondspice - 50' Buffer					50
Pool Sprite Pool Sprite - 50' Buffer					100 50
Pyramid Magnolia Pyramid Magnolia - 50' Buffer					100 50
Rafinesque's Big - Eared Bat					100
Rafinesque's Big - Eared Bat - 50' Buffer Rayed Pink Fatmucket					50 100
Rayed Pink Fatmucket - 50' Buffer Rayner's Blueberry					50 100
Rayner's Blueberry - 50' Buffer					50
Red - Cockaded Woodpecker Red - Cockaded Woodpecker - 1200' Buffer					100 50
Rhynchospora Leptocarpa					100
Rhynchospora Leptocarpa - 50' Buffer Robbins Spikerush					50 100
Robbins Spikerush - 50' Buffer Rose Coreopsis					50 100
Rose Coreopsis - 50' Buffer					50
Sarvis Holly Sarvis Holly - 50' Buffer					100 50
Savannah Lilliput Savannah Lilliput - 50' Buffer					100 50
Shadow - Witch Orchid					100
Shadow - Witch Orchid - 50' Buffer Slender Arrow - Head					50 100
Slender Arrow - Head - 50' Buffer					50
Small - Head Gayfeather Small - Head Gayfeather - 50' Buffer					100 50
Southeastern Sneezeweed Southeastern Sneezeweed - 50' Buffer					100 50
Southeastern Tickseed					100
Southeastern Tickseed - 50' Buffer Southern Hognose Snake					50 100
Southern Hognose Snake - 50' Buffer					50
Spatulate Seedbox Spatulate Seedbox - 50' Buffer					100 50
Spotted Turtle Spotted Turtle - 50' Buffer					100 50
Squawfoot					100
Squawfoot - 50' Buffer Striped Mud Turtle					50 100
Striped Mud Turtle - 50' Buffer					50

CONSTRAINT WEIGHTS SCE&G VC Summer - St. George

	0-5	6-10	11-15	16-20	25
	1.014/	MODERATE / LOW	MODERATE	MODERATE / HIGH	111011
	LOW	LOVV	WODERATE	півп	HIGH
Sweet Pitcher - Plant					100
Sweet Pitcher - Plant - 50' Buffer					50
Thread - Leaf Sundrops					100
Thread - Leaf Sundrops - 50' Buffer					50
Tracy Beakrush					100
Tracy Beakrush - 50' Buffer					50
Water Bulrush					100
Water Bulrush - 50' Buffer					50
White Beakrush					100
White Beakrush - 50' Buffer					50
Woody Goldenrod					100
Woody Goldenrod - 50' Buffer					50
Woolly - Berry					100
Woolly - Berry - 50' Buffer					50
Yellow Lance					100
Yellow Lance - 50' Buffer					50
Yellow Violet					100
Yellow Violet - 50' Buffer					50
No Recorded Natural Resource Sites	0				

SOILS

3

Farmland Of Statewide Importance			11	
Prime Farmland		9		
Prime Farmland If Drained And Protected From Flooding Or Not Frequently Flooded		6		
Not Prime or Important Farmland	0			·

FEMA FLOOD ZONES

Zone A - Areas of 100-Year Flood (No Base Flood Elevations Determined)		14	
Zone AE - Areas of 100-Year Flood (Base Flood Elevation Determined)		14	
Zone B - Areas Between 100-Year Flood and 500-Year Flood			
Zone X - Areas of 500-Year Flood	3		
Zone X - Areas Outside of 500-Year Flood	0		
Not Mapped	0		

EXISTING LAND USE

STING LAND USE				
Agricultural Land			20	
Airport Facilities				100
Airport Facilities, Landing Strip - 2500' Buffer				100
Cemetery				100
Communication Tower with 100' Buffer				100
Conservation Land				100
Educational Institution				25
Electrical Transmission Right-of-Way - Central Electric	0			
Electrical Transmission Right-of-Way - Duke Energy	0			
Electrical Transmission Right-of-Way - Santee Cooper	0			
Electrical Transmission Right-of-Way - South Carolina Electric & Gas	0			
Gas Pipeline Right-of-Way - Carolina Gas Transmission Company	5			
Gas Pipeline Right-of-Way - Other	5			
Health Institution				25
Land Dedicated to Public Use				100
Lookout Tower with 100' Buffer				100
Major Roadway				25
Place of Worship				100
Power Facility	0			
Power Generation	0			
Railroad Right-of-Way	5			
Recreational Land				25
Secondary Road			16	
Strip Mines, Quarries and Gravel Pits				50
Transportation, Communications, and Utilities			16	
Water		10		
Water Tower with 100' Buffer				100
No Designated Land Use	5			

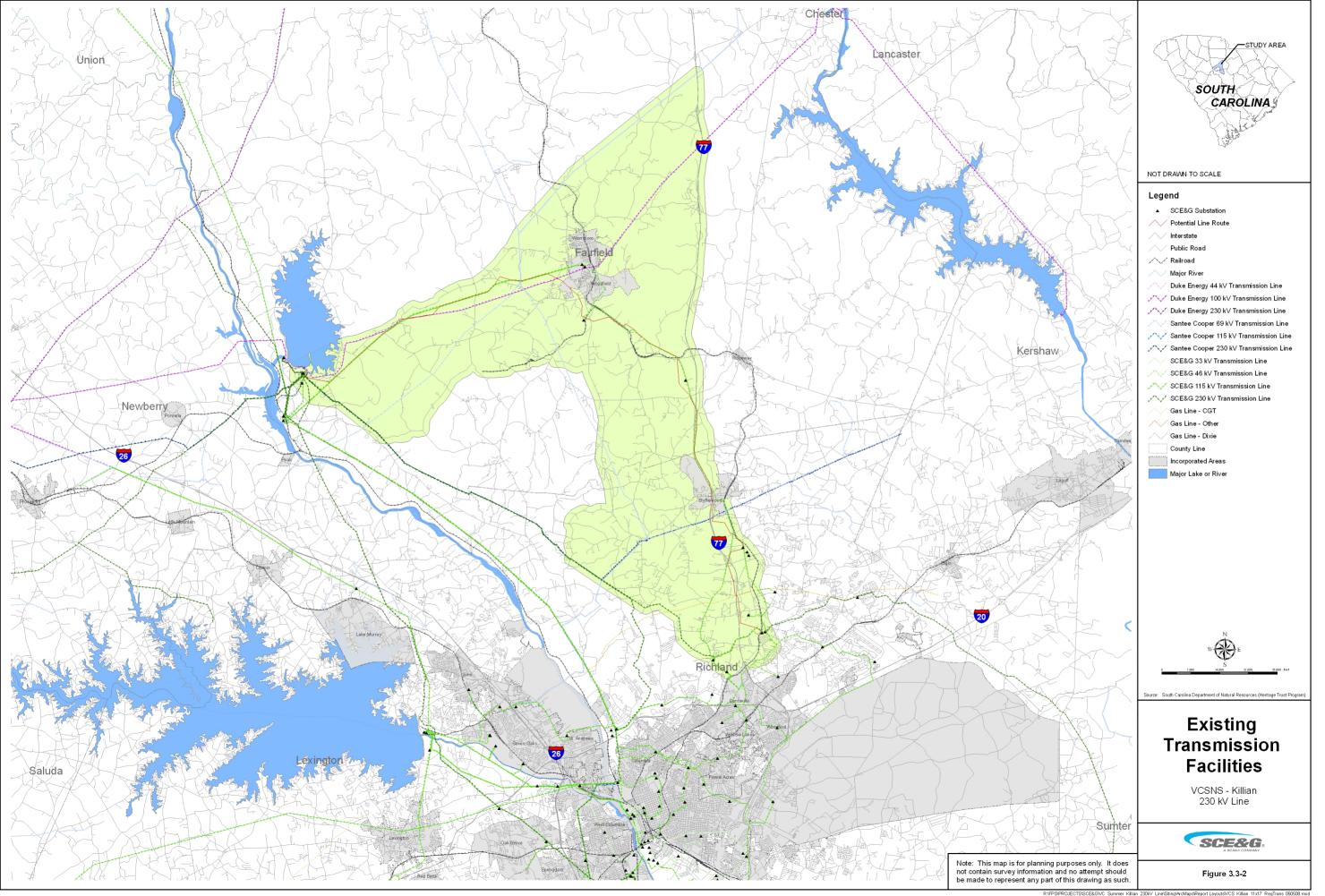
OCCUPIED BUILDINGS

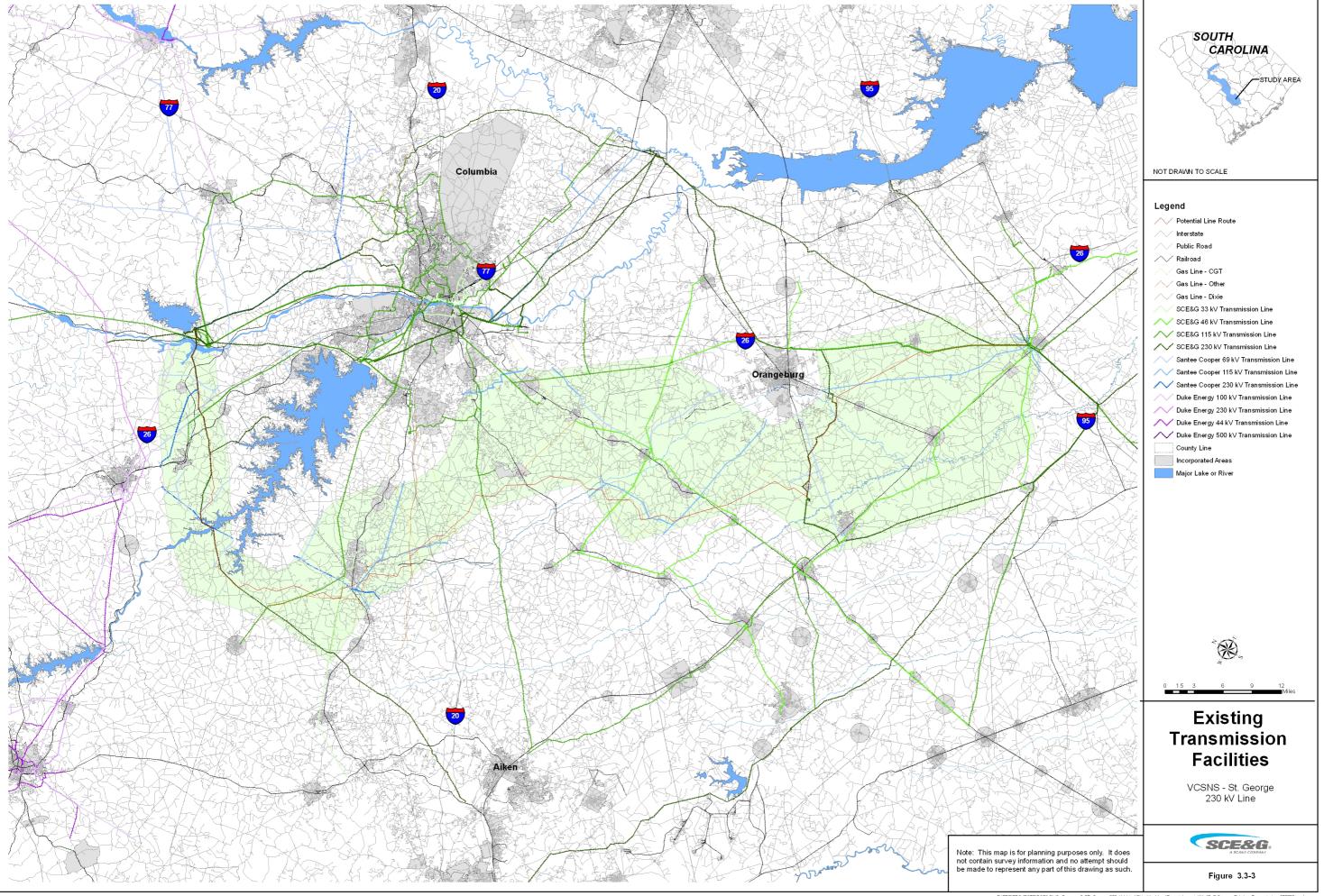
Occupied Building				100
Occupied Building 500' Buffer			16	
Occupied Building 1000' Buffer		10		
No Occupied Buildings	0			

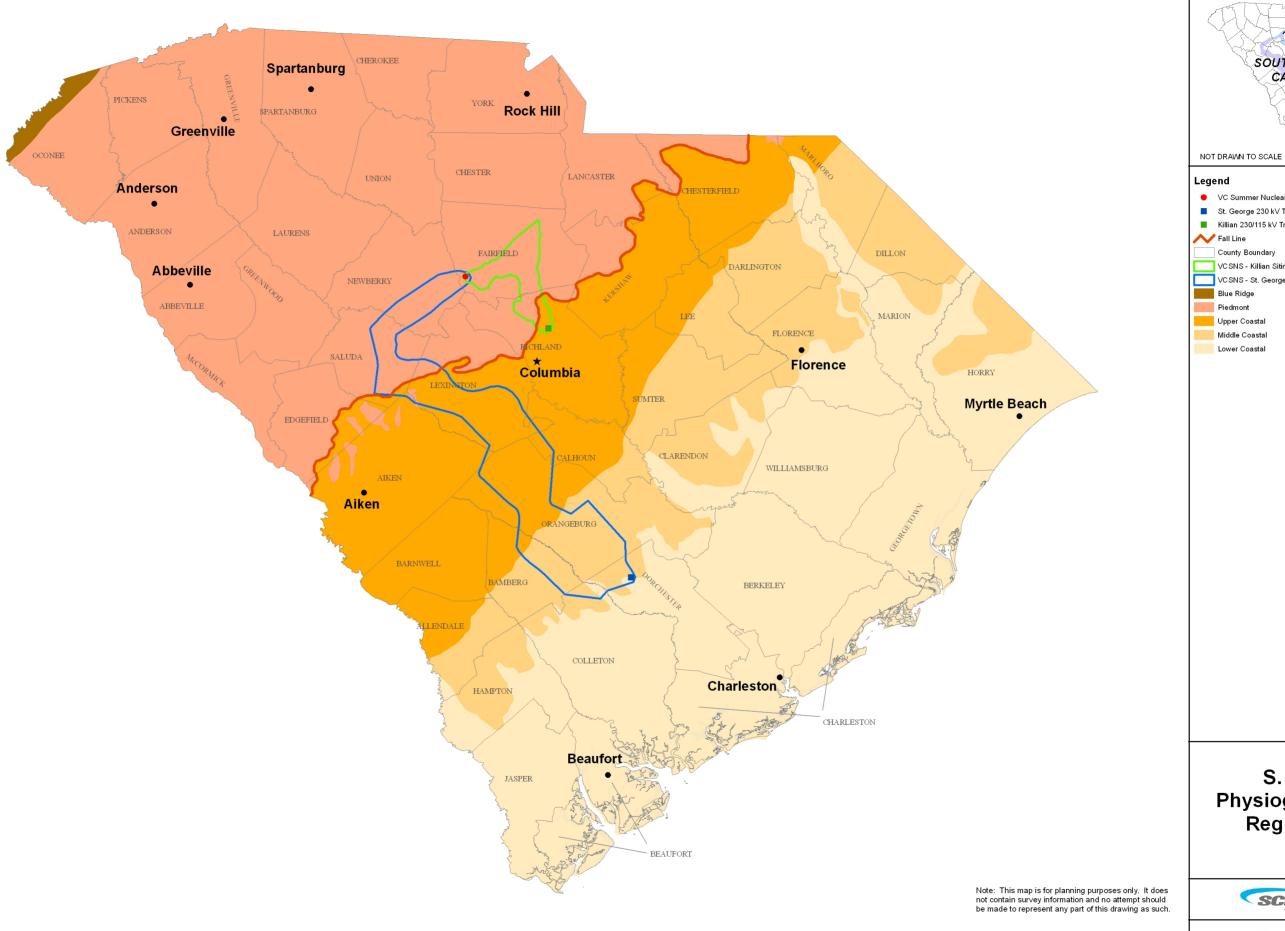
POPULATION DENSITY

< 0.05 Acres per Person					25
0.051 - 0.0625 Acres per Person				20	
0.06251 - 0.08 Acres per Person				16	
0.081 - 0.125 Acres per Person			14		
0.1251 - 0.25 Acres per Person			11		
0.251 - 0.5 Acres per Person		6			
0.51 - 1 Acres per Person	4				
1.1 - 2 Acres per Person	3				
2.1 - 4 Acres per Person	2				
4.1 - 10 Acres per Person	0				
< 10 Acres per Person	0				

Figure 1.1-1	SCE&G Electric Service Area (See page 1)
Figure 2.0-1	SCE&G Transmission Line Siting Process (See page 7)
Figure 3.1-1	VCSNS-Killian 230 kV Line Potential Line Route (See page 9)
Figure 3.1-2	VCSNS-Lake Murray #2 230 kV Line Route Location (See page 10)
Figure 3.1-3	VCSNS-St. George 230 kV Line Potential Line Route (See page 10)
Figure 3.1-4	Typical SCE&G Single-Circuit 230 kV Delta Structure Configuration (See page 12)
Figure 3.1-5	Typical SCE&G Double-Circuit 230 kV Structure Configuration (See page 13)
Figure 3.3-1	VCSNS-Killian and VCSNS-St. George 230 kV Lines Siting Study Areas (See page 16)





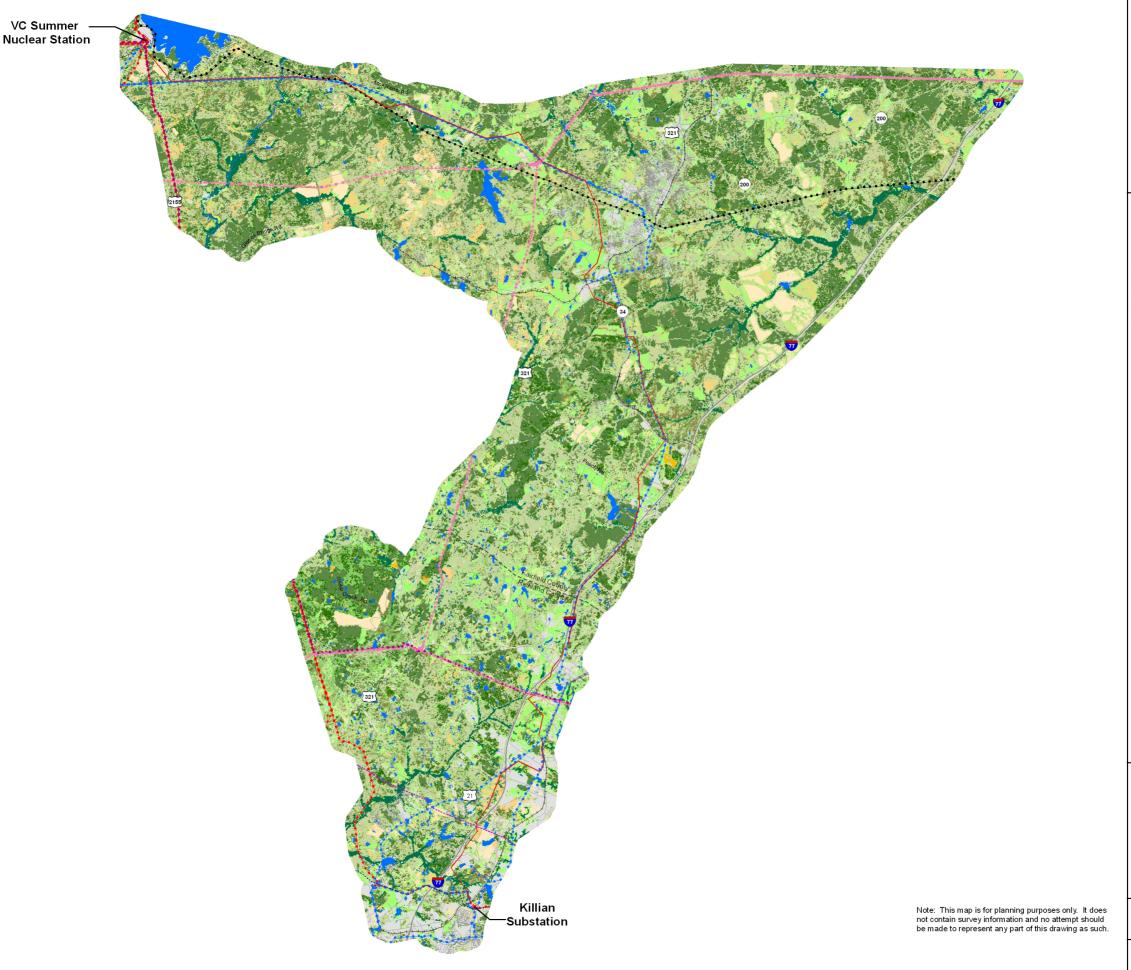




VC Summer Nuclear Station St. George 230 kV Transmission Substation ■ Killian 230/115 kV Transmission Substation County Boundary VCSNS - Killian Siting Study Area VCSNS - St. George Siting Study Area Upper Coastal Middle Coastal Lower Coastal

S. C. Physiographic Regions







Legend ✓ Potential Line Route A Dixie Pipeline CGT Gas Line ♪ Duke Energy 100 kV Transmission Line 🧨 🏏 Santee Cooper 69 kV Transmission Line ✓ Santee Cooper 230 kV Transmission Line SCE&G 115 kV Transmission Line ✓ SCE&G 230 kV Transmission Line /ヘ/ County Line / Interstate Public Road A Railroad Bottomland / Flood Plain Forest Closed Canopy Evergreen Forest / Woodland Cultivated Land Dry Deciduous Forest / Woodland Dry Mixed Forest / Woodland Dry Scrub / Shrub Thicket Fresh Water Grassland / Pasture Marsh / Emergent Wetland Mesic Deciduous Forest / Woodland Mesic Mixed Forest / Woodland Needle-Leaved Evergreen Mixed Forest / Woodland Open Canopy / Recently Cleared Forest Swamp Urban Development Urban Residential Wet Scrub / Shrub Thicket

Land Cover

ource: GeoEye Satellite Image

VCSNS - Killian 230 kV Line







Legend

Gas Line - CGT

✓ Gas Line - Other Gas Line - Dixie

SCE&G 33 kV Transmission Line

SCE&G 46 kV Transmission Line

SCE&G 115 kV Transmission Line

✓ ✓ SCE&G 230 kV Transmission Line

Santee Cooper 69 kV Transmission Line

✓ Santee Cooper 115 kV Transmission Line

✓ Santee Cooper 230 kV Transmission Line

/// Duke Energy 100 kV Transmission Line

Interstate

Public Road

Bottomland / Floodplain Forest

Closed Canopy E∨ergreen Forest / Woodland

Cultivated Land

Dry Deciduous Forest / Woodland

Dry Mixed Forest / Woodland

Dry Scrub / Shrub Thicket

Grassland / Pasture

Marsh / Emergent Wetland

Mesic Deciduous Forest / Woodland

Mesic Mixed Forest / Woodland

Needle-Leaved Evergreen Mixed Forest / Woodland

Open Canopy / Recently Cleared Forest

Pine Woodland

Pocosin Urban Development

Urban Residential

Wet E∨ergreen

Wet Scrub / Shrub Thicket

County Line

ource: GeoEye Satellite Image

Land Cover

VCSNS - St. George 230 kV Line



Figure 4.2-2

Note: This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.



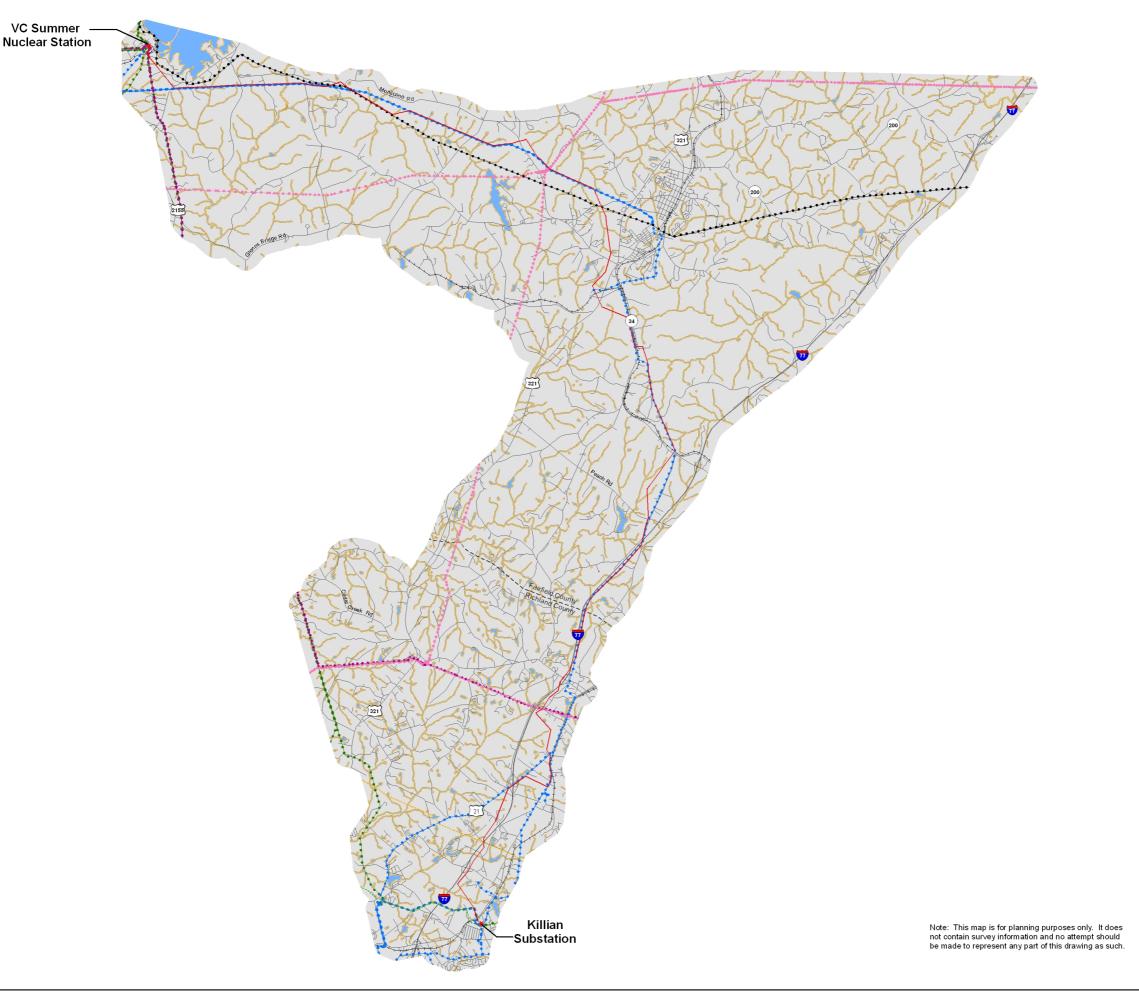
SOUTH CAROLINA 4

VCSNS - Lake Murray #2 230 KV Line Study Area Uuke Energy 100 KV Transmission Line Santee Cooper 69 kV Transmission Line ✓ Santee Cooper 230 KV Transmission Line SCE&G 33 kV Transmission Line ✓ ✓ SCE&G 115 KV Transmission Line ✓✓ SCE&G 230 KV Transmission Line Public Road County Line Major Lake or River Bottomland / Floodplain Forest Closed Canopy Evergreen Forest / Woodland Cultivated Land Dry Deciduous Forest / Woodland Dry Mixed Forest / Woodland Dry Scrub / Shrub Thicket Fresh Water Grassland / Pasture Mesic Deciduous Forest / Woodland Mesic Mixed Forest / Woodland Needle-Leaved Evergreen Mixed Forest / Woodland Open Canopy / Recently Cleared Forest Pine Woodland Unclassified Land Cover Urban Development Urban Residential Wet Scrub / Shrub Thicket

Land Cover

VCSNS - Lake Murray #2 230 kV Line







Legend

✓ Potential Line Route

/ Dixie Pipeline

CGT Gas Line

♪ Duke Energy 100 kV Transmission Line

🏸 🖍 Santee Cooper 69 kV Transmission Line

Santee Cooper 230 kV Transmission Line

SCE&G 115 kV Transmission Line

SCE&G 230 kV Transmission Line

/ヘン County Line

/ Interstate

/ Public Road

∠√√ Railroad

Stream
River / Stream / Lake / Pond

50' Buffer

100' Buffer

Upland

Opian

S 8,000 12,000 11,000

urce: USGS Digital Line Graphs and USGS Digital Orthophoto Quadrangle Maps Were Reviewed and Recently Built Lakes and Ponds Were Added

Hydrography

VCSNS - Killian 230 kV Line







Legend

/ Potential Line Route /// Gas Line - CGT

∕ Gas Line - Other

∕√√ Gas Line - Dixie

SCE&G 33 kV Transmission Line ✓ SCE&G 46 kV Transmission Line

✓✓ SCE&G 115 kV Transmission Line

✓✓ SCE&G 230 kV Transmission Line Santee Cooper 69 kV Transmission Line

✓ Santee Cooper 115 kV Transmission Line ✓ ✓ Santee Cooper 230 kV Transmission Line

/ Duke Energy 100 kV Transmission Line

/ Interstate / Public Road

∕ ✓ Railroad

River / Stream / Lake / Pond

50' Buffer 100' Buffer

Upland

County Line

ource: USGS Digital Line Graphs

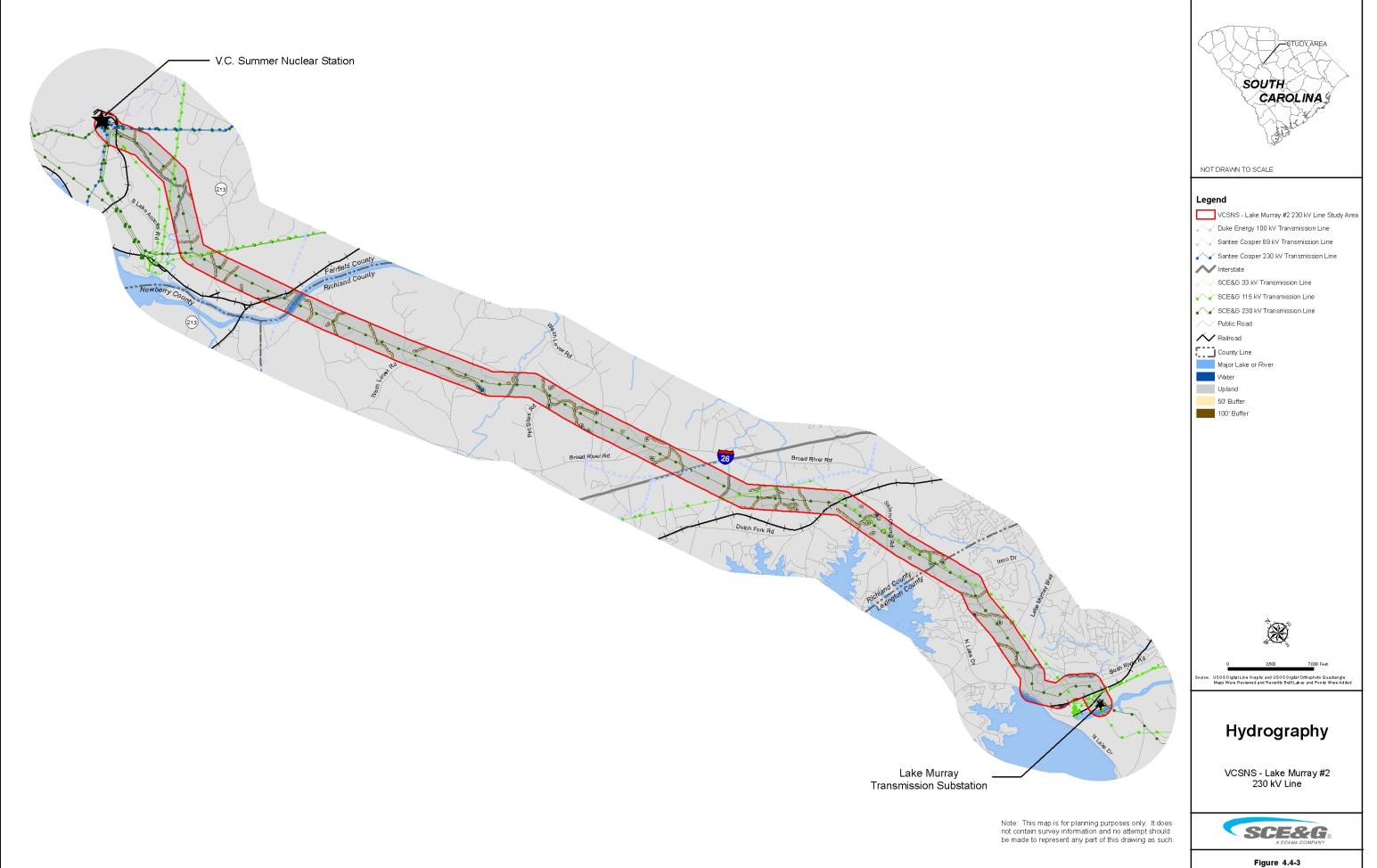
Hydrography

VCSNS - St. George 230 kV Line

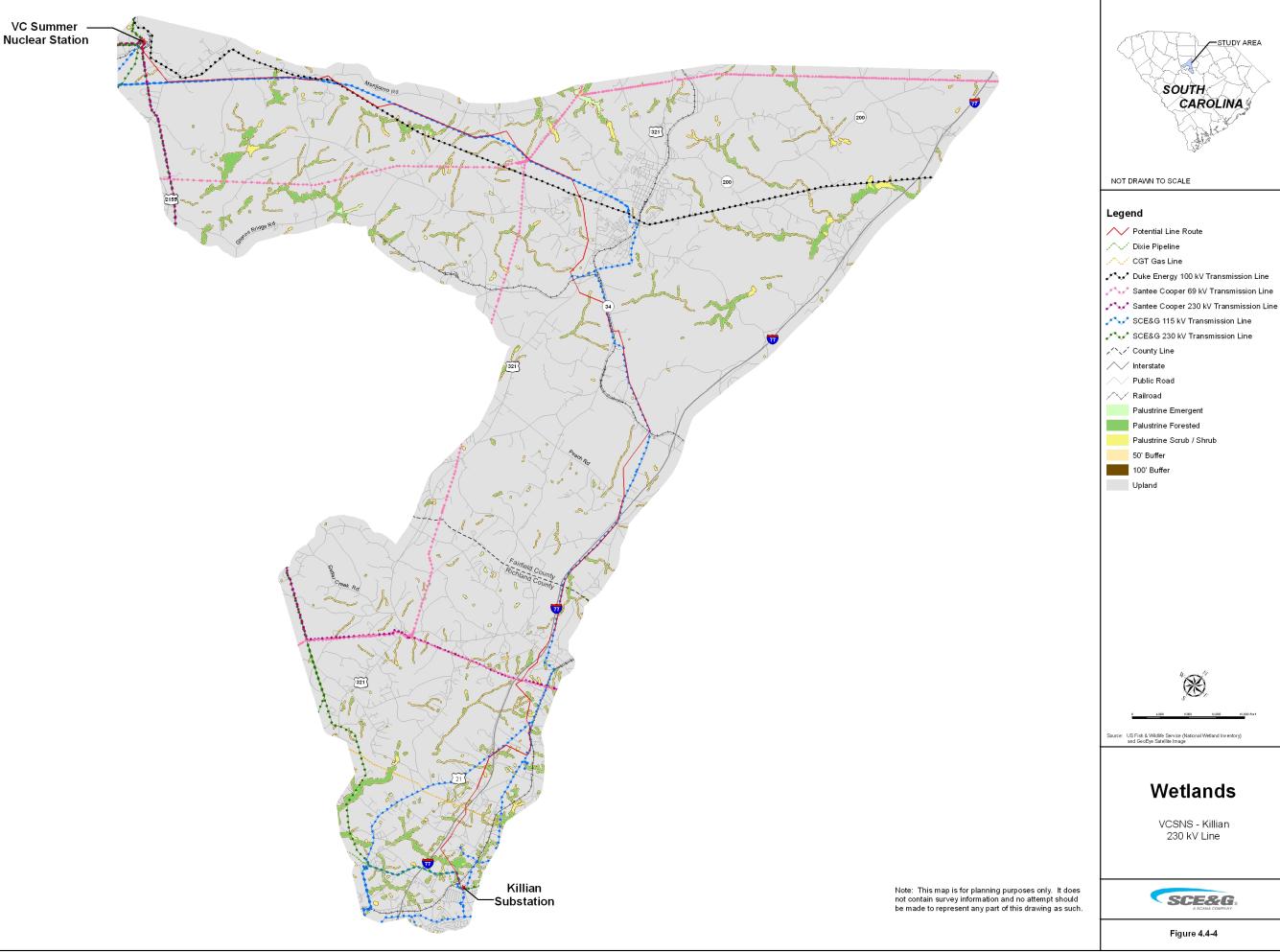


Figure 4.4-2

Note: This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.



nor Into Harmid Michigan Brook Incontinue (Bonort Incontinue)





Legend

// Potential Line Route

A Dixie Pipeline

🎊 CGT Gas Line

▶ Duke Energy 100 kV Transmission Line

Santee Cooper 69 kV Transmission Line

SCE&G 115 kV Transmission Line

✓✓✓ SCE&G 230 kV Transmission Line

/^_/ County Line

/// Interstate

Public Road

∕∕√∕ Railroad

Palustrine Emergent

Palustrine Forested

Palustrine Scrub / Shrub

50' Buffer

100' Buffer

Upland

Source: US Fish & Wildlife Service (National Wetland Inventory) and GeoEye Satellite Image

Wetlands

VCSNS - Killian 230 kV Line







Legend





Source: US Fish and Wildlife Service (National Wetland Inventory)

Wetland

VCSNS - St. George 230 kV Line



Figure 4.4-5

Note: This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.



Note: This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.



NOT DRAWN TO SCALE

VCSNS - Lake Murray #2 230 kV Line Study Area Uuke Energy 100 kV Transmission Line

Santee Cooper 69 kV Transmission Line

SCE&G 33 kV Transmission Line

✓ SCE&G 115 kV Transmission Line

✓ SCE&G 230 kV Transmission Line

Interstate

// Public Road

Major Lake or River

Palustrine Emergent

Palustrine Scrub / Shrub

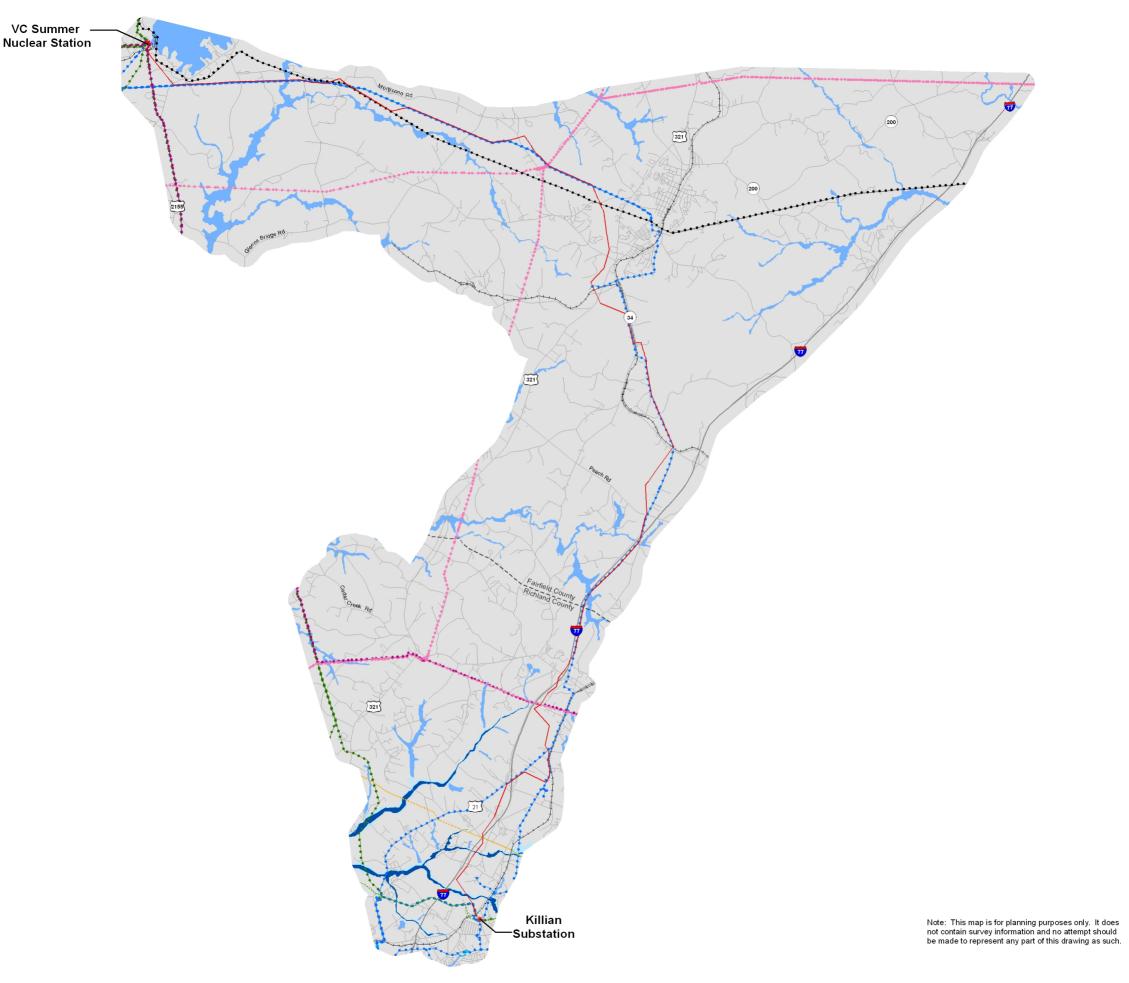
50' Buffer

100' Buffer

Wetlands

VCSNS - Lake Murray #2 230 kV Line







✓ Potential Line Route Oixie Pipeline

CGT Gas Line

♪ Duke Energy 100 kV Transmission Line

🤝 Santee Cooper 69 KV Transmission Line

♪ Santee Cooper 230 KV Transmission Line

SCE&G 115 kV Transmission Line ♪ SCE&G 230 kV Transmission Line

^〜' County Line

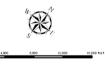
// Interstate

✓ Public Road

Zone A - Areas of 100-Year Flood (No Base Flood Elevation Determined) Zone AE - Areas of 100-Year Flood (Base Flood Elevation Determined)

Zone AE - Floodway Zone X - Areas of 500-Year Flood

Zone X - Areas Outside of 500-Year Flood

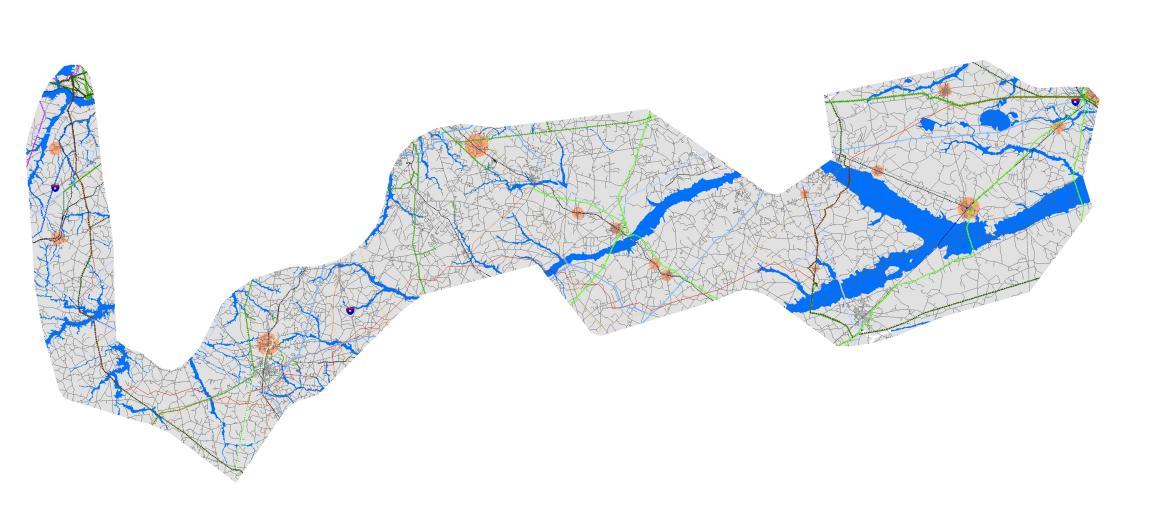


ource: Federal Emergency Management Agency

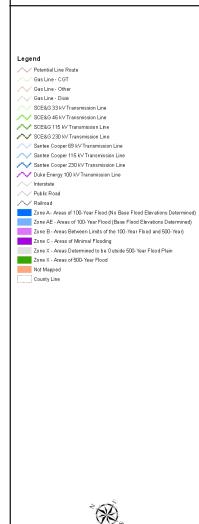
FEMA Flood Zones

VCSNS - Killian 230 kV Line









FEMA Flood Zones

VCSNS - St. George 230 kV Line

ource: Federal Emergency Management Agency



Figure 4.4-8

Note: This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.



SOUTH CAROLINA

NOT DRAWN TO SCALE

Legend VC SNS - Lake Murray #2 230 kV Line Study Area Duke Energy 100 kV Transmission Line Santee Cooper 60 kV Transmission Line SC E&O 33 kV Transmission Line SC E&O 33 kV Transmission Line SC E&O 35 kV Transmission Line SC E&O 30 kV Transmission Line Malea Lake or There Allocad Railocad Areas of 100-Year Flood (No Bar e Flood Elevations D etermined) Zone AE - Floodway Zone AE - Floodway Zone X - Areas D determined to be Outside 500-Year Flood Plain

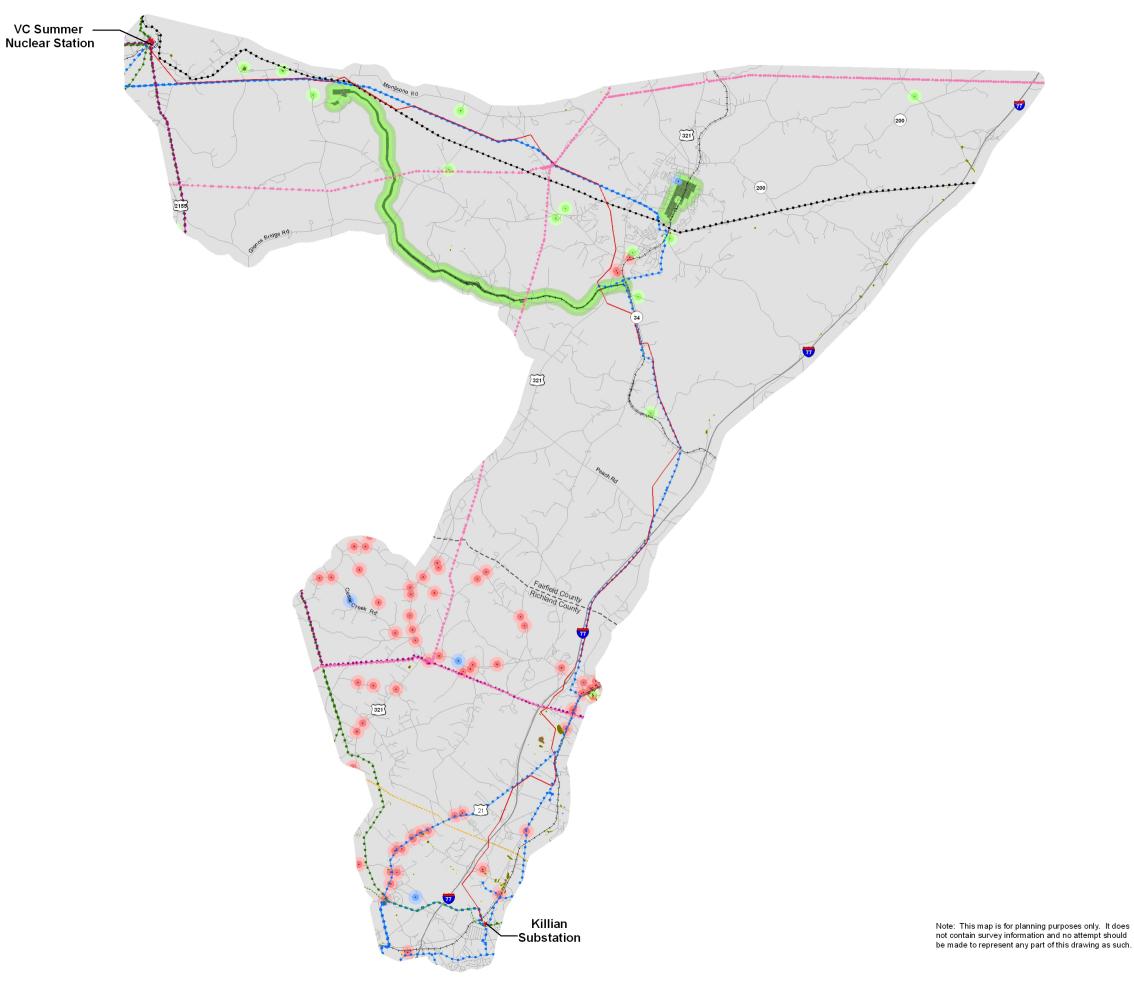


Source: Federal Emergency Management Agency

FEMA: Flood Zones

VCSNS - Lake Murray #2 230 kV Line







Legend ✓ Potential Line Route ' Dixie Pipeline CGT Gas Line ♪ Duke Energy 100 kV Transmission Line Santee Cooper 69 kV Transmission Line Santee Cooper 230 kV Transmission Line SCE&G 115 kV Transmission Line ◆ SCE&G 230 kV Transmission Line ✓ County Line // Interstate ✓ Public Road Archaeological Site - Eligibility for the NR* Undetermined Archaeological Site - Eligibility for the NR Undetermined - 50' Buffer Archaeological Site - Eligible for the NR Archaeological Site - Eligible for the NR - 50' Buffer Archaeological Site - Ineligible for the NR Archaeological Site - Ineligible for the NR - 50' Buffer Archaeological Site - Potentially Eligible for the NR Archaeological Site - Potentially Eligible for the NR - 50' Buffer Historic District - Listed on the NR Historic District - Listed on the NR - 500' Buffer Historic District - Listed on the NR - 1000' Buffer Historic Site - Eligible for the NR Historic Site - Eligible for the NR - 100' Buffer Historic Site - Eligible for the NR - 500' Buffer Historic Site - Eligible for the NR - 1000' Buffer Historic Site - Ineligible for the NR Historic Site - Ineligible for the NR - 100' Buffer Historic Site - Ineligible for the NR - 500' Buffer Historic Site - Ineligible for the NR - 1000' Buffer Historic Site - Listed on the NR Historic Site - Listed on the NR - 100' Buffer Historic Site - Listed on the NR - 500' Buffer Historic Site - Listed on the NR - 1000' Buffer

No Recorded Cultural Sites
*National Register of Historic Places



Source: SC Department of Natural Resources and US Department of Agriculture

Cultural Resources

VCSNS - Killian 230 kV Line









Cultural Resources

VCSNS - St. George 230 kV Line



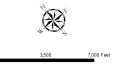
Note: This map is for planning purposes only. It does not contain survey information and no attempt should be made to represent any part of this drawing as such.



SOUTH CAROLINA

NOT DRAWN TO SCALE





urce: SC Department of Natural Resources and US Department of Agriculture

Cultural Resources (Within 1.2 miles

of the Line Route)

VCSNS - Lake Murray #2 230 kV Line

