Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
PASSERIFOMES: Sturnidae		
European starling	*Sturnus vulgaris*	R
PASSERIFORMES: Troglodytidae		
Bewick's wren	*Thryomanes bewickii*	R
Cactus wren	*Campylorhynchus brunneicapillus*	R
Carolina wren	*Thryothorus ludovicianus*	R
House wren	*Troglodytes aedon*	WR
Marsh wren	*Cistothorus palustris*	WR
Sedge wren	*Cistothorus stellaris*	WR
Winter wren	*Troglodytes hiemalis*	WR
PASSERIFORMES: Turdidae		
American robin	*Turdus migratorius*	SR
Eastern bluebird	*Sialia sialis*	SR
Gray-cheeked thrush	*Catharus minimus*	M
Hermit thrush	*Catharus guttatus*	WR
Swainson's thrush	*Catharus ustulatus*	M
Veery	*Catharus fuscescens*	M
Wood thrush	*Hylocichla mustelina*	M
PASSERIFORMES: Tyrannidae		
Acadian flycatcher	*Empidonax virescens*	M
Ash-throated flycatcher	*Myiarchus cinerascens*	R
Brown-crested flycatcher	*Myiarchus tyrannulus*	SR
Couch's kingbird	*Tyrannus couchii*	SR
Eastern kingbird	*Tyrannus tyrannus*	M
Eastern phoebe	*Sayornis phoebe*	WR
Eastern wood-pewee	*Contopus virens*	M
Great crested flycatcher	*Myiarchus crinitus*	SR
Great kiskadee	*Pitangus sulphuratus*	R
Least flycatcher	*Empidonax minimus*	M
Olive-sided flycatcher	*Contopus cooperi*	M
Scissor-tailed flycatcher	*Tyrannus forficatus*	SR
Vermilion flycatcher	*Pyrocephalus rubinus*	SR
Western kingbird	*Tyrannus verticalis*	SR

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Willow flycatcher	*Empidonax traillii*	M
Yellow-bellied flycatcher	*Empidonax flaviventris*	M
PASSERIFORMES: Vireonidae		
Bell's vireo	*Vireo bellii*	M
Blue-headed vireo	*Vireo solitarius*	WR
Philadelphia vireo	*Vireo philadelphicus*	M
Red-eyed vireo	*Vireo olivaceus*	M
Warbling vireo	*Vireo gilvus*	M
White-eyed vireo	*Vireo griseus*	SR
Yellow-throated vireo	*Vireo flavifrons*	M
PELECANIFORMES: Ardeidae		
American bittern	*Botaurus lentiginosus*	WR
Black-crowned night-heron	*Nycticorax nycticorax*	R
Cattle egret	*Bubulcus ibis*	R
Great blue heron	*Ardea herodias*	R
Great egret	*Ardea alba*	R
Green heron	*Butorides virescens*	R
Least bittern	*Ixobrychus exilis*	SR
Little blue heron	*Egretta caerulea*	SR
Snowy egret	*Egretta thula*	R
Tricolored heron	*Egretta tricolor*	R
PELECANIFORMES: Pelicanidae		
American white pelican	*Pelecanus erythrorhynchos*	WR
Brown pelican	*Pelecanus occidentalis*	M
PELECANIFORMES: Threskiornithidae		
Glossy ibis	*Plegadis falcinellus*	R
Roseate spoonbill	*Platalea ajaja*	R
White ibis	*Eudocimus albus*	R
White-faced ibis	*Plegadis chihi*	R
PICIFORMES: Picidae		
Golden-fronted woodpecker	*Melanerpes aurifrons*	R
Ladder-backed woodpecker	*Dryobates scalaris*	R
Northern flicker	*Colaptes auratus*	SR

Table 3-3: Representative List of Avian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name	Likely Seasonal Occurrence[a]
Yellow-bellied sapsucker	*Sphyrapicus varius*	WR
PODICIPEDIFROMES: Podicipedidae		
Eared grebe	*Podiceps nigricollis*	WR
Least grebe	*Tachybaptus dominicus*	R
Pied-billed grebe	*Podilymbus podiceps*	R
STRIGIFORMES: Strigidae		
Barred owl	*Strix varia*	R
Burrowing owl	*Athene cunicularia*	WR
Eastern screech-owl	*Megascops asio*	R
Great horned owl	*Bubo virginianus*	R
Short-eared owl	*Asio flammeus*	WR
STRIGIFORMES: Tytonidae		
Barn owl	*Tyto alba*	R
SULIFORMES: Anhingidae		
Anhinga	*Anhinga anhinga*	R
SULIFORMES: Phalacrocoracidae		
Double-crested cormorant	*Nannopterum auritum*	M
Neotropic cormorant	*Nannopterum brasilianum*	R

Source: Lockwood and Freeman (2014).
Nomenclature follows: American Birding Association (2023).
(a) Likely seasonal occurrence abbreviations:
R – Resident: Occurring regularly in the same general area throughout the year-implies breeding
SR – Summer Resident: Implies breeding but may include nonbreeders
WR – Winter Resident: Occurring during winter season
M – Migrant: Occurs as a transient passing through the area either in spring or fall or both

3.6.3.4 Mammals

A representative list of common mammals that may occur in the Study Area is included in Table 3-4.

Table 3-4: Representative List of Mammalian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name
ARTIODACTYLA: Cervidae	
White-tailed deer	*Odocoileus virginianus*
ARTIODACTYLA: Tayassuidae	
Collared peccary	*Pecari tajacu*
CARNIVORA: Canidae	
Common gray fox	*Urocyon cinereoargenteus*
Coyote	*Canis latrans*
CARNIVORA: Felidae	
Bobcat	*Lynx rufus*
Mountain lion	*Puma concolor*
CARNIVORA: Mephitidae	
Eastern spotted skunk	*Spilogale putorius*
Hog-nosed skunk	*Conepatus leuconotus*
Striped skunk	*Mephitis mephitis*
CARNIVORA: Mustelidae	
American badger	*Taxidea taxus*
Long-tailed weasel	*Neogale frenata*
CARNIVORA: Procyonidae	
Raccoon	*Procyon lotor*
Ringtail	*Bassariscus astutus*
White-nosed coati	*Nasua narica*
CHIROPTERA: Molossidae	
Big free-tailed bat	*Nyctinomops macrotis*
Brazilian free-tailed bat	*Tadarida brasiliensis*

Table 3-4: Representative List of Mammalian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name
CHIROPTERA: Vespertilionidae	
Cave myotis	*Myotis velifer*
Eastern red bat	*Lasiurus borealis*
Evening bat	*Nycticeius humeralis*
Hoary bat	*Lasiurus cinereus*
Northern yellow bat	*Lasiurus intermedius*
Silver-haired bat	*Lasionycteris noctivagans*
Southern yellow bat	*Lasiurus ega*
Tricolored bat	*Perimyotis subflavus*
CINGULATA: Dasypodidae	
Nine-banded armadillo	*Dasypus novemcinctus*
DIDELPHIMORPHIA: Didelphidae	
Virginia opossum	*Didelphis virginiana*
EULIPOTYPHLA: Soricidae	
Crawford's desert shrew	*Notiosorex crawfordi*
Least shrew	*Cryptotis parva*
EULIPOTYPHLA: Talpidae	
Eastern mole	*Scalopus aquaticus*
LAGOMORPHA: Leporidae	
Black-tailed jackrabbit	*Lepus californicus*
Eastern cottontail	*Sylvilagus floridanus*
RODENTIA: Castoridae	
American beaver	*Castor canadensis*
RODENTIA: Cricetidae	
Fulvous harvest mouse	*Reithrodontomys fulvescens*
Hispid cotton rat	*Sigmodon hispidus*
North American deermouse	*Peromyscus maniculatus*

Table 3-4: Representative List of Mammalian Species of Potential Occurrence in the Study Area

Common Name	Scientific Name
Northern grasshopper mouse	*Onychomys leucogaster*
Northern pygmy mouse	*Baiomys taylori*
Southern plains woodrat	*Neotoma micropus*
Texas marsh rice rat	*Oryzomys texensis*
White-footed deermouse	*Peromyscus leucopus*
RODENTIA: Geomyidae	
Attwater's pocket gopher	*Geomys attwateri*
Texas pocket gopher	*Geomys personatus*
RODENTIA: Heteromyidae	
Gulf Coast kangaroo rat	*Dipodomys compactus*
Hispid pocket mouse	*Chaetodipus hispidus*
Merriam's pocket mouse	*Perognathus merriami*
RODENTIA: Sciuridae	
Eastern fox squirrel	*Sciurus niger*
Rio Grande ground squirrel	*Ictidomys parvidens*
Spotted ground squirrel	*Xerospermophilus spilosoma*
RODENTIA: Myocastoridae	
Nutria	*Myocastor coypus*

Source: Schmidley and Bradley (2016).
Nomenclature follows: Revised Checklist of North American Mammals North of Mexico (Bradley et al. 2014).

3.6.4 Recreationally and Commercially Important Species

A species is considered important if one or more of the following criteria applies:

- The species is recreationally or commercially valuable;
- The species is endangered or threatened;
- The species affects the well-being of some important species within criterion (a) or (b);
- The species is critical to the structure and function of the ecological system; or
- The species is a biological indicator.

Wildlife resources within the Study Area provide human benefits resulting from both consumptive and nonconsumptive uses. Nonconsumptive uses include observing and photographing wildlife, birdwatching, and other similar activities. These uses, although difficult to quantify, deserve consideration in the evaluation of the wildlife resources of the Study Area. Consumptive uses, such as fishing, hunting, and trapping, are more easily quantifiable. Consumptive and nonconsumptive uses of wildlife are often enjoyed contemporaneously and are generally compatible. Many species occurring in the Study Area provide consumptive uses, and all provide the potential for nonconsumptive benefits.

The Study Area falls within the TPWD's Gulf Prairies and Marshes Ecological Region, which provides a variety of habitats to support hunting, fishing, trapping, and bird-watching opportunities. For quantifiable results for consumptive uses, the Consultant submitted a data request on June 6, 2024 to the TPWD for its 2023-2024 Big Game Harvest Survey results (Purvis 2024a) and 2023-2024 Small Game Harvest Survey results (Purvis 2024b).

A review of the Big Game Harvest Survey report identified the Study Area as falling within the Gulf Prairies and Marshes Ecological Region for white-tailed deer (*Odocoileus virginianus*) and Gulf Prairies for Javelina (*Pecari tajacu*). During the 2023-2024 hunting season, an estimated 14,533 white-tailed deer and 254 Javelina were harvested (Purvis 2024a). A review of the Small Game Harvest Survey report determined that during the 2023-2024 hunting season an estimated 511,609 doves, 373 turkeys, and 1,079,331 waterfowl were harvested within the Gulf Prairies (Purvis 2024b).

Waterfowl hunting and commercial fishing are economically important within this ecological region. However, due to the lack of large permanent waterbodies, little to no opportunity exists within the Study Area.

3.6.5 Endangered and Threatened Species

An endangered species is one that is in danger of extinction throughout all or a significant portion of its natural range, while a threatened species is one likely to become endangered within the foreseeable future throughout all or a significant portion of its range. A candidate species is one that is currently in the assessment process to determine if listing is appropriate using the listing factors in Section 4.0 of the ESA.

3.6.5.1 Plant Species

A USFWS IPaC report (Consultation Code 2024-0119172) and a TPWD Rare, Threatened, and Endangered Species of Texas (RTEST) report were submitted and received on June 16, 2024. The USFWS and TPWD reports identify federally listed threatened, endangered, and proposed species and designated critical habitat potentially occurring at a Study Area level (USFWS 2024a) and county level (TPWD 2024c). The Consultant also requested data of known occurrences for sensitive plant communities from the TPWD NDD (TPWD 2024d). For the purpose of this study, NDD information is not used as a substitute for a presence/absence survey, but as an indication of past observations of a species within suitable habitat. Only a site survey can determine whether a species or suitable habitat is present.

Review of the IPaC report, TPWD RTEST tool, and NDD data did not identify any known occurrences of endangered or threatened plant species within the Study Area. No critical habitat was identified within the Study Area (TPWD 2024d).

3.6.5.1.1 Sensitive Plant Communities

A review of the NDD data identified element of occurrence data for three state-sensitive plant species: coastal gay-feather (*Liatris bracteata*), Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*), and south Texas spikesedge (*Eleocharis austrotexana*). These species were last observed in the Study Area in 2004, 1951, and 1969, respectively. Although these species are not state or federally protected, they are each considered either imperiled or vulnerable according to the status and rank key from the State Wildlife Action Plan for Texas (TPWD 2023) and are considered species of greatest conservation need. Species of greatest conservation need are species that, due to limited distributions and/or declining populations, face the threat of extirpation or extinction but lack legal protection. Depending on the species, the TPWD may have required mitigation practices to be in place around known locations of these species.

3.6.5.2 Federally Listed Wildlife Species

The USFWS IPaC report and RTEST database identified 20 federally listed fish and wildlife species for the Study Area (USFWS 2024a) and Study Area county (TPWD 2024c) (Table 3-5). A brief summary of each listed species life history and preferred habitat is provided below.

Table 3-5: Federally Listed Fish and Wildlife Species for the Study Area County

Common Name	Scientific Name	Status	Potential for Occurrence in the Study Area[a]
		USFWS	
Birds			
Eastern black rail	*Laterallus jamaicensis* ssp. *jamaicensis*	Threatened	Not likely
Piping plover	*Charadrius melodus*	Threatened	Not likely[a]
Rufa red knot	*Calidris canutus rufa*	Threatened	Not likely[a]
Whooping crane	*Grus americana*	Endangered	Not likely[a]
Fish			
Oceanic whitetip shark	*Carcharhinus longimanus*	Threatened	None
Insects			
Monarch butterfly	*Danaus plexippus*	Candidate	Likely
Mammals			
Blue whale	*Balaenoptera musculus*	Endangered	None
Gulf of Mexico Bryde's whale	*Balaenoptera ricei*	Endangered	None
Humpback whale	*Megaptera novaeangliae*	Endangered	None
North Atlantic right whale	*Eubalaena glacialis*	Endangered	None
Ocelot	*Leopardus pardalis*	Endangered	Not likely[a]
Sei whale	*Balaenoptera borealis*	Endangered	None
Sperm whale	*Physeter macrocephalus*	Endangered	None
Tricolored bat	*Perimyotis subflavus*	Proposed Endangered	Likely
West Indian manatee	*Trichechus manatus*	Threatened	None
Reptiles			
Green sea turtle	*Chelonia mydas*	Threatened	None
Hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	None
Kemp's Ridley sea turtle	*Lepidochelys kempii*	Endangered	None
Leatherback sea turtle	*Dermochelys coriacea*	Endangered	None
Loggerhead sea turtle	*Caretta caretta*	Threatened	None

Sources: USFWS (2024a) and TPWD (2024c).
(a) Could occur as a rare non-breeding migrant or as a rare vagrant within the Study Area.

3.6.5.2.1 Eastern Black Rail

The eastern black rail is the smallest rail species in North America and breeds within the Atlantic Gulf Coastal Prairies of Texas. The species can be found inhabiting salt and brackish marshes with dense vegetation coverage, impounded and un-impounded salt and brackish marshes, higher elevations of these wetland zones, and inland coastal prairies and associated wetlands. Regardless of the water regime, eastern black rails require dense vegetation coverage that is generally less than or equal to 1 meter in height. Vegetation structure is noted to be more important than species composition in determining habitat suitability (USFWS 2024b). This species is unlikely to occur within the Study Area due to the lack of potential suitable habitat.

3.6.5.2.2 Piping Plover

The piping plover is an uncommon to locally common winter resident along the Texas coastline and is rarely seen inland during migration. They occupy sandy beaches and lakeshores, bayside mudflats, and salt flats. Piping plovers feed on small marine insects and other small invertebrates (Elliott-Smith and Haig 2020). This species may occur as a rare non-breeding migrant (Lockwood and Freeman 2014) within the Study Area if suitable stopover habitat is available.

3.6.5.2.3 Rufa Red Knot

The rufa red knot is a long-distance migrant that may travel up to 5,000 miles during migration without stopping. Rufa red knots nest in the arctic tundra and overwinter along the Texas coastline. Winter foraging habitats include coastal beaches, tidal sand flats, mudflats, marsh, shallow ponds, and sand bars (Baker et al. 2020). This species is a non-breeding winter migrant along the Texas coastline (Lockwood and Freeman 2014) and may occur within the Study Area as a rare migrant if suitable stopover habitat is available.

3.6.5.2.4 Whooping Crane

The whooping crane breeds at Wood Buffalo National Park in Canada and overwinters primarily in marshes at Aransas National Wildlife Refuge on the Texas coast (USFWS 2024c). Family groups of whooping cranes have also been documented overwintering further inland in Central Texas, south-central Kansas, and central Nebraska, possibly in response to record warm temperatures and extreme drought conditions in the southern and central United States (Wright et al. 2014). Winter migration primarily occurs within a 200-mile-wide migratory corridor in which 95% of all whooping crane sightings occur. Migration stopover sites typically include small surface waters with emergent vegetation cover, harvested grainfields, pastures, or burned upland fields (Urbanek and Lewis 2020). The Study Area occurs within the primary migratory

corridor for the whooping crane (USFWS 2024c). This species may occur within the Study Area as a rare migrant if suitable stopover habitat is available.

3.6.5.2.5 Oceanic Whitetip Shark

The oceanic whitetip shark is a pelagic species found throughout the world typically in open ocean, around outer continental shelfs, and in deep waters around oceanic islands. This species is a top predator feeding on bony fish, squid, large sportfish, sea birds, marine mammals, and other sharks (NOAA 2024b). This species does not occur in within the Study Area due to an absence of marine habitat.

3.6.5.2.6 Monarch Butterfly

The monarch butterfly ranges from North and South America to the Caribbean, Australia, New Zealand, the Pacific islands, and Western Europe. The species has been proposed as a candidate species for protection under the ESA due to decreasing populations and habitat loss. Eastern and western monarch populations migrate both north and south on an annual basis. Populations usually overwinter in Mexico, Texas, Florida, and California and then spend the spring and summer months migrating back north. The entire migration cycle lasts for four generations of monarchs and no individual makes the round trip. Monarchs are heavily dependent on milkweed plants for nectar and larval consumption. Preferred overwintering habitat includes appropriate roosting vegetation, dense tree cover, access to streams, and warm enough temperatures to allow for flight (USFWS 2024d). The Study Area is located along the spring and fall eastern monarch butterfly migratory route (USFWS 2024c). This species may occur within the Study Area as a migrant at specific times of year.

3.6.5.2.7 Blue Whale

The blue whale occurs in all oceans of the world; however, there are only two records from the Gulf of Mexico: one stranded in 1924 near Sabine Pass and another stranded in 1940 near San Luis Pass. Blue whales inhabit Arctic feeding grounds in the spring and summer, moving to more temperate waters in the fall and winter for mating and parturition (Schmidly and Bradley 2016). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.8 Gulf of Mexico Bryde's Whale

In 2021, NOAA Fisheries issued a direct final rule to revise the common and scientific name of the Gulf of Mexico Bryde's whale to Rice's whale (*Balaenoptera ricei*). Rice's whales are typically observed in the northeastern portion of the Gulf of Mexico along the continental shelf between 100 and 400 meters deep.

This species feeds on krill, copepods, red crabs, shrimp, and small fish (NOAA 2024c). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.9 Humpback Whale

The humpback whale inhabits tropical, subtropical, temperate, and subpolar waters worldwide. They are known to utilize open ocean and coastal waters. According to the TPWD (2024c), the Gulf of Mexico's distinct population segment is not considered at risk of extinction and is not currently listed as endangered in the ESA. This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.10 North Atlantic Right Whale

The North Atlantic right whale is primarily found in Atlantic coastal waters along the continental shelf. This species migrates northward in spring and summer to feeding grounds off the coast of New England and Canada. In the fall, this species travels to shallow waters off the southeast coast of the United States. Diet mainly consists of copepods and zooplankton (NOAA 2024d). This species of whale only occurs accidentally in the Gulf of Mexico, and the only record of one stranding along the Texas coast was reported in Brazoria County in 1972 (Schmidly and Bradley 2016). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.11 Ocelot

The ocelot once occupied Texas, Louisiana, Arkansas, and Arizona in the United States. However, due to habitat loss, there are only two known small, isolated breeding populations that total less than 100 individuals on a private ranch and Laguna Atascosa National Wildlife Refuge (USFWS 2023). Ocelots occupy mixed brush species with interspersed trees such as mesquite, live oak, ebony, and hackberry. Soil type, along with canopy cover and density, is important for this species. Optimal habitat consists of large tracts of isolated dense brush with a 95% canopy cover of shrubs. Shrub density below 6 feet with deep, fertile clay or loamy soils is preferred (Campbell 2003). Due to the rarity of this species and lack of isolated dense shrub habitat, this species is not likely to occur within the Study Area.

3.6.5.2.12 Sei Whale

The sei whale migrates between wintering grounds at low latitudes and feeding grounds at high latitudes, generally occupying open ocean and deep waters along the edges of continental shelves. This species feeds on copepods, euphausiids, squid, krill, and small fish. Sei whales are found in the offshore waters of the Gulf of Mexico and Caribbean Sea and up the western North Atlantic Ocean. However, sei whales have a tendency not to enter semi-enclosed waters such as the Gulf of Mexico (National Marine Fisheries Service

[NMFS] 2011). Only one record of a stranded mummified skeleton was reported in Brazoria County in 2002 (Schmidly and Bradley 2016). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.13 Sperm Whale

The sperm whale is highly migratory and occurs worldwide in all oceans. This species spends most of its time in deep waters, as represented by its main diet of squid, sharks, skates, and other deepwater fish species (NOAA 2024e). In the Gulf of Mexico, they are the most numerous large whales. Most sightings are from the continental edge and upper continental slope, in depths between 328 and 6,562 feet (Schmidly and Bradley 2016). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.14 Tricolored Bat

On September 13, 2022, the USFWS announced the proposal to list the tricolored bat as endangered by the ESA due to the impacts of white-nosed syndrome. The tricolored bat has an expansive range throughout eastern and central North America, occupying many types of roost sites and locations. Individuals typically forage alongside trees and forest perimeters, in forested riparian corridors, and along waterways adjacent to forested areas (USFWS 2024f). While historically associated with forested areas, this species is an opportunistic generalist and will utilize a multitude of habitats and structures where potential roosting may be close to foraging habitat. Non-reproductive individuals have a propensity to select roost sites within mature stands of trees or near buffer zones near perennial streams. Maternity and summer roost sites utilize dead trees and live tree foliage and within manmade structures or tree cavities. Caves, mines, and rock crevices may also be utilized between foraging arrays. Winter hibernation sites occur within caves, mines, cave-like tunnels, and sometimes within box culverts underneath highways adjacent to forested areas (USFWS 2024f). Due to its opportunistic behavior, this species may occur within the Study Area.

3.6.5.2.15 West Indian Manatee

The West Indian manatee inhabits temperate and equatorial waters of the southeastern United States, the Caribbean basin, northern and northeastern South America, and equatorial West Africa. The extent of their range is limited by their intolerance to colder temperatures during the winter months (Lefebvre 1989). This species is rare in Texas rivers, estuaries, canals, and bays with sightings occurring as far south as the mouth of the Rio Grande (Schmidly and Bradley 2016). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.16 Green Sea Turtle

The green sea turtle is found worldwide, including in the Gulf of Mexico. Green sea turtles prefer lagoons and shoals with an abundance of marine grasses and algae (NOAA 2024f). The adults are primarily herbivorous, mainly consuming algae and seagrasses, though they also forage on invertebrates, mollusks, sponges, crustaceans, and jellyfish. Terrestrial habitat is typically limited to nesting activities on deep, coarse to fine sands with little organic content along high-energy beaches (Meylan et al. 1990; Allard et al. 1994). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.17 Hawksbill Sea Turtle

The hawksbill sea turtle is a highly migratory species that utilizes a variety of habitats during different life stages but is typically found in shallow coastal waters with rocky bottoms, coral reefs, estuaries, and mangrove-bordered bays in water generally less than 60 feet deep. In Texas, juvenile hawksbills have been documented to be associated with stone jetties. This species prefers foraging near coral reefs, rocky outcrops, and high-energy shoals, which are optimum sites for sponge growth, sponge being one of their principal food sources. Other forage foods include crabs, sea urchins, shellfish, jellyfish, plant material, and fish (NOAA 2024g). Hawkbills nest on low- and high-energy beaches typically under vegetation (NMFS and USFWS 1993). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.18 Kemp's Ridley Sea Turtle

The Kemp's Ridley sea turtle is found in shallow waters along the coast primarily in the Gulf of Mexico, often in bays and lagoons with juveniles foraging in less than 3 feet of water. The primary nesting location for Kemp's Ridley sea turtles is at Rancho Nuevo, Tamaulipas, Mexico. Sporadic nesting has been reported from Mustang Island, Texas southward to Isla Aguada, Campeche, Mexico (NOAA 2024h). Large populations have been documented within Sabine Pass, both within and outside the channel entrance. The abundance of young Kemp's Ridley sea turtles was found to increase considerably during the warm season months (Renaud and Williams 1995). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.19 Leatherback Sea Turtle

The leatherback sea turtle spends most of its life in the ocean, seldom approaching land except for nesting. The leatherback prefers open ocean, near the edge of the continental shelf, but also can be found in gulfs, bays, and estuaries. The leatherback's nesting beaches are primarily within tropical latitudes, with the largest concentration in Trinidad and Tobago, the West Indies, and Gabon, Africa (NOAA 2024i). This

species prefers sandy, sloping beaches, often near deepwater and rough seas. This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.2.20 Loggerhead Sea Turtle

The loggerhead sea turtle typically nests on high-energy beaches with narrow, steeply sloped sand dunes. Post-hatchling loggerheads utilize pelagic habitats and return to nearshore coastal areas as juveniles to continue maturing into adulthood. Adult habitats overlap with the juvenile stage, except for most bays and estuaries along the Atlantic and Gulf coasts, which are infrequently used by adults (NOAA 2022). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.3 State-Listed Wildlife Species

State-listed species receive protection under state laws such as Chapters 67, 68, and 88 of the TPWD Code and sections 65.171–65.184 and 69.01–69.14 of Title 31 of the TAC. Fifteen species are protected at the state level and designated as threatened within San Patricio County (Table 3-6). Species that were identified in the RTEST report at a county level that are also federally listed are listed in Table 3-6 (TPWD 2024c).

Table 3-6: State-Listed Fish and Wildlife Species for the Study Area County

Common Name	Scientific Name	Status	Potential for Occurrence in the Study Area[a]
		TPWD	
Amphibians			
Black-spotted newt	*Notophthalmus meridionalis*	Threatened	Likely
Sheep frog	*Hypopachus variolosus*	Threatened	Likely
South Texas siren (Large Form)	*Siren sp.*	Threatened	Not likely[a]
Birds			
Black rail	*Laterallus jamaicensis*	Threatened	Not likely
Reddish egret	*Egretta rufescens*	Threatened	Not likely[a]
Swallow-tailed kite	*Elanoides forficatus*	Threatened	Not likely[a]
Texas botteri's sparrow	*Peucaea botterii texana*	Threatened	Likely
White-faced ibis	*Plegadis chihi*	Threatened	Not likely[a]
White-tailed hawk	*Buteo albicaudatus*	Threatened	Likely
Wood stork	*Mycteria americana*	Threatened	Not likely[a]
Fishes			
Shortfin mako shark	*Isurus oxyrinchus*	Threatened	None
Mammals			
White-nosed coati	*Nasua narica*	Threatened	Not likely

Table 3-6: State-Listed Fish and Wildlife Species for the Study Area County

Common Name	Scientific Name	Status	Potential for Occurrence in the Study Area[a]
		TPWD	
Reptiles			
Texas horned lizard	*Phrynosoma cornutum*	Threatened	Not likely[a]
Texas scarlet snake	*Cemophora lineri*	Threatened	Likely
Texas tortoise	*Gopherus berlandieri*	Threatened	Not likely

Source: TPWD (2024c).
(a) Could occur within the Study Area as a migrant or on rare occasions.

3.6.5.3.1 Black-spotted Newt

The black-spotted newt is known to occupy nine counties in Texas along the Gulf of Mexico, mostly concentrated within 100 miles of the coast in the Gulf Coastal Plains. Adults, juveniles, and larvae usually inhabit permanent and temporary ponds, roadside ditches, and quiet stream pools amongst submerged vegetation in poorly drained clay soils. Eggs can be attached to submerged vegetation in shallow water, and adults and juveniles can be found under rocks and other forms of shelter when ponds dry up (Garrett and Barker 1987). They are known to use a wide variety of vegetation associations, such as thorn scrub and pasture. Aquatic habitats used for reproduction include a variety of ephemeral and permanent waterbodies (TPWD 2024c). Based on the NDD (TPWD 2024d), a documented occurrence of this species is mapped approximately 5 miles northeast of the Study Area. This species may occur within the Study Area where suitable habitat is present.

3.6.5.3.2 Sheep Frog

The sheep frog's range extends from south Texas through the Pacific and Atlantic slopes of Mexico to Costa Rica. In Texas, this species is known to occupy various habitats such as grasslands, savannas, and in moist sites in arid areas (Bartlett and Bartlett 1999; TPWD 2024c). Eggs are usually laid after heavy rainfall or when their habitat is flooded by irrigation water. Species are known to migrate unknown distances through unsuitable habitats from their home range to breeding ponds (NatureServe 2024). This species may occur within the Study Area as a migrant or if suitable habitat is present.

3.6.5.3.3 South Texas Siren (Large Form)

The South Texas siren (large form SP1), as defined by the TPWD, has been considered threatened by the TPWD since 2003. However, their present distribution and population status are not well understood. This species may have occurred as far north as San Patricio and Jim Wells counties, but there is no consensus on the current overall population status (Kline and Carreon 2013). The South Texas siren is believed to be

found in bodies of quiet water, permanent or temporary, with or without submerged vegetation. They can also be found in wet areas such as arroyos, canals, ditches, or shallow depressions. This species may also aestivate in the ground during dry periods but does require some moisture (TPWD 2024c). Although unlikely, this species may be found within the Study Area as a rare occurrence if suitable habitat is present.

3.6.5.3.4 Black Rail

The black rail has a large range throughout North, Central, and South America. Breeding habitat includes marshes with salt, brackish, and freshwater salinity; grass swamps; wet prairies; and pond borders. Preferred habitat is salty prairie and high salt marsh with grass stem counts of 10 to 20 centimeters or higher (TPWD 2015). Wintering habitat along the Gulf Coast has been identified as either tidally or non-tidally influenced persistent, herbaceous emergent wetlands occurring over the wetland-upland interface. This species is unlikely to occur within the Study Area.

3.6.5.3.5 Reddish Egret

The reddish egret is a permanent resident of the Texas Gulf Coast and inhabits brackish marshes, shallow salt ponds, and tidal flats. In the spring, nests are built on the ground or in low vegetation on dry coastal islands in brushy thickets of Spanish dagger (*Yucca gloriosa*) and prickly-pear cactus (*Opuntia* sp.). Post breeding, reddish egrets disperse and occasionally travel inland during the summer, foraging along ponds and small lakes (Koczur et al. 2020). This species may occur within the Study Area as a temporary post-breeding visitor if suitable habitat is present.

3.6.5.3.6 Swallow-tailed Kite

The swallow-tailed kite historically occurred along the coastal plains, interior lowlands, and riparian areas throughout the southeastern United States and into central Texas. Today in Texas, the species is a rare to uncommon migrant throughout the eastern third of the state and a rare to locally uncommon summer resident in southeast Texas. The most recent breeding records exist from Chambers, Liberty, Orange, and Tyler counties (Lockwood and Freeman 2014). Habitats include lowland forested swampy areas ranging into open woodland, marshes, rivers, lakes, and ponds. Nesting occurs in tall trees within clearings or on forest woodland edge, usually in pine, bald cypress, or other deciduous trees (Meyer 1995). This species may occur within the Study Area as a rare temporary migrant if suitable habitat is present.

3.6.5.3.7 Texas Botteri's Sparrow

The Texas Botteri's sparrow is largely restricted to bunchgrass prairies and grasslands on the Coastal Prairies from southern Kleberg County southward (Lockwood and Freeman 2014). This species usually

nests on the ground within low clumps of grass (TPWD 2024c). However, little information is known about this species based on its cryptic behavior and various nesting strategies amongst different vegetation types (Miller et al. 2013). This species may occur within the Study Area if suitable habitat is present.

3.6.5.3.8 White-faced Ibis

The white-faced ibis breeds and winters along the Texas Gulf Coast. Other breeding populations occurring in the northwestern United States migrate south to overwinter along the Gulf Coast and in Central America. Preferred habitat includes swamps, ponds, rivers, sloughs, irrigated rice fields, freshwater marsh, and sometimes brackish and saltwater marsh. This species is a colonial nester and forages on insects, newts, leeches, earthworms, snails, crayfish, frogs, and fish (Ryder and Manry 2020). This species may occur within the Study Area as a rare temporary migrant if suitable habitat is available.

3.6.5.3.9 White-tailed Hawk

The white-tailed Hawk is an uncommon to locally common resident in the Coastal Prairies and southeastern South Texas Brush County (Lockwood and Freeman 2014). Along the coast, this species is known to occupy prairies, cordgrass flats, and scrub-live oak. Further inland, the species may occupy prairie, mesquite and oak savanna, and mixed savanna-chaparral. This species may occur within the Study Area if suitable habitat is present.

3.6.5.3.10 Wood Stork

The wood stork is a colonial bird that breeds in Florida, Georgia, South Carolina, and Mexico. Nesting occurs in mangrove or cypress trees within brackish or freshwater swamp habitat. Post breeding, storks from Mexico migrate northward along the Mississippi River Valley. Migrating wood storks use prairie ponds, flooded pastures or fields, ditches, and other shallow standing water habitats to forage for fish and other small animals. This species usually roosts communally in tall snags and sometimes in association with other wading birds (Coulter et al. 1999). This species may occur as a rare temporary migrant within the Study Area if potential suitable habitat is present.

3.6.5.3.11 Shortfin Mako Shark

The shortfin mako shark is a pelagic species with a widespread distribution spanning temperate and tropical waters across the globe. It occasionally occurs inshore where the continental shelf is narrow and will use the water column from the surface to 600 meters deep. The Gulf of Mexico is used as wintering grounds for some shortfin mako sharks (NOAA 2024j). This species does not occur within the Study Area due to an absence of marine habitat.

3.6.5.3.12 White-nosed Coati

The white-nosed coati is believed to occupy Arizona, New Mexico, Texas, Mexico, and Central America (Wilson and Reeder 1993). In Texas, individuals are likely transients from Mexico (TPWD 2024c). This species is a diurnal omnivore, often traveling in groups of a dozen or more individuals consisting of mothers and offspring while adult males are usually solitary most of the year (Hoffmeister 1986). This species typically occupies woodlands, riparian corridors, and canyons. This species is unlikely to occur within the Study Area.

3.6.5.3.13 Texas Horned Lizard

The Texas horned lizard inhabits a variety of habitats, including open desert, grasslands, and shrubland in arid and semiarid habitats on soils varying from pure sands and sandy loams to coarse gravels, conglomerates, and desert pavements. Their primary prey item is the harvester ant (*Pogonomyrmex* spp.), but they may also consume grasshoppers, beetles, and grubs (Henke and Fair 1998). Historically, the Texas horned lizard has occurred throughout most of Texas, but habitat loss and the spread of nonnative fire ants (*Solenopsis invicta*) have caused population declines (Dixon 2013). According to Henke and Fair (1998), Texas horned lizards rarely occur in Texas east of Fort Worth to Corpus Christi, except for small, isolated populations. This species may be found within the Study Area as a rare occurrence if suitable habitat is present.

3.6.5.3.14 Texas Scarlet Snake

The Texas scarlet snake is a semi-fossorial species that is restricted to areas of loose, sandy soil. In south Texas, it has been recorded from live oak-dotted sand dunes, coastal shrub scrub, and agricultural lands with sandy soils. Scarlet snakes forage at night, feeding on small lizards and reptile eggs (Werler and Dixon 2010). This species may occur within the Study Area if suitable habitat is present.

3.6.5.3.15 Texas Tortoise

The Texas tortoise is a long-lived species with a shell that has characteristically yellowish-orange, bluntly-horned scutes (shell plates). Habitat preferences include arid brush, scrub woods, and grass-cactus associations with grassy understories. The Texas tortoise is active during March to November, and when inactive, it occupies shallow depressions at the base of bushes or cacti, underground burrows, or under other suitable objects such as trash. The tortoise feeds on fruits of prickly pear and other mostly succulent plants (TPWD 2024c). This species is unlikely to occur within the Study Area.

3.7 Socioeconomics

This section presents a summary of the economic and demographic characteristics of the Study Area within San Patricio County and provides a brief comparison with the socioeconomic environment of the state of Texas. Reviewed literature sources include publications of the Texas Demographic Center (TDC) and the United States Census Bureau (USCB).

3.7.1 Population Trends

San Patricio County experienced a population increase of 6.1% between 2010 and 2020. By comparison, population at the state level increased by 15.9% during the same decade (USCB 2010 and 2024). According to the TDC (2024), the population of San Patricio County is projected to increase by 4.7% between 2020 and 2030, by 3.6% between 2030 and 2040, and by 1.7% between 2040 and 2050. By comparison, the population of Texas is expected to experience population increases of 12.9%, 11.8%, and 10.4% over the same time periods, respectively (TDC 2024). Table 3-7 presents the past population trends and projections for San Patricio County and for the state of Texas.

Table 3-7: Population Trends and Projections for San Patricio County and the State of Texas

Place	Population				
	2010	2020	2030	2040	2050
San Patricio County	64,804	68,755	71,973	74,569	75,816
Texas	25,145,561	29,145,505	32,912,882	36,807,213	40,645,784

Sources: USCB (2010 and 2024); TDC (2024).

3.7.2 Employment

The civilian labor force (CLF) in San Patricio County decreased by 0.1% (33 people) between 2010 and 2020. By comparison, the CLF at the state level grew by 18.8% (2,251,395 people) over the same time period (USCB 2010 and 2024).

Between 2010 and 2020, San Patricio County experienced a decrease in its unemployment rate from 4.5% to 2.9%. By comparison, the state of Texas experienced a decrease in its unemployment rate from 4.6% to 3.4% over the same period. Table 3-8 presents the CLF and unemployment data for San Patricio County and the state of Texas for the years 2010 and 2020.

Table 3-8: Labor Force and Unemployment for the San Patricio County and the State of Texas

Place		2010	2020
San Patricio County			
	Civilian Labor Force	29,762	29,729
	Unemployment Rate (%)	4.5%	2.9%
State of Texas			
	Civilian Labor Force	11,962,847	14,214,242
	Unemployment Rate (%)	4.6%	3.4%

Sources: USCB (2010 and 2024).

3.7.3 Leading Economic Sectors

The major occupations in San Patricio County in 2017 and in 2022 were Education and Health Services, followed by the category of Trade, Transportation & Utilities. Similarly, the major occupations in the state of Texas in 2017 and 2022 were Education and Health Services, followed by the category of Trade, Transportation & Utilities (USCB 2024). Table 3-9 presents the number of persons employed in each occupation category during 2017 and 2022 in San Patricio County and the state of Texas.

Table 3-9: Covered Employment and Major Economic Sectors in San Patricio County and the State of Texas (5-year Period)

Employment Sector	Employment			
	San Patricio County		State of Texas	
	2017	2022	2017	2022
Natural Resources & Mining	2,356	1,682	412,873	362,389
Construction	3,932	3,688	1,038,063	1,211,829
Manufacturing	2,474	2,561	1,116,657	1,180,979
Trade, Transportation & Utilities	5,033	5,567	2,538,645	2,818,158
Information	133	197	227,592	223,134
Financial Activities	1,284	1,108	839,234	958,261
Professional & Business Services	1,885	2,123	1,437,711	1,696,528
Education & Health Services	6,240	6,480	2,739,219	2,989,483
Leisure & Hospitality	2,590	2,551	1,154,649	1,205,584
Other Services	1,195	1,230	663,422	689,813
Public Administration	1,747	1,598	521,004	571,970
Total Employment	28,869	28,785	12,689,069	13,908,128

Source: USCB (2024).

3.7.4 Community Values

The term "community values" is included as a factor for consideration of transmission line certification under PURA § 37.056(c)(4), although the term has not been specifically defined for regulatory purposes by the PUC. To evaluate the effects of the proposed transmission line, the Consultant has defined community values as a "shared appreciation of an area or other natural or human resource by a national, regional, or local community."

The Consultant evaluated the proposed Project for community resources that may be important to a particular community, such as parks or recreational areas, historical and archeological sites, or scenic vistas within the Study Area. Additionally, the Consultant mailed consultation letters to federal, state, and local officials (see Section 2.4 and Appendix A) and participated in a public open-house meeting in the Study Area (See Section 2.7.4 and Appendix B) to identify and collect information regarding community values and community resources, among other things. Input received was used in the evaluation of the proposed Project. Community values and community resources are discussed in the following sections.

3.8 Human Resources

3.8.1 Land Use

The primary land uses in the Study Area are cropland, medium-density residential and commercial development, industrial development, and transportation infrastructure. Land use data were obtained from interpretation of aerial photography, USGS topographical maps, and vehicular reconnaissance surveys from accessible public viewpoints. Planned land use features were limited to known features obtained from governmental entities and mobility authorities. The Study Area is located within the Gregory-Portland Independent School District, and the Stephen F. Austin Elementary School was identified in the eastern portion of the Study Area (Texas Education Agency 2024).

City and county websites were reviewed to identify any potential land use conflicts outlined in comprehensive land use plans. The City of Gregory and San Patricio County do not have comprehensive land use plans on their websites (City of Gregory 2024; San Patricio County 2024). The San Patricio County EDC website was reviewed for current and planned projects within the Study Area, but none were identified that may conflict with the Project (San Patricio County 2024b).

3.8.2 Conservation Easements

A conservation easement is a restriction that property owners voluntarily place on specified uses of their property to protect natural, productive, or cultural features. The property owner retains legal title to the property and determines the types of uses to allow or restrict. The property can still be bought, sold, and inherited, but the conservation easement is tied to the land and binds all present and future owners to its terms and restrictions. Conservation easement language will vary as to the individual property owner's allowances for additional developments on the land. Land trusts facilitate the easement and ensure compliance with the specified terms and conditions.

A review of websites and databases and correspondence with several non-governmental organizations (e.g., TNC, TLC, and the National Conservation Easement Database [NCED]) identified Gregory Community Park as a conservation easement within the Study Area. Although no other properties have been identified in the reviewed sources, some properties in the Study Area may have some form of conservation easement or agreement that is not listed (TNC 2024; TLC 2024; NCED 2024).

3.8.3 Recreation

The PUC recognizes parks and recreational areas as those owned by a governmental body or an organized group, club, or place of worship. Federal and state database searches and county/local maps were reviewed to identify parks and/or recreational areas within the Study Area. Reconnaissance surveys were also conducted to identify any additional park or recreational areas. No national or state parks were identified within the Study Area (NPS 2024a; TPWD 2024c). There is one local park identified within the southeastern portion of the Study Area: Gregory Community Park.

3.8.4 Agriculture

Agriculture is a significant segment of the economy throughout Texas, and San Patricio County has active agricultural sectors. According to the USDA National Agricultural Statistics Service's 2022 Census of Agriculture, the total market value for agricultural products sold within San Patricio County was $101,209,000, a 23% decrease from the 2017 market value of $131,342,000. The number of farms in San Patricio County decreased from 656 in 2017 to 620 in 2022 (a decrease of 5%) (USDA 2017 and 2022). In comparison, the total market value for agricultural products sold within the state of Texas was $32,166,561,000 in 2022, a 29% increase from the 2017 market value of $24,924,041,000. The number of farms in Texas decreased from 248,416 in 2017 to 230,622 in 2022 (a decrease of 7%) (USDA 2017 and 2022). Detailed agricultural information for San Patricio County and state of Texas are provided in Table 3-10.

Table 3-10: Percent Change of Market Value and Number of Farms for San Patricio County and the State of Texas

County/ State		Year		Percent Change
		2017	2022	
San Patricio County	Market Value ($)	$131,342,000	$101,209,000	23%
	Number of Farms	656	620	5%
State of Texas	Market Value ($)	$24,924,041,000	$32,166,561,000	29%
	Number of Farms	248,416	230,622	7%

Sources: USDA (2017 and 2022).

3.8.5 Transportation/Aviation

3.8.5.1 Transportation Features

According to TxDOT (2024a and 2024b), the major highway transportation corridors within the Study Area include: US Hwy 181, SH 35, FM 3284, and SH Spur 202.

TxDOT's Project Tracker, which contains detailed information by county for every project that is or could be scheduled for construction, indicated that several planned projects are located within the Study Area (TxDOT 2024b).

Construction is underway will begin soon for the following projects.

- US Hwy 181 overlay project
- SH 35 seal coat project

Construction is scheduled to begin within four years for the following projects.

- FM 3284 overlay project
- State Highway Spur 202 interchange (new or reconstructed) project

A Union Pacific Railroad crosses the Study Area diagonally in a northwest-southeast direction. There is a railroad spur in the southeastern portion of the Study Area (United States Department of Transportation 2024).

3.8.5.2 Aviation Facilities

The Consultant reviewed the Brownsville Sectional Aeronautical Chart (FAA 2024a) and the Chart Supplement for the South Central United States (formerly the Airport/Facility Directory) (FAA 2024b) to identify FAA-registered facilities within the Study Area subject to notification requirements listed in 14 CFR Part 77.9. Facilities subject to notification requirements listed in 14 CFR Part 77.9 include public-use airports listed in the Airport/Facility Directory (currently the Chart Supplement), public-use or military airports under construction, airports operated by a federal agency or DoD, or an airport or heliport with at least one FAA-approved instrument approach procedure.

No public-use or military FAA-registered airports were identified within the Study Area. No public-use heliports or heliports with an instrument approach procedure are listed for the Study Area in the Chart Supplement for the South Central United States.

The Consultant reviewed the FAA database (FAA 2024c), USGS topographic maps, recent aerial imagery, and conducted field reconnaissance from publicly accessible areas to identify private-use airstrips and private-use heliports not subject to notification requirements listed in 14 CFR Part 77.9. No private-use heliports or private-use airstrips were identified within the Study Area.

3.8.6 Utility Features and Oil and Gas Facilities

Utility features reviewed include existing electrical transmission lines, pipelines, solar farms, wind farms, water wells, and oil/gas storage wells. Data sources used to identify existing electrical transmission lines include utility company and regional system maps, aerial imagery, USGS topographic maps, and field reconnaissance surveys.

No solar farms or water wells are located within the Study Area. Existing utility facilities located within the Study Area include:

- Six electrical transmission lines (five 138-kV lines and one 69-kV line)
- Three transmission pipelines (RRC 2024e)
- Three oil/gas wells (RRC 2024e)
- Two wind turbines (USGS 2024c)

3.8.7 Communication Towers

Review of the Federal Communication Commission (FCC) database indicated that there are no AM radio transmitters within the Study Area; however, there is one AM radio transmitter approximately 8,700 feet east of the Study Area boundary. There are three FM radio transmitters/microwave towers/other electronic installations within the Study Area and one FM radio transmitter/microwave tower/other electronic installation approximately 880 feet north of the Study Area boundary (FCC 2024).

3.8.8 Aesthetic Values

Aesthetics is included as a factor for consideration in the evaluation of transmission facilities in PURA § 37.056(c)(4). The term aesthetics refers to the subjective perception of natural beauty in the landscape, and this section of the document attempts to define and measure the Study Area's scenic qualities. Consideration of the visual environment includes a determination of aesthetic values where the major potential effect of the Project on the resource is considered aesthetic, or where the location of a transmission line could affect the scenic enjoyment of a recreation area.

The aesthetic analysis considers potential visual impacts to the public. Areas visible from major roads and highways or publicly owned or accessible lands (for example, parks or privately owned recreation areas open to the public) were analyzed. Several factors are taken into consideration when attempting to define the potential impact to a scenic resource that would result from the construction of the proposed transmission line. Among these are:

- Topographical variation (hills, valleys, etc.)
- Prominence of water in the landscape
- Vegetation variety (forests, pasture, etc.)
- Diversity of scenic elements
- Degree of human development or alteration
- Overall uniqueness of the scenic environment compared to the larger region

The eastern and central portions of the Study Area are within the boundaries of the City of Gregory and primarily consist of residential and commercial development. The western and southwestern portions of the Study Area are primarily industrial and cropland is located in the northern portion and the southwestern corner of the Study Area. The Study Area has been impacted by land improvements associated with development and infrastructure with some agriculture.

No known high-quality aesthetic resources, designated views, or designated scenic roads or highways were identified within the Study Area (America's Scenic Byways 2024; Federal Highway Administration 2024). The Study Area is located within the Tropical Trail Region; a review of the THC Atlas identified three sites of interest in the Study Area: Gregory School (Marker number 14741), Joseph French Green and La Quinta Mansion (Marker number 17353), and the Gregory marker (Marker number 2281) (THC 2024a).

A review of the NPS website did not indicate any Wild and Scenic Rivers; National Parks; National Monuments; National Memorials; National Historic Sites; National Historic, Scenic, or Recreational Trails; or National Battlefields within the Study Area (National Wild and Scenic Rivers System 2024; NPS 2024a, 2024b, 2024c, 2024d, 2024e, and 2024f).

Based on these criteria, the Study Area exhibits a low degree of aesthetic quality for the region. Although some portions of the Study Area might be visually appealing, the aesthetic quality of the Study Area overall is not distinguishable from that of other adjacent areas within the region.

3.8.9 Texas Coastal Management Program

As specified in 31 TAC § 25.102, the PUC may grant a certificate for the construction of generating or transmission facilities within the coastal boundary as defined in 31 TAC § 503.1 only when it finds that the proposed facilities are consistent with the applicable goals and policies of the CMP specified in 31 TAC § 501.14(a), or that the proposed facilities will not have any direct and significant impacts on any of the applicable CNRAs.

The Consultant reviewed the CMP, aerial imagery, Texas GLO (20234 and 2024b), FEMA, USFWS, and USGS data to identify CNRAs as outlined in 31 TAC §26.3. CNRAs are defined as waters of the open Gulf of Mexico, waters under tidal influence, submerged lands, coastal wetlands, submerged aquatic vegetation, tidal sound and mud flats, oyster reefs, hard substrate reefs, coastal barriers, coastal shore areas, gulf beaches, critical dune areas, special hazard areas (floodplains, etc.), critical erosion areas, coastal historic areas, and coastal preserves.

Review of NWI data, FEMA flood data (FEMA 2024), and aerial imagery determined that the Study Area contains CNRAs. The CNRAs identified within the Study Area include FEMA floodplains, which are considered a "special hazard area" in 31 TAC §26.3(8). Special hazard areas include floodplains as defined by Texas Natural Resources Code, §33.203(1).

3.9 Cultural Resources

The Study Area is included in the northern portion of the Coastal Texas Archeological Region as defined by Perttula (2004), which is in the Central and Southern Planning Region as delineated by the THC (Mercado-Allinger et al. 1996) (**Figure 3-4**). The Coastal Texas Archeological Region is a narrow band that parallels the Gulf Coast from just south of the Brazos River to the Rio Grande. The basic chronological framework of the region is broken up into three prehistoric periods that generally coincide with broad climatic conditions and the Historic Period, during which Europeans arrived and settled. These periods are discussed below.

3.9.1 Paleoindian Period (11,500 to 8,000 years before present [BP])

The Paleoindian Period is the earliest generally accepted period of human occupation in North America. During this period, it has been postulated that prehistoric populations exploited now-extinct giant mammals such as ancient bison (*Bison antiquus*) and the Columbian mammoth (*Mammuthus columbi*). The Paleoindian Period coincided with the end of the last major North American glaciation, known geologically as the Late Pleistocene, and with the beginning of the Holocene epoch.

In his overview of the archeology of the central and southern Texas Coast, Ricklis (1995 and 2004) omits the Paleoindian Period due to a paucity of Paleoindian remains in the region and environmental changes that have submerged Paleoindian sites in the Gulf of Mexico. During the final cold phase of the Pleistocene epoch, approximately 20,000 BP, rising global temperatures caused continental ice sheets and glaciers to melt, resulting in rapidly rising sea levels for approximately 10,000 years. Prior to roughly 10,000 BP, when the global sea level was over 300 feet lower than it is today, the Gulf Coast was far east of its present position (Ricklis 1995). Few Paleoindian artifacts have been recorded in San Patricio County, and no intact components of this period are known in the county (Hester 2015).

3.9.2 Archaic Period (ca. 7,500 to 950 BP)

The long-lasting Archaic Period in Coastal Texas is distinguished by changes in material culture representing cultural adaptation to the changing environment. The foraging lifeway is epitomized by the Archaic tradition, characterized by the hunting of small game, plant gathering, and an emphasis on the exploitation of marine resources in coastal zones. The Archaic Period is generally subdivided into three sub-periods: Early, Middle, and Late.

Figure 3-4: Location of the Study Area in Relation to the Cultural Resources Planning Regions of Texas

3.9.2.1 Early Archaic (7,500 to 4,200 BP)

Early Archaic archeological sites in Coastal Texas predate the modern estuarine environment. Ricklis (2004) points out that occupation in this region during the Early Archaic occurred in two phases, both confined to the shoreline. The first phase dates to roughly 7,500 to 6,800 BP and is represented almost exclusively by thin but dense lenses of oyster and rangia shells with little debitage or stone tools. There is a noticeable lack of faunal remains, and almost no fish bones or otoliths have been observed in sites that date to this earliest phase of the Early Archaic (Ricklis 2004). The later phase dates to roughly 5,800 to 4,200 BP, during which estuarine resource use intensifies. Oyster shell middens continue to be a dominant feature of this latter phase, but evidence of hunting and fishing, including faunal remains and fish otoliths, is found in the archeological record (Ricklis 2004). Bell and Andice points, indicative of the Early Archaic, have been reported from sites on Chiltipin Creek (Hester 2015), which flows approximately 12 miles north of the Study Area.

3.9.2.2 Middle Archaic (4,200 to 3,100 BP)

The Middle Archaic Period is virtually invisible in the archeological record of the Coastal Texas region (Ricklis 1995 and 2004). During this period, there appears to be a rapid rise in sea level that destroyed productive estuarine environments (Ricklis 2004). Hester (2015) identified Gower and Pedernales projectile points that suggest brief, limited occupation at coastal sites in Nueces County during the Middle Archaic. By 3,000 BP, sea level reached and stabilized at its current level, and the Late Archaic began.

3.9.2.3 Late Archaic (3,100 to 950 BP)

The Late Archaic Period is the best understood and best represented of the Archaic sub-periods. During the Late Archaic, shellfish gathering, fishing, and hunting intensified, suggesting populations grew during this period (Ricklis 2004). Barrier islands protected bays and lagoons, and extensive shallows that provided organic nutrients in the form of decaying plant matter were re-established. Shellfish and fish species that were economically useful to human populations became more abundant, leading to intensive exploitation of these resources. Shell middens were more numerous and larger than those seen in earlier periods, although shellfish gathering played a smaller role in the diet during this period. Projectile points diagnostic of the Late Archaic on the Texas coast include Morhiss, Kent, Ensor, Frio, Catan, and Matamoros points (Hester 2015). Asphaltum, a natural tar substance found on Gulf Coast beaches, imprinted with basketry weaves has been recovered from a number of sites dating to this period (Ricklis 2004).

3.9.3 Late Prehistoric Period (950 to 300 BP)

The primary hallmarks of the Late Prehistoric on the Texas Gulf Coast are the introduction of the bow and arrow and the widespread use of pottery, which may have been introduced at the end of the Late Archaic (Ricklis 2004). Undecorated ceramics and Scallorn arrow points are typical of the earlier phase of the Late Prehistoric Period. The end of the Late Prehistoric Period, known as the Rockport Phase, begins around 700 BP and is characterized by distinctive pottery decorated with asphaltum, Perdiz arrow points, and bone and shell tools (Ricklis 1995 and 2004). The transition from Scallorn to Perdiz arrow points is also seen further inland in Central Texas, where the end of the Late Prehistoric Period is known as the Toyah Phase. An increase in bison remains at archeological sites dating to the end of the Late Prehistoric Period is observed in both regions (Ricklis 2004).

3.9.4 Post-Contact Period (ca. 300 to 50 BP)

European exploration into the area that is now San Patricio County began in 1519 with an expedition led by Spanish explorer Pineda. The exploration was followed by De Leon's expeditions of 1689 and 1691 (Guthrie 2024a). De Leon sailed up and down the coast investigating bays and likely entered Aransas Pass. French explorers came ashore on St. Joseph Island in 1712 and 1718, and Ortiz Parrilla later advanced knowledge of the area in the Nueces River Valley (Guthrie 2024a).

In 1828, empresarios John McMullen and James McGloin contracted with the government of Mexico to settle 200 Irish Catholic families on 80 leagues of land, including what would become San Patricio County (Guthrie 2024a). The first groups of families, recruited from the Irish population of New York, landed at El Cópano and Matagorda in late 1829 and established the town of San Patricio de Hibernia. Settlement of the region would continue into the 1830s with Mexican, Anglo-American, and Irish settlers (Bauer 2024). In 1834, the colony was legally established as the Municipality of San Patricio in the Mexican state of Coahuila and Texas (Guthrie 2024a).

Fort Lipantitlán, built to restrict Anglo immigration into Texas, surrendered to a company of the colony's settlers in 1835 during the Texas Revolution, although Mexican forces continued to use the fort. In February 1836, a detachment of Texans encountered a Mexican force in the town of San Patricio, and all but four of the Texans were killed or captured. Afterward, most of the colonists moved to safer areas (Guthrie 2024a).

San Patricio County was established in 1836 by the Congress of the new Republic of Texas. Fear of Mexican incursions inhibited population growth in the area, as Mexican forces raided the area up until

1842. San Patricio County was officially designated a "depopulated area" by the Republic of Texas during the early years of the county's formation (Guthrie 2024a).

General Zachary Taylor moved his army into the region after Texas was annexed by the United States in 1845 and the population began to grow. In 1845, Corpus Christi was designated the County seat of San Patricio County and remained so until 1846 when Nueces County was formed and San Patricio became San Patricio County's seat. In 1848, as more counties were partitioned, San Patricio County was further reduced in size (Guthrie 2024a).

From 1850 to 1860, the population of San Patricio County increased from 200 to 620, including 95 slaves in 1860 (Guthrie 2024a). Although far from the Civil War battle lines, San Patricio County was on the "Cotton Road" to Matamoros, Mexico, a major center of cotton smuggling after the Union government imposed a blockade on the South (Guthrie 2024a). During the war, San Patricio County was plagued by bands of rustlers preying on local herds and by federal raiding parties, leading many, once again, to flee the area (Guthrie 2024a). Toward the end of the Civil War, settlers from other parts of the southern United States, in search of cheap land, moved into San Patricio County (Guthrie 2024a).

After the war, land in San Patricio County was cheap and drew settlers from the southern United States. In 1870 there were 602 people living in San Patricio County. In 1871, Thomas M. Coleman and George W. Fulton joined with J.M. and Thomas H. Mathis in a partnership that formed the largest cattle firm in Texas (Guthrie 2024a). The Coleman, Mathis, and Fulton partnership, which held acreage in San Patricio, Goliad, and Aransas Counties, flourished until an 18-month drought in 1878–1879 wiped out much of its stock. In 1880, Mesquital, later named Taft Ranch, was formed as a ranch for the Coleman-Fulton Pasture Company (Guthrie 2024a).

In 1885, the San Antonio and Aransas Pass Railway was built to the newly laid-out Aransas Harbor (Guthrie 2024a) and the local agriculture industry intensified with the expansion of the San Antonio and Aransas Pass Railway to Beeville in 1886 (Bauer 2024). By the 1890s, towns such as Mathis, Sinton, and Gregory had been established along the railroad. Development of the area was encouraged by out-of-state investors, especially David B. Sinton, a wealthy Ohio banker who was an old friend of Fulton. In 1891, the Coleman-Fulton Company provided land for the first school in Gregory, Texas (Guthrie 2024b). The town of Gregory, Texas, and the Gregory School are commemorated by OTHM within the Study Area (THC 2024a).

The development of San Patricio County intensified during the first years of the twentieth century, as land agents began to widely advertise San Patricio County property to prospective farmers. New towns sprang up along the railroads as hundreds of new farmers moved into the area. Laborers were brought in from Mexico to clear the land of mesquite and prepare it for farming (Guthrie 2024a).

From 1900 to 1920, the Taft ranch, which controlled much of the land in San Patricio County, converted 2,300 acres to cultivation. The impetus for that success was Joseph F. Green. In 1903, the Coleman-Fulton company established railroad spurs that serviced several loading areas and stores, eventually developing the company town Taft (Guthrie 2024a and 2024c). Joseph Green and the La Quinta mansion, the main house on the Taft ranch, are commemorated by an OTHM (Marker number 17353) located within the Study Area (THC 2024a).

San Patricio County's population more than doubled during the 1920s after oil and gas discoveries in the region diversified the local economy. However, crop farming emerged as the most important element of the agricultural economy. Many farmers produced vegetables for urban markets, but cotton became the area's most important crop. About 15,000 acres were planted in cotton in 1910, and by 1930, the acreage had increased to 155,000. In 1930, more than two-thirds of the county's farmers were tenants; only 342 fully owned their lands (Guthrie 2024a).

During the Great Depression, which began in 1929, farmers were hit by the combination of falling prices and a boll weevil infestation (Bauer 2024). In San Patricio County, low prices, federal crop restrictions, and other factors combined to drive tens of thousands of acres out of agricultural production. Hundreds of farmers were forced off the land. However, the discovery of oil in Pettus in 1929 and in neighboring Karnes County in 1930, as well as the continual development of oil and gas by companies such as Plymouth Oil Company in San Patricio County, aided in the post-Depression recovery in the area (Bauer 2024; Guthrie 2024a).

San Patricio County as whole continued to see marked growth from the oil industry into the 1950s (Guthrie 2024). The shrimping industry, which operates along the coast and in Aransas Pass near the Study Area, has also become an important industry for the region. Since 1950, Texas has been among the top three shrimp producers in the United States (Guthrie 2024a; Maril 2024).

3.9.5 Previous Investigations

The Consultant conducted an examination of the Atlas, maintained by the THC and TARL, to identify previous cultural resources investigations within the Study Area. Eight professional cultural resources surveys have been conducted within the Study Area (THC 2024b) (Table 3-11). Beginning in 1973, these investigations were in advance of water improvement (Prikryl 1998), oil and gas (Borstel 2012; THC 2024b), and roadway improvement (Acuña and Russell 2017) projects. Little to no information was available for the remaining investigations (THC 2024b).

Table 3-11: Previous Cultural Resources Surveys within the Study Area

Atlas ID	Author(s)	Date	Project	Investigating Firm	Sponsor
8500073385	-	-	No information available on the TASA	-	-
8500000884	-	1973	No information available on the TASA	-	-
8500000877	-	1979	No information available on the TASA	-	Environmental Protection Agency
8400000064	Daniel J. Prikryl	1998	An Archeological Survey of the San Patricio Municipal Water Districts Proposed Water System Improvements Project, San Patricio County, TX Report of Investigations No 10 (Prikryl 1998)	Archeological and Environmental Consultants	San Patricio Municipal Water District
8400010982	Shelley Perkins	2004	-	PBS&J	Federal Energy Regulatory Commission
8500025354	Christopher L. Borstel	2012	Corpus Christi Liquefaction Project: Supplementary Phase I Archeological Survey of Project Segments in San Patricio County, Texas (Borstel 2012)	Tetra Tech EC, Inc.	Federal Energy Regulatory Commission
8500073387	Sydne Marshall	2015	-	Tetra Tech, Inc.	Federal Energy Regulatory Commission

Table 3-11: Previous Cultural Resources Surveys within the Study Area

Atlas ID	Author(s)	Date	Project	Investigating Firm	Sponsor
8500081365	Laura I. Acuña and M. Kelley Russell	2017	Cultural Resources Investigations for the Gregory Hall Road Project San Patricio County, Texas (Acuña and Russell 2017)	Atkins	Port of Corpus Cristi Authority

Source: THC 2024b.

3.9.6 Records Review

The Consultant conducted an examination of the Atlas, THC's Historic Sites Atlas (2024c), NPS' NRHP databases (2024a and 2024b), and TxDOT's Historic Resources Aggregator (2024c) to identify previously recorded archeological sites, NRHP-listed properties and districts, National Historic Landmarks, historic-age cemeteries, and OTHMs, including Recorded Texas Historical Landmarks (RTHLs), within the Study Area.

This review identified three previously recorded archeological sites, including a cemetery, and three OTHMs recorded within the Study Area. No NRHP-listed properties and districts, National Historic Landmarks, or Historic Texas Cemeteries have been recorded within the Study Area (THC 2024b and 2024c). In addition, no National Historic Trails are recorded within the Study Area (NPS 2024c and 2024g). One NRHP-eligible resource is located within the Study Area (TxDOT 2024c).

Of the three archeological sites recorded in the Study Area, only Site 41SP179 has what may be a Pre-Contact component. Site 41SP179 is a scatter of oyster shells, burned oyster shells, and burned rock. The site form notes that the site may also be the remains of a well pad visible on historic topographic maps (THC 2024b). Based on a review of aerial images, the site appears to have been destroyed by the construction of FM 2986 (Google Earth 2023). Site 41SP276 is the archeological component of the Portland/Gregory Cemetery (SP-C014). Site 41SP295 is a mid-twentieth century irrigation canal that appears as early as 1925 on topographic maps. None of the three archeological sites recorded within the Study Area have been formally assessed for listing on the NRHP (Table 3-12).

Table 3-12: Previously Recorded Archeological Sites within the Study Area

Trinomial	Site Type	NRHP Eligibility
41SP179	possible pre-contact scatter of oyster shells, burned oyster shells, and burned rock; may also be the remains of a well pad visible on historic topographic maps	Undetermined
41SP276	post-contact archeological component of the Portland/Gregory Cemetery	Undetermined
41SP295	post-contact mid-twentieth century irrigation canal that appears as early as 1925 on topographic maps	Undetermined

Source: THC 2024b.

The three OTHMs mapped within the Study Area show the influence of the Coleman-Fulton Pasture Company on the area. The Gregory marker (Marker number 2281) commemorates the founding of Gregory, Texas, in 1887, a town site that was agreed upon by the Coleman-Fulton Pasture Company and the San Antonio and Aransas Pass Railroad (THC 2024a). The Gregory School marker (Marker number 14741) commemorates the beginnings of formal education in Gregory, Texas. The first one-room school was built on a 1-acre plot of land donated by the Coleman-Fulton Pasture Company. Since then, the campus has grown to incorporate both Gregory Independent School District and the Portland School District in 1950 (THC 2024a). Joseph French Green and La Quinta Mansion (Marker number 17353) commemorate Joseph Green. Joseph Green ran the Coleman-Fulton Pasture Company beginning in the early 1900s and built the La Quinta mansion. The three-story home was known as the White House of the Taft Ranch (THC 2024a). None of the OTHMS recorded within the Study Area are designated RTHLs (THC 2024a) (Table 3-13).

Table 3-13: OTHMs Within the Study Area

OTHM Marker ID	Marker Name
2281	Gregory
14741	The Gregory School
17353	Joseph French Green and La Quinta Mansion

Source: THC 2024a.

The Solis Ballroom and Apartments is the only resource within the Study Area determined eligible for the NRHP (TxDOT 2024c). An internet search indicates that the building is still in use as a dance and nightclub (Solis Ballroom 2024).

A review of previously recorded cultural resource site data indicates that the Study Area has not been examined entirely during previous archeological and historical investigations. Consequently, the review of

records does not include all possible cultural resource sites within the Study Area. To further assess and avoid potential impacts on cultural resources, high probability areas (HPAs) for pre-contact archeological sites were defined during the route analysis process. Pre-contact HPAs typically occur near streams and on terraces overlooking permanent sources of water.

Post-contact-age resources are likely to be found near water sources. However, they will also be located in proximity to primary and secondary roads, which provide access to the sites. Buildings and cemeteries are also more likely to be located within or near post-contact communities. Numerous structures are depicted in the Study Area on archived Corpus Christi, TX (USGS 1925, 1950, and 1951) and Gregory, Texas (USGS 1969) topographic maps.

4.0 ENVIRONMENTAL IMPACTS OF THE ALTERNATIVE ROUTES

The evaluation and comparison of potential impacts for each of the 11 Alternative Routes was based upon the consideration of the requirements of Section 37.056(c)(4)(A)-(D) of the Texas Utilities Code, the PUC's Substantive Rule 25.101, including the PUC's policy of prudent avoidance, public comments received from the open house meetings, field reconnaissance, and the information received from federal and state agencies and local officials. Measurements of the environmental criteria were taken from recent aerial photography (Google Earth 2023) and from available digital resource layers using GIS software.

The 11 Alternative Routes were labeled A through K for evaluation. The Consultant professionals with a proficiency in different environmental disciplines (terrestrial and aquatic ecology, land use and planning, cultural resources, and GIS) evaluated the Alternative Routes based upon environmental conditions present along each Alternative Route and the general routing criteria developed by the Company and the Consultant. Each Consultant evaluator independently analyzed the Alternative Routes and the environmental and land use data presented in Table 4-1 for their technical discipline. The potential impacts to natural, human, and cultural resources resulting from the proposed Project are discussed below by discipline.

4.1 Impact on Natural Resources

4.1.1 Impact on Physiography and Geology

Construction of the proposed transmission line is not anticipated to have adverse effects on the physiographic or geologic features or resources of the area. Erection of the structures will require the excavation and/or minor disturbance of small quantities of materials but should have no measurable impacts on the geologic resources or features along any of the Alternative Routes. No geologic hazards are anticipated to be created by the proposed Project.

4.1.2 Impact on Soils

The construction and operation of transmission lines normally create very few long-term adverse impacts on soils. Transmission lines do not normally cause a conversion of farmland/pastureland because the site can still be used in this capacity after construction. The major potential impact upon soils from any transmission line construction would be erosion and soil compaction. The potential for soil erosion is generally greatest during the initial clearing of the ROW; however, the Company employs erosion control measures during the clearing and construction process. Where existing land cover includes woody vegetation within the ROW, much of this vegetation will be removed to provide adequate space for

construction activities and to minimize corridor maintenance and operational problems. In these areas, only the leaf litter and a small amount of herbaceous vegetation would remain, and both would be temporarily disturbed by the necessary movement of heavy equipment.

Construction of the transmission line would require minimal amounts of clearing in areas that have already been cleared for crops and pastures and existing road, transmission line, and pipeline ROW. The most important factor in controlling soil erosion associated with construction activity is to revegetate areas that have potential erosion problems immediately following construction. Natural succession would revegetate most of the ROW. Impacts from soil erosion caused by construction activity would be minimized due to the implementation of BMPs designed in the SWPPP and matting.

Prime farmland soils, as defined by the NRCS, are soils that are best suited for producing food, feed, forage, or fiber crops. The USDA recognizes the importance and vulnerability of prime farmlands throughout the nation and encourages the wise use and conservation of these soils where possible. The Project would cross prime farmland soils and would cross some cropland. In addition to construction-related impacts described above, the major impact of the Project on soils would be the physical occupation of small areas by the actual support structures. However, most of the ROW would be available for agricultural use once construction of the transmission line is completed.

4.1.3 Impact on Mineral and Energy Resources

Activities associated with the construction, operation, and maintenance of electrical transmission lines typically do not adversely impact mineral and energy resources when appropriate measures are implemented during the routing and construction phases. There are three oil or gas wells and three transmission pipelines identified within the Study Area that were taken into consideration during the routing process. Although unidentified gravel/caliche pits and quarries may occur within the Study Area, no significant adverse impacts are anticipated to gravel/caliche pits and quarries.

4.1.4 Impact on Water Resources

4.1.4.1 Surface Water

Because all surface waters will be spanned and an SWPPP will be implemented during construction, no significant impacts to surface waters are anticipated for any of the Alternative Routes. Potential impacts include short-term disturbances resulting from construction activities, which would result primarily from increased siltation from erosion and decreased water quality from accidental spillage of petroleum and other chemical products. Additionally, activities such as clearing of vegetation may temporarily increase local

stormwater runoff volumes and sediment loading. However, potential impacts would be avoided whenever possible by spanning surface waters, diverting construction traffic around water resources via existing roads, and eliminating unnecessary clearing of vegetation. This may eliminate the necessity of constructing temporary low-water crossings that may result in erosion, siltation, and disturbance of the stream and its biota. If a spanned stream is dry at the time of construction, some bank and streambed alterations may be necessary to facilitate crossing. Such activities will be conducted according to USACE regulations and the SWPPP.

Alternative Route E has two stream crossings and has 0.18 mile of ROW length parallel (within 100 feet) to streams. The other 10 alternative routes do not cross or parallel stream features (Table 4-1).

4.1.4.2 Floodplains

FEMA has conducted detailed floodplain analyses for the Study Area counties. Proposed construction could result in locating some transmission line structures within floodplains, particularly in the vicinity of named streams. These structures would be designed and constructed so as not to impede the flow of any waterway or create any hazard during flooding. Construction activities within floodplains would be limited to the Project ROW, and significant efforts should be made to keep structures from being in obvious flood channels. Some scour could occur around structures if flood-flow depths and velocities become great enough. Careful siting of structures should eliminate the possibility of significant scour. The Project should have no significant impact on the function of the floodplain, nor adversely affect adjacent property or downstream property. Prior to construction, the Company will coordinate with the appropriate floodplain administrator, as necessary, to acquire any floodplain construction permits.

Alternative Routes E through I each have some length of ROW across 100-year floodplains ranging from 0.55 mile for Alternative Route H to 0.80 mile for Alternative Route E. Alternative Routes A through D, J, and K do not have any length of ROW across 100-year floodplains (Table 4-1).

Table 4-1: Environmental Data for Alternative Route Evaluation

4.1.4.3 Groundwater

No adverse impacts to groundwater are expected to occur from the construction and operation of the proposed transmission line. The amount of recharge area that would be disturbed by construction is minimal when compared with the total amount of recharge area available for the aquifer systems in the region. A SWPPP will be developed to identify avoidance measures for potential contamination of water resources. Standard operating procedures and spill response specifications relating to petroleum product storage, refueling, and maintenance activities of equipment are provided as a component of the SWPPP. Any accidental spills would be promptly responded to in accordance with state and federal regulations. The Company will take all necessary and available precautions to avoid and minimize the occurrence of such spills.

4.1.5 Impact on the Ecosystem

4.1.5.1 Vegetation

Impacts to vegetation resulting from the construction and operation of transmission lines are primarily associated with the removal of existing woody vegetation within the ROW. The amount of vegetation cleared from the transmission line ROW would be dependent upon the type of vegetation present and whether the ROW will be completely new or involve widening existing ROW. For example, the greatest amount of vegetation clearing would occur in wooded areas, whereas cropland and grassland would require little to no removal of vegetation.

Vegetation type data was interpolated from aerial photography and route lengths across these areas were digitally measured for tabulation. None of the alternative routes cross upland woodland/brushland vegetation. Alternative Routes E through I each cross bottomland/riparian woodland/brushland that would require removal ranging from 0.06 mile for Alternative Route E to 0.26 mile for Alternative Routes G and H. Alternative Routes A through D, J and K would not cross bottomland/riparian woodland/brushland (Table 4-1).

Construction of the transmission line within the ROW would be performed in such a way as to minimize adverse impacts to vegetation and to retain existing ground cover when practicable. Where necessary, soil conservation practices will be undertaken to protect local vegetation and ensure successful revegetation for areas disturbed during construction.

4.1.5.2 Aquatic Resources

Removal of vegetation in wetlands increases the potential for erosion and sedimentation, which can be detrimental to downstream aquatic life and plant communities. Any placement of fill material within WOTUS would represent a permit action that may require notification to the USACE. More-detailed field studies would be required to verify the location and amount of jurisdictional wetlands that may be within the ROW of an Alternative Route. Precautions would be taken throughout the construction process to avoid and minimize impacts to wetlands. Depending on the size and vegetation type (shrub/scrub or herbaceous), these areas can be spanned in many instances, although they cannot always be avoided by construction equipment. Impact minimization measures (e.g., timber matting, hand-clearing woody vegetation, spanning wetlands) will be implemented during construction to reduce wetland impacts. Placement of approved BMPs for construction and minimization of erosion in disturbed areas would help dissipate the flow of runoff. Placement of silt fences or hay-bale dikes between streams and disturbed areas would also help prevent siltation into the waterway.

Alternative Routes A, B, C, D, J, and K each cross 0.004 mile of NWI-mapped wetlands. Alternative Routes E through I do not cross NWI-mapped wetlands (Table 4-1).

Physical habitat loss or modification could result whenever access road crossings intercept a drainage system, through sedimentation due to erosion, increased suspended solids loading, or accidental petroleum spills directly into a creek, lake, or other aquatic feature. Erosion results in siltation and increased suspended solids entering streams, creeks, or lakes, which in turn may negatively affect many aquatic organisms at many trophic levels. Since aquatic features of the area typically exhibit relatively high turbidities during and following runoff events, small increases in suspended solids during the construction phase are unlikely to have any discernible adverse impact.

None of the Alternative Routes cross NHD-mapped open water (i.e., lakes or ponds) (Table 4-1).

4.1.5.3 Wildlife

The impacts of transmission lines on wildlife include short-term effects resulting from physical disturbance during construction, as well as long-term effects resulting from habitat modification, fragmentation, or loss. The net effect from transmission line construction on local wildlife is typically minor. The following section provides a general discussion of the effects of transmission line construction and operation on terrestrial wildlife, followed by a discussion of the possible impact of the Alternative Routes.

Any required clearing or other construction-related activities would directly or indirectly affect most animals that reside within or traverse the transmission line ROW. Heavy machinery may adversely affect smaller, low-mobility species, particularly amphibians, reptiles, and small mammals.

If construction occurs during the breeding season (generally spring to fall), construction activities may adversely affect the young of some species. Heavy machinery may cause soil compaction, which may adversely affect fossorial animals (i.e., those that live underground). Mobile species, such as birds and larger mammals, may avoid initial clearing and construction activities and move into adjacent areas outside the ROW. Construction activities may temporarily deprive some animals of cover and, therefore, potentially subject them to increased natural predation. Wildlife in the immediate area may experience a slight loss of browse or forage material during construction. However, the prevalence of similar habitats in adjacent areas and vegetation succession in the ROW following construction would minimize the effects of these losses.

The increased noise and activity levels during construction could disturb the daily activities (e.g., breeding, foraging) of species inhabiting the areas adjacent to the ROW. Dust and gaseous emissions should have only minimal effects on wildlife. Although construction activities may disrupt the normal behavior of many wildlife species, little, if any, permanent damage to these populations should result. Periodic clearing along the ROW, while producing temporary negative impacts to wildlife, can improve the habitat for ecotonal or edge species through the increased production of small shrubs, perennial forbs, and grasses.

Transmission line structures will be designed in compliance with the Avian Power Line Interaction Committee (APLIC) standards, as defined in *Reducing Avian Collisions with Power Lines: The State of the Art in 2012* (APLIC 2012). As such, the danger of electrocution to birds from this Project is anticipated to be insignificant. Some avian species may use transmission line structures or wires for perching and roosting; however, this is not the designed intent of those facilities. Additionally, edge-adapted species (e.g., some flycatchers, northern cardinal, northern bobwhite, Cooper's hawk, brown-headed cowbird, and northern mockingbird) may select the edge habitat created along the changed vegetation areas adjacent to the transmission line ROW (Rochelle et al. 1999).

The transmission line (both structures and wires) could present a hazard to flying birds, particularly when flying through a migratory pathway or stopover site (National Audubon Society 2023). Mortality is directly related to an increase in structure height; number of guy wires, conductors, and ground wires; and use of solid or pulsating red lights (an FAA requirement on some structures or structures over 200 feet in height) (Erickson et al. 2005). Collision hazards are greatest near habitat "magnets" (e.g., wetlands, open water,

edges, and riparian zones) and during the fall when flight altitudes of dense migrating flocks are lower in association with cold air masses, fog, and inclement weather. The greatest danger of mortality exists during periods of low ceiling, poor visibility, and drizzle when birds are flying low, perhaps commencing, or terminating a flight, and when they may have difficulty seeing obstructions (Electric Power Research Institute 1993). Most migrant species known to occur in the Study Area, including passerines, should be minimally affected during migration since their normal flying altitudes are much greater than the heights of the proposed transmission structures (Willard 1978; Gauthreaux 1978).

The species most prone to collision are often the largest and most common for resident birds or for birds during periods of non-migration (Rusz et al. 1986; APLIC 1994); however, over time, these birds learn the location of transmission lines and become less susceptible to wire strikes (Avery 1978). Raptors, typically, are uncommon victims of transmission line collisions because of their great visual acuity (Thompson 1978). In addition, many raptors only become active after sufficient thermal currents develop, which is usually late in the morning when poor light is not a factor (Avery 1978).

Waterfowl species are particularly vulnerable to collisions with power lines because of their low-altitude flight and high speed. Additionally, species that travel in large flocks, such as blackbirds and many shorebirds, are also vulnerable because dense flocking makes movement around obstacles more difficult for individuals in the flock (APLIC 1994).

Utility companies can employ several means to minimize transmission line impacts on birds in flight. The initial placement of a transmission line is the most important consideration (Avery 1978; APLIC 1994 and 2006). The proximity of a transmission line to areas of frequent bird use (e.g., communal foraging or roosting areas, rookeries, wetlands) is crucial. This is especially true for daily use areas, such as feeding areas or other areas where birds may be taking off or landing regularly (APLIC 1994 and 2006). The position of the individual structures can also help reduce collisions. Faanes (1987), in an in-depth study in North Dakota, found that birds in flight tend to avoid the transmission line structures, presumably because such structures are visible from a distance. Instead, most appear to fly over the lines in the mid-span region. In areas where the transmission line passes between roosting and foraging areas, the structures can be placed in the center of the flyway (i.e., where the birds are more likely to fly) to increase their visibility, in addition to marking the wires.

Faanes (1987) reported that 97% of birds observed colliding with a power line did so with the ground (static) wire, largely because of attempts to avoid the conductors. Beaulaurier (1981) found that removal of

the ground wire at two study sites in Oregon resulted in a reduction in collisions of 35% and 69%. However, since overhead static wires are installed on transmission lines for safety and reliability reasons, increasing the visibility of the static wire would be a better alternative, when necessary. Increasing the visibility of the wires by using markers such as orange aviation balls, black-and-white ribbons, or spiral vibration dampers, particularly at mid-span, can reduce the number of collisions. Beaulaurier (1981) reviewed 17 studies involving marking ground wires or conductors and found an average reduction in collisions of 45% when compared to unmarked lines.

Negative edge effects can be reduced through native revegetation of disturbed construction areas where necessary and appropriate for safe and reliable operation. Additionally, nest management through platform design (if required), equipment protection, and other physical disincentives to bird use and nesting can avoid negative impacts to birds and power reliability (APLIC 2006).

In general, the greatest potential impact to wildlife typically results from the loss and fragmentation of woodland and wetland habitats. Woodlands, particularly, are relatively static environments that require greater regenerative time compared with rangeland or emergent wetlands. In most cases, wetlands and small waterbodies can be spanned with little or no resulting impact to wildlife. However, as previously noted, the amount of aquatic habitat being crossed is minimal due to the ephemeral nature of the streams. Therefore, the greatest potential to impact wildlife would be the length requiring woodland clearing, followed by the length of the Alternative Routes, which would present the potential for wire strikes to both migrant and resident birds.

Although Alternative Routes A, B, C, D, J, and K cross 0.004 mile of NWI-mapped wetlands, these Alternative Routes have the least potential for impacts to wildlife because they do not cross upland woodland/brushland or bottomland/riparian woodland/brushland that would require clearing, and they do not cross 100-year floodplains or stream features. Alternative Routes E, F, G, and H are the least desirable from a wildlife standpoint because they each cross bottomland/riparian woodland/brushland that would likely require woody vegetation clearing and they each cross 100-year floodplains.

4.1.5.4 Recreationally and Commercially Important Species

Increased noise and equipment movement during construction may temporarily displace mobile wildlife species from the immediate workspace area. These impacts are considered short-term and normal wildlife movements would be expected to resume after construction is completed. None of the 11 Alternative Routes cross areas of upland woodland/brushland, which can represent the highest degree of habitat fragmentation

by converting the area within the ROW to an herbaceous habitat. Although Alternative Routes E through I cross bottomland/riparian woodland/brushland habitat, it is not anticipated that significant impacts will occur to large game, small game, or trapping species from construction activities and with the removal of vegetation (habitat modification/fragmentation). The proposed Project is not anticipated to have a significant impact on game fish, waterfowl hunting, recreational fishing, and commercial fishing due to the lack of surface water features crossed by the 11 Alternative Routes.

4.1.5.5 Endangered and Threatened Species

An assessment of potential impacts for listed threatened or endangered species within the Study Area was conducted by reviewing readily available desktop data from the USFWS IPaC, TPWD RTEST, and TPWD NDD. Current USFWS IPaC listings (USFWS 2024a) reviewed data based on the Study Area, while the TPWD RTEST (TPWD 2024c) data is only available at the county level. The NDD data (TPWD 2024d) also provides historical records of species and other rare resources that could occur in the Study Area. Potential USFWS-designated critical habitat locations (USFWS 2024a) were also included in the review.

4.1.5.5.1 Plant Species

Review of the IPaC report, TPWD RTEST tool, and NDD data did not identify any known occurrences of endangered or threatened plant species within the Study Area. The TPWD's NDD data identified element of occurrence data for three state-sensitive plant species: coastal gay-feather, Wright's trichocoronis, and south Texas spikesedge. Although these species are not state or federally protected, they are each considered either imperiled or vulnerable according to the status and rank key from the State Wildlife Action Plan for Texas (TPWD 2023) and are considered species of greatest conservation need. Depending on the species, the TPWD may have required mitigation practices to be in place around known locations of these species.

4.1.5.5.2 Federally Listed Wildlife Species

The ocelot could occur as a rare vagrant within this region but, due to the lack of isolated dense shrub habitat, is not expected to occur within the Study Area. Therefore, impacts on this species are not anticipated.

The eastern black rail is unlikely to occur within the inland habitat within the Study Area. Other federally listed avian species, such as piping plover, rufa red knot, and whooping crane, may occur as possible non-breeding migrants or post-breeding dispersals that pass through the Study Area and potentially occupy habitats temporarily. Therefore, impacts would be considered temporary.

Federally listed aquatic species, including the oceanic whitetip shark, blue whale, Gulf of Mexico Bryde's whale, humpback whale, North Atlantic right whale, sei whale, sperm whale, West Indian manatee, green sea turtle, hawksbill sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, and loggerhead sea turtle, do not occur within the Study Area due to an absence of marine habitat. Therefore, there will be no impacts on these species.

4.1.5.5.3 Federally Proposed, Candidate, and Other Protected Species

The tricolored bat, which has been proposed by the USFWS to be listed as endangered, is opportunistic when it comes to habitat preferences. Although it would be rare due to lack of surrounding vegetation, this species may utilize culverts and highway underpasses within the Study Area. However, impacts to this species are considered temporary due to their opportunistic behavior and ability to relocate to suitable habitat.

The monarch butterfly is a federal candidate species for listing. The Study Area could provide potential suitable migratory habitat for the monarch butterfly at specific times of the year. Although the monarch butterfly may occur as a temporary migrant within the Study Area, no significant impacts to this species are anticipated to occur.

Although not federally listed as threatened or endangered, bald eagles are protected under the MBTA and BGEPA. Bald eagles are not likely to occur within the Study Area. If, in the course of biological surveys and/or construction activities, any bald eagle roost or nest trees are identified within the vicinity of the Project, the Company will refer to the National Bald Eagle Management Guidelines to avoid and minimize harm and disturbance of bald eagles as recommended by the USFWS.

4.1.5.5.4 State-Protected Species

State-listed amphibians, including the black-spotted newt, sheep frog, and South Texas siren (large form), may occur within the Study Area if suitable habitat is present. However, impacts to their preferred habitat, such as surface waters and wetlands, are not anticipated. Therefore, no significant impacts to this species are anticipated.

The black rail is unlikely to occur within the inland habitat within the Study Area. Other state-listed avian species such as the reddish egret, swallow-tailed kite, white-faced ibis, white-tailed hawk, and wood stork may occur as possible non-breeding migrants or post-breeding dispersals that may pass through the Study Area and potentially occupy habitats temporarily or seasonally. The Texas Botteri's sparrow may occur

within the Study Area. However, impacts to this species are considered temporary due to their ability to relocate to similar unaffected habitat. With the implementation of mitigation measures for avian species discussed previously, no adverse impacts to birds are anticipated to occur from the construction of any of the alternative routes.

The state-listed shortfin mako shark does not occur within the Study Area due to the absence of marine habitat. No impacts to this species will occur.

The white-nosed coati is not likely to occur within the Study Area due to the species likely being extirpated from the Study Area; therefore, no impacts to this species are anticipated.

The Texas horned lizard, Texas scarlet snake, and Texas tortoise may occur within the Study Area and these species could experience minor temporary disturbance during construction efforts. However, these species are not expected to experience significant impacts due to their ability to relocate to similar unaffected habitat.

4.1.5.5.5 Critical Habitat

No USFWS-designated critical habitat occurs within the Study Area, and none of the 11 Alternative Routes cross NDD-mapped element of occurrence record data for federally or state-listed species. All 11 Alternative Routes cross NDD-mapped element of occurrence records for the sensitive vegetation communities of the coastal gay-feather and Wright's trichocoronis, which are both considered species of greatest conservation need by the TPWD (TPWD 2024d).

4.2 Socioeconomic Impact

4.2.1 Impact on Social and Economic Factors

Construction and operation of the proposed transmission line is not anticipated to result in a significant change in the population or employment rate within the Study Area. The Company typically uses contract labor supervised by Company employees during the clearing and construction phases of transmission line projects. Construction workers for the Project would likely commute to the work site on a daily or weekly basis instead of permanently relocating to the area. The temporary workforce increase would likely result in an increase in local retail sales due to purchases of lodging, food, fuel, and other merchandise for the duration of construction activities. No additional staff would be required for line operations and maintenance. The Company is also required to pay sales tax on purchases and is subject to paying local

property tax on land or improvements as applicable. As described in Section 1.2, this Project is needed to provide increased electric service to meet the forecasted load growth in north-central San Patricio County, which will benefit the local area by providing the necessary capacity for the area.

4.2.2 Impact on Community Values

Adverse effects upon community values are defined as aspects of the proposed Project that would significantly and negatively alter the use, enjoyment, or intrinsic value attached to an important area or resource by a community. This definition assumes that community concerns are identified regarding the location and specific characteristics of the proposed transmission line and do not include possible objections to electric transmission lines in general.

Impacts on community values can be classified into two areas: (1) direct effects, or those effects that would occur if the location and construction of a transmission line results in the removal or loss of public access to a valued resource; and (2) indirect effects, or those effects that would result from a loss in the enjoyment or use of a resource due to the characteristics (primarily aesthetic) of the proposed lines, structures, or ROW. Impacts on community values, whether direct or indirect, can be more accurately gauged as they affect recreational areas or resources and the visual environment of an area (aesthetics). Impacts in these areas are discussed in detail in Sections 4.3.2 and 4.3.7 of this report, respectively.

4.3 Impact on Human Resources

4.3.1 Impact on Land Use

Land use impacts from transmission line construction are determined by the amount of land (of varying use) displaced by the actual ROW and by the compatibility of electric transmission line ROW with adjacent land uses. During construction, temporary impacts to land uses within the ROW could occur due to the movement of workers and materials through the area. Construction noise and dust, as well as temporary disruption of traffic flow, may also temporarily affect residents and businesses in the area immediately adjacent to the ROW. Coordination among the Company, their contractors, and landowners regarding access to the ROW and construction scheduling would minimize these disruptions.

4.3.1.1 Habitable Structures

One of the most important measures of potential land use impact is the number of habitable structures located within a specified distance of an Alternative Route centerline. Habitable structures are defined by 16 TAC § 25.101(a)(3) as:

Structures normally inhabited by humans or intended to be inhabited by humans on a daily or regular basis. Habitable structures include, but are not limited to, single-family and multifamily dwellings and related structures, mobile homes, apartment buildings, commercial structures, industrial structures, business structures, churches, hospitals, nursing homes, and schools.

The Consultant determined the number and distance of habitable structures located within 300 feet of the centerline of each Alternative Route using GIS software, interpretation of aerial imagery, and verification during field reconnaissance where possible. To account for the margin of error in horizontal accuracy of aerial imagery, the Consultant identified habitable structures located within 320 feet of the centerline of each Alternative Route. These structures are shown in relation to the Alternative Routes on **Figures C-1 and C-2** (map pockets).

The number of habitable structures located within 320 feet of the alternative routes ranges from one each for Alternative Routes A, B and C, to 83 each for Alternative Routes F and G (Table 4-1).

4.3.1.2 Using and Paralleling Existing Transmission Line ROW

The least impact to land use generally results from building within existing transmission line ROW, followed by building parallel to existing transmission line ROW. Using existing transmission line ROW of sufficient width usually eliminates the need for additional clearing. Additionally, building parallel to existing transmission line ROW, when compared to establishing a new ROW corridor, can also minimize the amount of ROW to be cleared, which generally results in the least amount of impact to landowners, the environment, and the overall aesthetic quality of that area. In fact, the factors listed by 16 TAC § 25.101(b)(3)(B) to be considered in the selection of Alternative Routes include:

- Whether the Alternative Routes utilize existing compatible ROW, including the use of vacant positions on existing multiple-circuit transmission lines;
- Whether the Alternative Routes parallel existing compatible ROW; and
- Whether the Alternative Routes parallel property lines or other natural or cultural features.

Alternative Routes A and C do not utilize existing transmission line ROW. Of the nine alternative routes with lengths of ROW that utilize existing transmission line ROW, Alternative Routes B and K utilize the least amount at 0.08 mile and Alternative Route D utilizes the most existing transmission line ROW at 0.85 mile.

Alternative Routes A, B, C, D, J, and K parallel existing transmission line ROW for a portion of their lengths, at approximately 0.03 mile each (Table 4-1).

4.3.1.3 Paralleling Other Existing Compatible ROW

Paralleling other existing compatible ROW (roads, highways, etc., – excluding oil and gas pipelines) is also considered to be a positive routing criterion, one that usually results in fewer impacts than establishing a new ROW corridor within an area and is included in the PUC's transmission line certification criteria. In accordance with PUC Substantive Rule § 25.101(b)(3)(B), the Consultant identified existing compatible ROW for potential paralleling opportunities.

Five of the 11 Alternative Routes have some length of ROW parallel to other existing compatible ROW. Of the five Alternative Routes, Alternative Route E has the least length of ROW parallel to other existing compatible ROW at 0.12 mile, and Alternative Route C has the most at 0.25 mile (Table 4-1).

4.3.1.4 Paralleling Property Lines

Another important land use and favorable routing criterion under PUC Substantive Rule § 25.101(b)(3)(B) is the length of property lines paralleled. In the absence of existing ROW to follow, paralleling property or fence lines minimizes disruption to agricultural activities and creates less of a constraint to the future development of a tract of land. Each Alternative Route was developed to parallel property lines where feasible, while avoiding other known constraints. Property lines created by existing compatible ROW (e.g., roadways, highways, railroads, etc.) are not double counted in the "Length of ROW parallel to property lines" criterion.

Nine of the 11 Alternative Routes have some length of ROW parallel to apparent property lines. Of the nine Alternative Routes with lengths of ROW parallel to apparent property lines, Alternative Routes A and C have the least at 0.13 mile, and Alternative Route H has the most at 0.94 mile (Table 4-1).

4.3.1.5 Combined Total Length Paralleling ROW and Property Lines

The combined total length that each alternative route parallels existing transmission lines, other compatible ROW, and property lines was calculated for comparison. The sum of each criterion was then considered in relation to the total length of the Alternative Route.

The combined total length of ROW paralleling existing transmission lines, other compatible ROW, and property lines ranges from 0.11 mile for Alternative Routes B and K, to 1.59 miles for Alternative Routes F and G (Table 4-1).

4.3.1.6 Overall Length of Routes

The length of an alternative route can be an indicator of the relative magnitude of land use impacts. Generally, all other things being equal, the shorter the route, the less land is crossed, which usually results in the least amount of potential impacts. The total lengths of the Alternative Routes range from 1.65 miles for Alternative Routes H and I, to 1.96 miles for Alternative Route J (Table 4-1). The differences in route lengths reflect the direct or indirect pathway of each Alternative Route between the Project endpoints. The lengths of the Alternative Routes may also reflect the effort to parallel existing transmission lines and other existing linear features and apparent property boundaries, and the geographic diversity of the alternative routes.

4.3.1.7 Impact on Lands with Conservation Easements

The Gregory Community Park is a conservation easement within the Study Area. No significant impacts on the Gregory Community Park are anticipated.

4.3.2 Impact on Recreation

Potential impacts on parks or recreation areas include the disruption or prevention of recreation activities. One local park was identified within the Study Area (Gregory Community Park). No significant impacts to the use of the parks and recreation facilities located within the Study Area are anticipated from any of the Alternative Routes. Also, no adverse impacts are anticipated for any fishing or hunting areas from any of the Alternative Routes.

None of the Alternative Routes cross any known parks and recreation facilities and none are located within 1,000 feet of a known park or recreation facility.

4.3.3 Impact on Agriculture

Impacts to agricultural land uses can generally be ranked by degree of potential impact, with the least potential impact occurring in areas where grazing is the primary use (pasture or rangeland), followed by cultivated cropland, with forested/wooded land (orchards, commercial timber, etc.) having the highest degree of impact.

All of the alternative routes cross some length of pasture/rangeland and cropland; however, because the ROW for the Project will not be fenced or otherwise separated from adjacent lands, there will be no significant long-term displacement of farming or grazing activities.

The Alternative Routes with impacts to pasture or rangeland range from a 0.54 mile for Alternative Routes A and C, to approximately 1.01 miles for Alternative Route E. The Alternative Routes with impacts to cropland range from approximately 0.64 mile for Alternative Routes E, H, and I, to approximately 1.15 miles for Alternative Route C (Table 4-1).

None of the Alternative Routes cross lands with known mobile irrigation systems (rolling or pivot).

4.3.4 Impact on Utility Features and Oil and Gas Facilities

Three oil and gas wells and three transmission pipelines are located in the Study Area. During the route development process, the Company and Consultant applied a setback distance of 250 feet from the Alternative Route centerlines to identified well heads using RRC data layers (RRC 2024e), aerial imagery interpretation, and GIS software-generated measurements. In some instances, the setback distance could be reduced due to the need to traverse a particular area to connect the Project endpoints while also considering other existing constraints in the area.

The Company and Consultant applied a setback distance of 500 feet when an Alternative Route would need to parallel existing transmission pipelines and, when feasible, existing gathering pipelines as identified using RRC data layers (RRC 2024e), aerial photo interpretation, and GIS software-generated measurements. The Company and Consultant also applied routing criteria to cross existing transmission pipelines and, when feasible, existing gathering pipelines at 90 degrees, if possible, but no less than 60 degrees. These routing criteria are to address potential delays in construction schedules and additional cost in addressing the PUC final order language directing the electric utility to work with pipeline owners or operators to assess if mitigation may be necessary. Pipelines that are crossed by the PUC-approved Alternative Route will be indicated on engineering drawings and flagged prior to construction. The Company will notify and coordinate with pipeline companies as necessary during transmission line construction and operation.

None of the alternative routes cross or parallel existing pipeline ROW less than 500 feet from the route centerline. Alternative Routes B, C, E, and K each have one recorded oil and gas well less than 250 feet from the route centerlines (Table 4-1).

Alternative Routes A, E, F, G, H, and I each cross two existing transmission lines and the other five Alternative Routes each cross three (Table 4-1). There are no recorded water wells within 200 feet of any of the ROW centerlines.

4.3.5 Impact on Transportation/Aviation

4.3.5.1 Transportation Features

Potential impacts to transportation could include the temporary disruption of traffic and potential conflicts with proposed roadway or utility improvements. Increased traffic and congestion may also occur during the construction of the proposed Project. However, the Project would generate only minor construction traffic at any given time or location. This traffic would consist of construction employees' personal vehicles and trucks and equipment for material deliveries and construction. Such impacts, however, are usually temporary and short-term. The Company will coordinate with the agencies in control of the affected roadways to address these traffic flow impacts. The Company would also be required to obtain road-crossing permits from TxDOT for any crossing of state-maintained roadways.

The number of Interstates, US Hwys, or SHs crossed by the Alternative Routes ranges from one crossing each for Alternative Routes A, B, C, J, and K, to two crossings each for Alternative Routes D, E, F, G, H and I. Alternative Routes A and C do not cross FM/Ranch-to-Market (RM) roads. The other nine Alternative Routes each cross one FM road (Table 4-1).

4.3.5.2 Aviation Facilities

According to FAA Part 77 regulations, Title 14 CFR Part 77.9, notification of the construction of the proposed transmission line will be required if structure heights exceed the height of an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of a public or military airport having at least one runway longer than 3,200 feet. The FAA also requires notification if structure heights exceed a slope of 50 to 1 for a horizontal distance of 10,000 feet from the nearest runway of a public or military airport with no runway longer than 3,200 feet, and if structure heights exceed a 25 to 1 slope for a horizontal distance of 5,000 feet from landing and takeoff areas for heliports (FAA 2024a and 2024b).

There are no FAA-registered public airports where the runway is longer than 3,200 feet located within 20,000 feet of the centerline of the Alternative Routes. There are no FAA-registered public airports where

the runway is no longer than 3,200 feet located within 10,000 feet of the Alternative Routes or heliports located within 5,000 feet of the Alternative Routes (Table 4-1).

There is one FAA-registered private airstrip, Magee airstrip, where the runway is no longer than 3,200 feet located within 10,000 feet of all of the Alternative Routes. Table 4-2 shows the airport's distance from the Alternative Routes.

Table 4-2: Airport/Airstrip and Heliport Locations Near Alternative Routes

Figures B-1 and B-2 Map ID[a]	Airstrip/Heliport	FAA Identifier	Alternative Routes	Nearest Link	Distance from Nearest Link (feet)	Exceeds Slope
400	Magee Private Airstrip	TE87	A	27	4,562	No
			B	27	4,562	No
			C	27	4,562	No
			D	27	4,562	No
			E	34	4,562	No
			F	34	4,562	No
			G	34	4,562	No
			H	34	4,562	No
			I	34	4,562	No
			J	27	4,562	No
			K	27	4,562	No

(a) Airports, airstrips, and heliports are located on Figures C-1 and C-2 (map pockets).

4.3.6 Impact on Communication Towers

The Alternative Routes would not have a significant impact on electronic communication facilities or operations in the Study Area. One commercial AM radio tower was identified within 10,000 feet of each of the Alternative Route centerlines. The number of FM radio transmitter or other electronic communication facilities identified within 2,000 feet of the route centerlines ranges from one each for Alternative Routes A, B, C, D, J, and K to three each for the other five Alternative Routes (Table 4-1).

4.3.7 Impact on Aesthetics

Aesthetic impacts, or impacts upon visual resources, exist when the ROW, lines, or structures of a transmission line system create an intrusion into, or substantially alter the character of, an existing scenic view. The significance of the impact is directly related to the quality of the view, in the case of natural

scenic areas, or to the importance of the existing setting in the use or enjoyment of an area, in the case of valued community resources and recreational areas.

It is virtually impossible for a new transmission line to have no visual impacts, and construction of the proposed transmission line could have both temporary and permanent aesthetic effects. Temporary impacts would include views of the actual construction, including assembly and erection of the structures, and any clearing of the ROW. Where limited clearing is required, the brush and wood debris could have a temporary negative impact on the local visual environment. Permanent impacts from the Project would include the views of the structures and lines themselves, as well as views of cleared ROW from public viewpoints, including roadways, recreational areas, and scenic overlooks.

To evaluate aesthetic impacts, field surveys were conducted to determine the general aesthetic character of the area and the degree to which the proposed transmission line would be visible from selected areas. These areas generally include those of potential community value, parks and recreational areas, and the major highways and FM roads that traverse the Study Area. Measurements were made to estimate the length of each Alternative Route that would fall within the foreground visual zone (FVZ) of recreational areas or major highways. A transmission line (structures and wires) is within the FVZ if it is visible (e.g., not obstructed by terrain, trees, buildings) within 0.5 mile of an observer. The determination of the visibility of the transmission line from various points was calculated using USGS maps, GIS software, and aerial imagery interpretation.

All of the Alternative Routes have some portion of their lengths located within the FVZ of US Hwys and SHs. Alternative Route B has the shortest length with 1.51 miles and Alternative Route J has the longest length with 1.80 miles. All of the Alternative Routes have some portion of their lengths located within the FVZ of FM/RM roads. Alternative Routes H and I have the shortest length with 1.65 miles, and Alternative Route J has the longest length with 1.96 miles.

4.3.8 Impact on Texas Coastal Management Program

The entire Study Area is located within the CMP and CNRAs are identified for the Study Area that include special hazard areas (FEMA floodplains). The proposed Project will be constructed consistent with the applicable goals and policies of the CMP. None of the Alternative Routes will have a significant impact on the applicable CNRAs.

As discussed previously, Alternative Routes E through I each have some length of ROW across 100-year floodplains ranging from 0.55 mile for Alternative Route H to 0.80 mile for Alternative Route E. Alternative Routes A, B, C, D, J, and K do not have any length of ROW across 100-year floodplains (Table 4-1). Construction activities would not significantly impede the flow of water within the watershed, significantly impact the overall function of the floodplain, nor adversely affect downstream properties. Prior to construction, if required, the Company will coordinate with the appropriate floodplain administrator to acquire any necessary floodplain construction permits.

4.4 Impact on Cultural Resources

Construction activity has the potential for adversely impacting cultural resource sites. Although this transmission line Project is currently being conducted without the need for federal funding, permitting, or assistance, federal guidelines established under Section 106 of the National Historic Preservation Act of 1966, as amended, provide useful standards for considering the severity of possible direct and indirect impacts. According to the Secretary of the Interior's Guidelines for protection of historical and archeological resources (36 CFR Part 800), adverse impacts may occur directly or indirectly when a project causes changes in archeological, architectural, or cultural qualities that contribute to a resource's historical or archeological significance.

4.4.1 Direct Impacts

Direct impacts include actions that physically damage or alter an archeological site, historically significant building, structure, object, district, or other cultural resource. Typically, these impacts occur during the construction phase of a transmission line project and can result from actual placement of tower locations and lines as well as from activities associated with construction, including clearing vegetation and vehicular and heavy machinery traffic. Archeological sites, which can be surficial or shallowly buried, are particularly sensitive to these impacts.

Historically significant buildings, structures, objects, districts, and other landscape-related resources within or adjacent to the Study Area can be directly affected by construction activities. These effects can include direct impacts to the resources themselves via physical destruction or damage, or impacts to their character-defining features, including changes to the overall character of the property's use or alteration of physical features within the property's setting that contribute to its historical significance.

Direct impacts to cemeteries require compliance with the Texas Health and Safety Code, as amended. These rules and regulations are available in Title 13, Part 2, Chapter 22, Rule § 22.5 of the TAC. The marked

boundaries of historic-age cemeteries are notorious for shifting over time as a result of several factors including abandonment, the removal or disintegration of headstones or other markers, and the encroachment of new developments. This boundary ambiguity can result in unmarked burials being unintentionally or intentionally excluded from current cemetery boundaries. To limit the potential for a project to impact unmarked burials, the THC recommends all construction projects, including ground disturbance within 25 feet of a known cemetery boundary, be surveyed in advance by an archeologist for evidence of possible burials within proposed construction areas.

4.4.2 Indirect Impacts

Indirect impacts can include the introduction of visual, atmospheric, or audible elements that diminish the integrity of a property's significant historic features. Often, indirect impacts affect cultural resources located outside of the immediate Study Area and frequently relate to a resource's overall integrity of setting, feeling, or association. Such impacts may include landscape alteration or changes in land use patterns, the introduction of air pollution, increased traffic, or changes in population density. Historic landscapes, buildings, structures, objects, and districts are common resources affected by indirect impacts.

4.4.3 Mitigation

The preferred form of mitigation for impacts to cultural resources is avoidance. Alternative forms of mitigation for direct impacts can be developed for archeological and historical sites and properties through the implementation of an appropriate data recovery program. Indirect impacts to historically significant properties and landscapes can be lessened through careful design choices and landscaping considerations. In some situations, the relocation of historic structures may be another possible form of mitigation.

4.4.4 Summary of Impact on Cultural Resources

The distance of each recorded cultural resource located within 1,000 feet of the nearest Alternative Route was measured using GIS software and aerial photography interpretation. A file review described in Section 3.9.5 indicated that no SALs, RTHLs, or cemeteries have been recorded within 1,000 feet of the Alternative Routes.

One archeological site, 41SP179, is recorded within 1,000 feet of the Alternative Routes. Site 41SP179 is a Post-Contact site that may have a Pre-Contact component. Site 41SP179 is a scatter of oyster shells, burned oyster shells, and burned rock, and maybe the remains of a well pad visible on historic topographic maps (THC 2024b). Based on a review of aerial images, the site appears to have been destroyed by the

construction of FM 2986. The site is approximately 135 feet from Alternative Routes B, D, K, and J, and approximately 489 feet from Alternative Routes A and C.

None of the Alternative Routes have been surveyed for cultural resources. Thus, the potential for undiscovered cultural resources does exist along all of the Alternative Routes. To assess this potential, a review of geological, soil, and topographical maps was conducted by a professional archeologist to identify areas along the Alternative Routes with a high probability for archeological resources. The HPAs for Pre-Contact archeological sites were identified adjacent to stream crossings along the Alternative Routes and near previously recorded sites. Post-Contact age resources are likely to be found near water sources; however, they will also be near primary and secondary roads that provide access to the sites. Buildings and cemeteries are more likely to be located within or near historic communities. To facilitate the data evaluation and Alternative Route comparison, each HPA was mapped using GIS and the length of each Alternative Route crossing these areas was tabulated.

All of the Alternative Routes cross HPAs. Alternative Routes A, B, and C cross the least amount of HPA at 0.16 mile each. Alternative Route E crosses the most HPA at 1.15 miles. Table 4-1 shows the amount of HPA crossed by each Alternative Route and the number of cultural resources crossed or within 1,000 feet of the Alternative Routes.

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5.0 ALTERNATIVE ROUTE EVALUATION

The purpose of this EA was to delineate and evaluate the most viable Alternative Routes for the proposed 138-kV transmission line between the tap point on the Aransas Pass-to-Gregory 69-kV transmission line and the Gregory Substation in San Patricio County. The Consultant, with review and assistance from the Company, evaluated numerous Conceptual Links for the proposed transmission line Project. These Conceptual Links were developed using publicly available environmental and land use data, as well as data collected during on-site field visits. The resulting Preliminary Alternative Links were presented to the public at an open-house meeting held on June 27, 2024. As a result of these evaluations and public input received both at the open house meetings and from the comment cards, the Company and the Consultant modified the Preliminary Alternative Links based on input and selected 11 Alternative Routes for further analysis. These 11 Alternative Routes were subjected to a detailed environmental analysis by the Consultant and to an engineering and cost analysis by the Company.

5.1 The Consultant's Environmental Evaluation

The Consultant completed the environmental analysis of the 11 Alternative Routes (Section 4.0); environmental data used in the analysis were shown in Table 4-1. The environmental evaluation consisted of a comparison of Alternative Routes strictly from an environmental viewpoint, based upon the measurement of 41 separate environmental criteria, as well as comments from local, state, and federal agencies; public involvement; field reconnaissance of the Study Area and Alternative Routes; and the general routing methodology used by the Consultant.

The Consultant used a consensus approach to evaluate the potential impact of the 11 Alternative Routes. Professionals with expertise in different environmental disciplines (terrestrial and aquatic ecology, land use and planning, and cultural resources) evaluated the 11 Alternative Routes using the environmental and land use data presented in Table 4-1 for their technical discipline. The evaluators then discussed their independent results. The relationship and relative sensitivity among the major environmental factors were determined by the group. The group then selected an Alternative Route that best satisfies a balance between the major environmental factors, as well as ranking Alternative Routes second through fifth, all based strictly upon the environmental data. These rankings are shown in Table 5-1 and reflect the order of their potential environmental impact. Although all Alternative Routes were considered by the group to be environmentally acceptable, it is the consensus of the Consultant evaluators that Alternative Route B is the most favorable after evaluating the objective environmental criteria.

The Company considers this information along with engineering, construction, maintenance, operational, and cost considerations to select the route that they believe best addresses the requirements of PURA and PUC Substantive Rules as required by the PUC's CCN application. The Company will describe the selection process in the CCN application.

Table 5-1: The Consultant's Ranking of the Alternative Routes, Aransas Pass-to-Gregory 138-kV Transmission Line

Alternative Route	Land Use Specialist	Ecology Specialist	Cultural Resources Specialist	Project Manager	Consensus
A	5th	-	1st	5th	5th
B	1st	-	2nd	1st	1st
C	4th	-	3rd	4th	4th
D	3rd	-	6th	3rd	3rd
E	8th	11th	11th	9th	
F	9th	7th	10th	10th	
G	10th	10th	9th	11th	
H	11th	9th	7th	8th	
I	7th	8th	8th	7th	
J	6th	-	5th	6th	
K	2nd	-	4th	2nd	2nd

The land use evaluation placed the greatest importance on the number of habitable structures within 300 feet of the ROW centerlines and overall length of route. Comparing the five Alternative Routes from a land use perspective, Alternative Route B was selected as having the least potential impact on land use, followed in ranking by Alternative Routes K, D, C, and A.

The ecological ranking of the Alternative Routes was based primarily on the length of ROW crossing bottomland/riparian woodland/brushland. The length of ROW that crosses 100-year floodplains and the number of stream crossings of the Alternative Routes were secondary considerations. Alternative Routes A, B, C, D, J and K each have 0.004 mile of ROW across NWI-mapped wetlands and had no other ecological constraints data. Therefore, the ecologist determined that these Alternative Routes have the same viability and cannot be ranked. Alternative Routes A, B, C, D, J and K have the least potential ecological impact. The ecologist ranked Alternative Route E as having the most potential ecological impact.

The cultural resources ranking of the Alternative Routes was based primarily on the amount of HPA crossed by the routes and the length of the routes. Alternative Route A was identified as having the least potential impact on cultural resources, followed in ranking by Alternative Routes B, C, K, and J. All of the Alternative Routes are acceptable from a cultural resources perspective since potential impacts were minimized during the route development phase.

The POWER Project Manager ranked the Alternative Routes, considering all of the evaluation criteria and the flow of the Alternative Routes across the Study Area. The number of habitable structures within 300 feet of the ROW centerlines, overall length of route, and the length of ROW crossing bottomland/riparian woodland/brushland were key factors. Secondary factors included the length of ROW crossing HPAs. Potential impact avoidance and minimization measures typically employed during the construction of transmission lines were also taken into account. Alternative Route B was selected by the POWER Project Manager as the best-balanced route considering all the evaluation criteria reviewed, followed in ranking by Alternative Routes K, D, C, and A.

Following the evaluation by discipline, the Consultant's group of evaluators, which included the Project Manager and Principal Siting Specialist, discussed the relative importance and sensitivity of each set of criteria (land use, cultural, and natural resources) as applied to the Alternative Routes. Based on group discussion of the relative value and importance of each set of criteria (land use, ecology, and cultural resources) for this specific Project, it was the consensus of the group that the number of habitable structures within 300 feet of the ROW centerlines, overall length of route, and the length of ROW crossing bottomland/riparian woodland/brushland were primary factors in their decision for selecting the best-balanced Alternative Route based upon the environmental, land use, and cultural data and ranking the Alternative Routes in order of preference.

The Consultant's recommendation of Alternative Route B as the route that best balances the PUC routing criteria related to land use, aesthetics, ecology, and cultural resources, is based primarily on the following advantages among the objective criteria:

Alternative Route B:

- Is tied with two other routes for the fewest habitable structures within 300 feet of the ROW centerlines, at one each.
- Is the third shortest route, at 1.67 miles.

- Has no length of ROW across bottomland/riparian woodland.
- Has the most length of ROW parallel to other existing compatible ROW, at 0.25 mile.
- Is tied with one other route for the third shortest length across pastureland/rangeland, at 0.64 mile.
- Is tied with two other routes for the shortest length of ROW across HPA, at 0.16 mile.

Alternative Route B also:

- Crosses no parks/recreational areas and is not located within 1,000 feet of any additional parks/recreational areas.
- Has no transmission pipeline crossings.
- Has no FAA-registered airports with a runway more than 3,200 feet in length within 20,000 feet of the route centerline.
- Has no FAA-registered airports with no runway more than 3,200 feet in length within 10,000 feet of the route centerline.
- Has no heliports within 5,000 feet of the route centerline.
- Has no recorded water wells within 200 feet of route centerline.
- Crosses no upland woodland/brushland.
- Crosses no streams or rivers.
- Has no length of ROW parallel (within 100 feet) to streams.
- Has no length of ROW across open water (ponds, lakes).
- Has no length of ROW across 100-year floodplains.
- Has no cemeteries within 1,000 feet of the route centerline.
- Crosses no NRHP listed or determined-eligible properties and is not located within 1,000 feet of any additional NRHP listed or determined-eligible properties.

Therefore, based upon its evaluation of this Project and its experience and expertise in transmission line routing, the Consultant recommends Alternative Route B from an overall land use and environmental perspective. Considering all pertinent factors related to land use, ecology, and cultural resources, it is the Consultant's opinion that Alternative Route B best addresses the applicable criteria in PURA § 37.056(c)(4) and the PUC Substantive Rules.

Figures C-1 and C-2 (map pockets) shows the approximate locations of habitable structures and other land use features in the vicinity of the Alternative Routes. Habitable structures and other land use features in the vicinity of the Alternative Routes are listed and described with respect to their distance and direction from each Alternative Route in Table 5-2 through Table 5-12.

Table 5-2: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route A

Link Combination: 1-25-26-27				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
116	Single-Family Residence	287	SE	27
200	Communication Tower	1,235	SE	1
300	AM Tower	9,313	E	1
400	Magee Private Airstrip	4,562	SW	27
-	Archeological Site 41SP179	489	SE	-

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-3: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route B

Link Combination: 2-20-22-35-24-26-27				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
116	Single-Family Residence	287	SE	27
200	Communication Tower	1,235	SE	2
300	AM Tower	9,313	E	2
400	Magee Private Airstrip	4,562	SW	27
-	Archeological Site 41SP179	135	NE	-

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-4: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route C

Link Combination: 2-19-25-26-27				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
116	Single-Family Residence	287	SE	27
200	Communication Tower	1,235	SE	2
300	AM Tower	9,313	E	2
400	Magee Private Airstrip	4,562	SW	27
-	Archeological Site 41SP179	489	SE	-

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-5: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route D

Link Combination: 3-6-7-18-22-35-23-27				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
39	Commercial/Industrial	188	SE	6
40	Single-Family Residence	135	NE	7
41	Single-Family Residence	62	NE	7
42	Commercial/Industrial	306	SW	7
116	Single-Family Residence	287	SE	27
133	Single-Family Residence	122	SE	23
134	Single-Family Residence	150	SE	23
135	Single-Family Residence	182	SE	23
136	Single-Family Residence	209	SE	23
137	Single-Family Residence	243	SE	23
138	Single-Family Residence	271	SE	23
139	Single-Family Residence	301	SE	23
200	Communication Tower	1,235	SE	3
300	AM Tower	9,313	E	3

Table 5-5: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route D

Link Combination: 3-6-7-18-22-35-23-27				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
400	Magee Private Airstrip	4,562	SW	27
-	Archeological Site 41SP179	135	NE	-

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-6: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route E

Link Combination: 3-6-8-9-29-30-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
39	Commercial/Industrial	188	SE	6
43	Single-Family Residence	158	SE	8
44	Single-Family Residence	212	SE	8
45	Single-Family Residence	304	SE	8
46	Single-Family Residence	107	SE	8
47	Single-Family Residence	209	SE	8
48	Single-Family Residence	252	SE	8
49	Single-Family Residence	319	SE	8
50	Single-Family Residence	108	SE	8
51	Single-Family Residence	226	SE	8
52	Single-Family Residence	317	SE	8
53	Single-Family Residence	288	SE	8
54	Single-Family Residence	134	SE	8
55	Commercial/Industrial	199	NW	8
56	Commercial/Industrial	74	N	8
57	Single-Family Residence	209	SE	8
58	Single-Family Residence	279	SE	8
59	Single-Family Residence	314	SE	8
60	Commercial/Industrial	73	S	8

Table 5-6: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route E

Link Combination: 3-6-8-9-29-30-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
61	Single-Family Residence	184	S	8
62	Single-Family Residence	217	SE	8
63	Single-Family Residence	265	SE	8
64	Single-Family Residence	303	SE	8
65	Single-Family Residence	23	SE	29
66	Single-Family Residence	24	SE	29
67	Single-Family Residence	151	SE	29
68	Single-Family Residence	51	SE	30
69	Single-Family Residence	124	SE	30
70	Single-Family Residence	174	SE	30
71	Single-Family Residence	281	SE	30
72	Single-Family Residence	52	SE	30
73	Single-Family Residence	85	SE	30
74	Single-Family Residence	127	SE	30
75	Single-Family Residence	168	SE	30
76	Single-Family Residence	284	SE	30
77	Single-Family Residence	53	SE	30
78	Single-Family Residence	208	SE	30
79	Single-Family Residence	287	SE	30
80	Single-Family Residence	50	SE	30
81	Single-Family Residence	144	SE	30
82	Single-Family Residence	249	SE	30
83	Single-Family Residence	54	SE	30
84	Single-Family Residence	88	SE	30
85	Single-Family Residence	156	SE	30
86	Single-Family Residence	208	SE	30
87	Single-Family Residence	247	SE	30
88	Single-Family Residence	101	S	30
89	Single-Family Residence	216	SE	30
90	Single-Family Residence	233	S	30
91	Single-Family Residence	243	S	30

Table 5-6: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route E

Link Combination: 3-6-8-9-29-30-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
92	Single-Family Residence	268	S	30
93	Single-Family Residence	313	S	30
95	Single-Family Residence	252	NE	30
96	Single-Family Residence	231	SW	30
97	Single-Family Residence	231	SW	31
98	Single-Family Residence	136	SW	31
99	Single-Family Residence	231	SW	31
100	Single-Family Residence	171	SW	31
101	Single-Family Residence	197	SW	31
102	Single-Family Residence	216	SW	31
103	Single-Family Residence	212	SW	31
104	Single-Family Residence	144	SW	31
105	Single-Family Residence	42	NE	31
106	Single-Family Residence	181	SW	31
107	Single-Family Residence	171	SW	32
108	Single-Family Residence	195	SW	32
109	Single-Family Residence	85	SW	32
110	Single-Family Residence	191	SW	32
111	Single-Family Residence	194	SW	32
112	Single-Family Residence	202	SW	33
113	Single-Family Residence	188	SW	33
114	Single-Family Residence	214	SW	33
115	Single-Family Residence	227	SW	33
116	Single-Family Residence	125	NE	33
200	Communication Tower	1,235	SE	3
201	Communication Tower	1,989	SE	8
202	Communication Tower	640	SW	30

Table 5-6: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route E

Link Combination: 3-6-8-9-29-30-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
300	AM Tower	9,313	E	3
400	Magee Private Airstrip	4,562	SW	34

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-7: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route F

Link Combination: 28-4-6-8-10-11-13-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
1	Single-Family Residence	101	SE	28
2	Single-Family Residence	206	SE	28
3	Single-Family Residence	285	SE	28
4	Single-Family Residence	95	SE	28
5	Single-Family Residence	104	SE	28
6	Single-Family Residence	104	SE	28
7	Single-Family Residence	115	SE	28
8	Single-Family Residence	232	SE	4
9	Single-Family Residence	247	SE	4
10	Single-Family Residence	115	SE	4
11	Single-Family Residence	179	SE	4
12	Single-Family Residence	151	S	4
13	Single-Family Residence	232	SE	4
14	Single-Family Residence	279	SE	4
15	Single-Family Residence	301	SE	4
16	Single-Family Residence	247	S	4
17	Single-Family Residence	244	S	4
18	Single-Family Residence	291	S	4
19	Single-Family Residence	120	SW	4

Table 5-7: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route F

Link Combination: 28-4-6-8-10-11-13-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
20	Single-Family Residence	231	SW	4
21	Single-Family Residence	298	SW	4
22	Single-Family Residence	118	SW	4
23	Single-Family Residence	163	SW	4
24	Single-Family Residence	214	SW	4
25	Single-Family Residence	262	SW	4
26	Single-Family Residence	102	SW	4
27	Single-Family Residence	161	SW	4
28	Single-Family Residence	212	SW	4
29	Single-Family Residence	279	SW	4
30	Single-Family Residence	138	SW	4
31	Single-Family Residence	172	SW	4
32	Single-Family Residence	311	SW	4
33	Single-Family Residence	319	SW	4
34	Single-Family Residence	120	SW	4
35	Single-Family Residence	117	SW	4
36	Single-Family Residence	288	SW	4
37	Single-Family Residence	228	SW	4
38	Single-Family Residence	117	SW	4
39	Commercial/Industrial	145	SW	4
43	Single-Family Residence	158	SE	8
44	Single-Family Residence	212	SE	8
45	Single-Family Residence	304	SE	8
46	Single-Family Residence	107	SE	8
47	Single-Family Residence	209	SE	8
48	Single-Family Residence	252	SE	8
49	Single-Family Residence	319	SE	8
50	Single-Family Residence	108	SE	8
51	Single-Family Residence	226	SE	8
52	Single-Family Residence	317	SE	8
53	Single-Family Residence	288	SE	8

Table 5-7: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route F

Link Combination: 28-4-6-8-10-11-13-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
54	Single-Family Residence	134	SE	8
55	Commercial/Industrial	199	NW	8
56	Commercial/Industrial	74	N	8
57	Single-Family Residence	209	SE	8
58	Single-Family Residence	279	SE	8
59	Single-Family Residence	314	SE	8
60	Commercial/Industrial	73	S	8
61	Single-Family Residence	184	S	8
62	Single-Family Residence	217	SE	8
63	Single-Family Residence	265	SE	8
64	Single-Family Residence	303	SE	8
94	Single-Family Residence	160	SE	13
96	Single-Family Residence	234	S	13
97	Single-Family Residence	231	SW	31
98	Single-Family Residence	136	SW	31
99	Single-Family Residence	231	SW	31
100	Single-Family Residence	171	SW	31
101	Single-Family Residence	197	SW	31
102	Single-Family Residence	216	SW	31
103	Single-Family Residence	212	SW	31
104	Single-Family Residence	144	SW	31
105	Single-Family Residence	42	NE	31
106	Single-Family Residence	181	SW	31
107	Single-Family Residence	171	SW	32
108	Single-Family Residence	195	SW	32
109	Single-Family Residence	85	SW	32
110	Single-Family Residence	191	SW	32
111	Single-Family Residence	194	SW	32
112	Single-Family Residence	202	SW	33
113	Single-Family Residence	188	SW	33
114	Single-Family Residence	214	SW	33

Table 5-7: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route F

Link Combination: 28-4-6-8-10-11-13-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
115	Single-Family Residence	227	SW	33
116	Single-Family Residence	125	NE	33
200	Communication Tower	1,045	SE	28
201	Communication Tower	1,583	S	4
202	Communication Tower	846	S	13
300	AM Tower	9,313	E	28
400	Magee Private Airstrip	4,562	SW	34

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-8: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route G

Link Combination: 28-4-6-8-10-14-15-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
1	Single-Family Residence	101	SE	28
2	Single-Family Residence	206	SE	28
3	Single-Family Residence	285	SE	28
4	Single-Family Residence	95	SE	28
5	Single-Family Residence	104	SE	28
6	Single-Family Residence	104	SE	28
7	Single-Family Residence	115	SE	28
8	Single-Family Residence	232	SE	4
9	Single-Family Residence	247	SE	4
10	Single-Family Residence	115	SE	4
11	Single-Family Residence	179	SE	4
12	Single-Family Residence	151	S	4
13	Single-Family Residence	232	SE	4
14	Single-Family Residence	279	SE	4

Table 5-8: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route G

Link Combination: 28-4-6-8-10-14-15-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
15	Single-Family Residence	301	SE	4
16	Single-Family Residence	247	S	4
17	Single-Family Residence	244	S	4
18	Single-Family Residence	291	S	4
19	Single-Family Residence	120	SW	4
20	Single-Family Residence	231	SW	4
21	Single-Family Residence	298	SW	4
22	Single-Family Residence	118	SW	4
23	Single-Family Residence	163	SW	4
24	Single-Family Residence	214	SW	4
25	Single-Family Residence	262	SW	4
26	Single-Family Residence	102	SW	4
27	Single-Family Residence	161	SW	4
28	Single-Family Residence	212	SW	4
29	Single-Family Residence	279	SW	4
30	Single-Family Residence	138	SW	4
31	Single-Family Residence	172	SW	4
32	Single-Family Residence	311	SW	4
33	Single-Family Residence	319	SW	4
34	Single-Family Residence	120	SW	4
35	Single-Family Residence	117	SW	4
36	Single-Family Residence	288	SW	4
37	Single-Family Residence	228	SW	4
38	Single-Family Residence	117	SW	4
39	Commercial/Industrial	145	SW	4
43	Single-Family Residence	158	SE	8
44	Single-Family Residence	212	SE	8
45	Single-Family Residence	304	SE	8
46	Single-Family Residence	107	SE	8
47	Single-Family Residence	209	SE	8
48	Single-Family Residence	252	SE	8

Table 5-8: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route G

Link Combination: 28-4-6-8-10-14-15-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
49	Single-Family Residence	319	SE	8
50	Single-Family Residence	108	SE	8
51	Single-Family Residence	226	SE	8
52	Single-Family Residence	317	SE	8
53	Single-Family Residence	288	SE	8
54	Single-Family Residence	134	SE	8
55	Commercial/Industrial	199	NW	8
56	Commercial/Industrial	74	N	8
57	Single-Family Residence	209	SE	8
58	Single-Family Residence	279	SE	8
59	Single-Family Residence	314	SE	8
60	Commercial/Industrial	73	S	8
61	Single-Family Residence	184	S	8
62	Single-Family Residence	217	SE	8
63	Single-Family Residence	265	SE	8
64	Single-Family Residence	303	SE	8
104	Single-Family Residence	199	S	15
105	Single-Family Residence	161	SE	15
106	Single-Family Residence	183	SW	15
107	Single-Family Residence	171	SW	32
108	Single-Family Residence	195	SW	32
109	Single-Family Residence	85	SW	32
110	Single-Family Residence	191	SW	32
111	Single-Family Residence	194	SW	32
112	Single-Family Residence	202	SW	33
113	Single-Family Residence	188	SW	33
114	Single-Family Residence	214	SW	33
115	Single-Family Residence	227	SW	33
116	Single-Family Residence	125	NE	33
124	Multi-Family Residence	299	NW	15
125	Multi-Family Residence	253	N	15

Table 5-8: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route G

Link Combination: 28-4-6-8-10-14-15-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
126	Multi-Family Residence	102	NE	14
127	Multi-Family Residence	250	NE	14
128	Multi-Family Residence	250	NE	14
129	Multi-Family Residence	252	NE	14
130	Multi-Family Residence	97	NE	14
131	Single-Family Residence	123	SW	14
132	Multi-Family Residence	101	NE	14
200	Communication Tower	1,045	SE	28
201	Communication Tower	1,583	S	4
202	Communication Tower	1,771	SE	15
300	AM Tower	9,313	E	28
400	Magee Private Airstrip	4,562	SW	34

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-9: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route H

Link Combination: 3-6-8-10-14-16-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
39	Commercial/Industrial	188	SE	6
43	Single-Family Residence	158	SE	8
44	Single-Family Residence	212	SE	8
45	Single-Family Residence	304	SE	8
46	Single-Family Residence	107	SE	8
47	Single-Family Residence	209	SE	8
48	Single-Family Residence	252	SE	8
49	Single-Family Residence	319	SE	8
50	Single-Family Residence	108	SE	8

Table 5-9: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route H

Link Combination: 3-6-8-10-14-16-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
51	Single-Family Residence	226	SE	8
52	Single-Family Residence	317	SE	8
53	Single-Family Residence	288	SE	8
54	Single-Family Residence	134	SE	8
55	Commercial/Industrial	199	NW	8
56	Commercial/Industrial	74	N	8
57	Single-Family Residence	209	SE	8
58	Single-Family Residence	279	SE	8
59	Single-Family Residence	314	SE	8
60	Commercial/Industrial	73	S	8
61	Single-Family Residence	184	S	8
62	Single-Family Residence	217	SE	8
63	Single-Family Residence	265	SE	8
64	Single-Family Residence	303	SE	8
110	Single-Family Residence	311	SE	16
111	Single-Family Residence	219	S	16
112	Single-Family Residence	202	SW	33
113	Single-Family Residence	188	SW	33
114	Single-Family Residence	214	SW	33
115	Single-Family Residence	227	SW	33
116	Single-Family Residence	125	NE	33
117	Single-Family Residence	108	SE	16
118	Single-Family Residence	173	SE	16
119	Multi-Family Residence	124	NW	16
120	Multi-Family Residence	229	N	16
121	Multi-Family Residence	132	NE	16
122	Multi-Family Residence	120	NE	16
123	Multi-Family Residence	66	NE	16
124	Multi-Family Residence	163	NE	16
125	Multi-Family Residence	228	NE	16
126	Multi-Family Residence	102	NE	16

Table 5-9: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route H

Link Combination: 3-6-8-10-14-16-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
127	Multi-Family Residence	250	NE	14
128	Multi-Family Residence	250	NE	14
129	Multi-Family Residence	252	NE	14
130	Multi-Family Residence	97	NE	14
131	Single-Family Residence	123	SW	14
132	Multi-Family Residence	101	NE	14
200	Communication Tower	1235	SE	3
201	Communication Tower	1989	SE	8
202	Communication Tower	1773	S	14
300	AM Tower	9,313	E	3
400	Magee Private Airstrip	4,562	SW	34

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-10: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route I

Link Combination: 3-6-8-10-11-13-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
39	Commercial/Industrial	188	SE	6
43	Single-Family Residence	158	SE	8
44	Single-Family Residence	212	SE	8
45	Single-Family Residence	304	SE	8
46	Single-Family Residence	107	SE	8
47	Single-Family Residence	209	SE	8
48	Single-Family Residence	252	SE	8
49	Single-Family Residence	319	SE	8
50	Single-Family Residence	108	SE	8
51	Single-Family Residence	226	SE	8

Table 5-10: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route I

Link Combination: 3-6-8-10-11-13-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
52	Single-Family Residence	317	SE	8
53	Single-Family Residence	288	SE	8
54	Single-Family Residence	134	SE	8
55	Commercial/Industrial	199	NW	8
56	Commercial/Industrial	74	N	8
57	Single-Family Residence	209	SE	8
58	Single-Family Residence	279	SE	8
59	Single-Family Residence	314	SE	8
60	Commercial/Industrial	73	S	8
61	Single-Family Residence	184	S	8
62	Single-Family Residence	217	SE	8
63	Single-Family Residence	265	SE	8
64	Single-Family Residence	303	SE	8
94	Single-Family Residence	160	SE	13
96	Single-Family Residence	234	S	13
97	Single-Family Residence	231	SW	31
98	Single-Family Residence	136	SW	31
99	Single-Family Residence	231	SW	31
100	Single-Family Residence	171	SW	31
101	Single-Family Residence	197	SW	31
102	Single-Family Residence	216	SW	31
103	Single-Family Residence	212	SW	31
104	Single-Family Residence	144	SW	31
105	Single-Family Residence	42	NE	31
106	Single-Family Residence	181	SW	31
107	Single-Family Residence	171	SW	32
108	Single-Family Residence	195	SW	32
109	Single-Family Residence	85	SW	32
110	Single-Family Residence	191	SW	32
111	Single-Family Residence	194	SW	32
112	Single-Family Residence	202	SW	33

Table 5-10: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route I

Link Combination: 3-6-8-10-11-13-31-32-33-34				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
113	Single-Family Residence	188	SW	33
114	Single-Family Residence	214	SW	33
115	Single-Family Residence	227	SW	33
116	Single-Family Residence	125	NE	33
200	Communication Tower	1,235	SE	3
201	Communication Tower	1,989	SE	8
202	Communication Tower	846	S	13
300	AM Tower	9,313	E	3
400	Magee Private Airstrip	4,562	SW	34

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-11: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route J

Link Combination: 3-6-7-17-20-22-35-24-26-27				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
39	Commercial/Industrial	188	SE	6
40	Single-Family Residence	135	NE	7
41	Single-Family Residence	62	NE	7
42	Commercial/Industrial	306	SW	7
116	Single-Family Residence	287	SE	27
200	Communication Tower	1,235	SE	3
300	AM Tower	9,313	E	3
400	Magee Private Airstrip	4,562	SW	27
-	Archeological Site 41SP179	135	NE	-

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

Table 5-12: Habitable Structures and Other Land Use Features in the Vicinity of Alternative Route K

Link Combination: 3-5-20-22-35-24-26-27				
Feature ID Number[a]	**Structure/Feature**	**Distance from Centerline[b] (feet)**	**Direction**	**Nearest Alternative Link[c]**
39	Commercial/Industrial	246	S	3
116	Single-Family Residence	287	SE	27
200	Communication Tower	1,235	SE	3
300	AM Tower	9,313	E	3
400	Magee Private Airstrip	4,562	SW	27
-	Archeological Site 41SP179	135	NE	-

(a) All land use features are located on Figures C-1 and C-2 (map pockets).
(b) Due to the potential horizontal inaccuracies of the aerial photography and data utilized, all habitable structures within 320 feet have been identified.
(c) For protection, sensitive cultural resource sites are not shown on Figures C-1 and C-2 and the nearest Alternative Link is not provided.

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6.0 LIST OF PREPARERS

This Environmental Assessment was prepared for the Company by POWER. The Company provided information in Section 1.0. Below is a list of the Consultant's employees with primary responsibilities for the preparation of this document.

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APPENDIX A - AGENCY CORRESPONDENCE