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## 2.2 LAND

This section describes the land characteristics of the Units 6 & 7 plant area, the Turkey Point plant property, and vicinity; transmission corridors and offsite areas; and the region. Land use impacts are presented in [Sections 4.1](#) and [5.1](#).

### 2.2.1 THE SITE AND VICINITY

#### 2.2.1.1 The Site

##### 2.2.1.1.1 Turkey Point Plant Property

Units 6 & 7 would be collocated with two natural gas/oil steam electric generating units (Units 1 & 2), two pressurized water reactor nuclear units (Units 3 & 4), and one natural gas combined-cycle steam electric generating unit (Unit 5) on the approximately 9400-acre Turkey Point plant property located in unincorporated Miami-Dade County, Florida. The location of the Turkey Point plant property in relation to Biscayne Bay, Card Sound, and the Atlantic Ocean is shown in [Figures 2.1-3](#) and [2.1-4](#). [Figure 2.2-4](#) shows the 50-mile region. [Figure 2.2-1](#) shows the location of the Turkey Point plant property boundary.

FPL is the owner of Units 1 through 5 and would be the owner of Units 6 & 7. All five existing units lie in the developed area of the Turkey Point plant property. Units 6 & 7 would be located in a previously undeveloped area of the plant property, south of Units 3 & 4. FPL directs land management activities for the Turkey Point plant property and is the NRC-licensed operator for Units 3 & 4. FPL would be the NRC-licensed operator for Units 6 & 7.

The Units 6 & 7 power blocks and associated infrastructure including mechanical draft cooling towers, makeup water reservoir, deep injection wells, substation, etc. would be located on an approximately 218-acre portion of the Turkey Point plant property, called the Units 6 & 7 plant area. The Units 6 & 7 plant area is south of Units 3 & 4 and is completely encircled by cooling canals of the industrial wastewater facility ([Figure 2.2-1](#)). Units 3 & 4 are south of Units 1 & 2. Unit 5 is located northwest of Units 1 & 2. The South Florida Water Management District Canal L-31E lies west of the Turkey Point plant property.

FPL owns all (Note: SFMWD L-31E Canal and certain roads within the property boundary are not owned by FPL) of the property within the Turkey Point plant property boundary, including the entire exclusion area, subject to certain encumbrances on portions of property within the exclusion area, specifically, certain canal, drainage, reclamation, oil, gas and mineral rights reservations held by the Trustees of the Internal Improvement Fund of the State of Florida and a canal reservation held by Miami-Dade County. Also, a small parcel of submerged land in the southeast and south-southeast portions of the exclusion area is located in the Biscayne Bay waterway. With the exception of the described submerged land, the site boundary entirely



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encompasses the designated exclusion area for Units 6 & 7. Because of the location of the submerged land, this portion of the exclusion cannot be reasonably accessed except through FPL property.

Units 1–4 use the cooling canals of the industrial wastewater facility, located south and southwest of the existing units, to cool heated noncontact water (water used for cooling that does not come into direct contact with any raw material, product, by-product, or waste) and to recirculate water for reuse. Unit 5 uses cooling towers for system cooling and releases blowdown water to the industrial wastewater facility. The industrial wastewater facility is an integral part of the existing units design and is not a water of the United States or the state. The industrial wastewater facility occupies an area of approximately 5900 acres, and contains 39 canals (32 discharge and 7 return). The canals are shallow, generally 1 to 3 feet deep, with the exception of the grand canal (main return canal), north discharge canal, south collector canal, and the east return canal, all of which extend to a depth of elevation (North American Vertical Datum [NAVD] 88) –18 feet. The canals undergo routine maintenance including removal of aquatic vegetation to minimize flow restriction and maintenance of the berms.

The Turkey Point plant property is located on the shore of Biscayne Bay, in an unincorporated area of Miami-Dade County, Florida, approximately 8 miles east of Florida City, 4.5 miles southeast of the municipal limits of Homestead, and 25 miles south of Miami. Most of Miami-Dade County is within 50 miles of the Units 6 & 7 plant area, as well as portions of Monroe County, Broward County, and Collier County (Figure 2.1-4).

The plant property, including the approximately 2- by 5-mile closed loop industrial wastewater facility, is located in portions of Sections 27–34 of Township 57S, Range 40E, and all of Sections 4, 9, 16-17, 20-21 and portions of Sections 5, 7-8, 18-19, and 28–30 of Township 58S, Range 40E. Units 6 & 7 would be located in portions of Sections 33 and 34 of Township 57S, Range 40E. The centerpoint of the Unit 6 reactor would be located at 25.424186 N latitude and -80.331961 W longitude (see Figure 2.1-1), using a geographic reference system of decimal degrees, North American Datum 1983 (NAD83); the centerpoint of the Unit 7 reactor would be located at 25.424186 N latitude and -80.334536 W longitude (Figure 2.1-1).

The only existing public access to the plant property is via SW 344th Street/Palm Drive. Palm Drive is a two-lane road for approximately one-half of its length from the plant to Florida City. Palm Drive intersects U.S. Highway 1 in Florida City, approximately 9 miles from the plant. Both Palm Drive and U.S. Highway 1 are four-lane roads in the area of intersection. Palm Drive narrows to two lanes at SW 137th Avenue/Speedway Boulevard.

The plant property is on the shore of Biscayne Bay with several miles of the shoreline north and east of the property that includes the Biscayne Bay Aquatic Preserve and the Biscayne National Park. The Biscayne National Park headquarters is located approximately 2.3 miles north of

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Units 6 & 7, adjacent to the Metropolitan Miami-Dade County Homestead Bayfront Park. The Everglades National Park is approximately 10 miles southwest of the plant property. Mangrove Point forms the dividing line between Biscayne Bay and Card Sound. The northern half of Mangrove Point is part of Biscayne National Park, and the southern half is state-owned. Land south and west of the Turkey Point plant property is the FPL-owned Everglades Mitigation Bank (EMB), comprised of approximately 13,000 acres of relatively undisturbed freshwater and estuarine wetlands. A mitigation bank is a wetland area that is created, restored, or enhanced for the purpose of providing compensatory mitigation of wetland losses elsewhere.

The plant property is located adjacent to Biscayne Bay and the Intracoastal Waterway, a 3000-mile waterway along the Atlantic and Gulf coasts of the United States. Some lengths of the coastline consist of natural inlets, saltwater rivers, bays, and sounds; others are man-made canals. Barge access is provided by an existing channel across Biscayne Bay for the delivery of heavy equipment and fuel oil.

A natural gas pipeline serving Units 1, 2, and 5, owned and operated by Florida Gas Transmission Company, LLC, terminates at Unit 5.

Figure 2.2-2 and Table 2.2-1 identify the current Florida Land Use, Cover, and Forms Classification System (FLUCCS) land use/land cover within the 9400-acre Turkey Point plant property. The classification data was generated as part of the Land Cover/Land Use 2004-05 Mapping Update Project by the South Florida Water Management District (SFWMD). Data used in this figure and table show the Level 3 FLUCCS classification coding.

#### 2.2.1.1.2 Units 6 & 7 Plant Area

The Units 6 & 7 plant area is an approximately 218-acre island that is a sparsely vegetated, hypersaline mudflat, partially buffered from tidal influence by cooling canals that encircle the plant area (Figure 2.4-2). The industrial wastewater facility isolates the plant area from normal access. A bridge located southeast of the Land Utilization building provides access to the Units 6 & 7 plant area. The cooling canals encircling the plant area are deep, primary return, water canals leading to the Units 1-4 cooling water intakes.

The Units 6 & 7 plant area is located outside of the 100-year floodplain, with an existing elevation of -2.4 to 0.8 feet (NAVD 88) and is generally flat. The eastern margins of the plant area slope gently to the return canal on the east perimeter, which is separated from Biscayne Bay by a 15 foot-high berm. The perimeter berms, along the west and north margins of the plant area, range in height from approximately 3 to 15 feet above natural ground surface. A berm is not present between the plant area and the eastern return canal, permitting inundation and sheetflow across the plant area when water levels rise in the cooling canals of the industrial wastewater

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facility. There are two remnant canals that cross the plant area from east to west; these remnant canals would be eliminated during construction of Units 6 & 7.

An ecological assessment of the Units 6 & 7 plant area and other areas on the Turkey Point plant property was conducted in 2008 to characterize the areas, including habitat description and surveys for threatened, endangered, and candidate species and species of special concern (state). The results of the characterization are described below in general terms, with a more complete ecological description provided in [Section 2.4](#). Wetlands are the primary habitat types and non-wetland habitats make up the remainder.

Wetland habitats within the Units 6 & 7 plant area and adjacent laydown area include mudflats (188 acres), remnant and active canals (25 acres), dwarf mangrove (17 acres), open water (12 acres), mangrove heads (12 acres), and wetland spoil areas (10 acres) ([Figure 2.4-2](#)). Encircled by canals, the sparsely vegetated mudflats are inundated by water 3 to 4 months out of the year and a few hardy plant species, including saltwort, sea oxeye daisies, wood glasswort, and dwarf glasswort that can tolerate these conditions persist. Dwarf mangrove habitats contain the three locally abundant mangrove species, predominantly red mangrove with a few white and black mangrove, but the trees are stunted by high salinities and fluctuating water levels. The mangroves are located within the open water area on the western edge of the adjacent laydown area. The open water area joins the upper end of the cooling canals of the industrial wastewater facility. Harsh conditions in the open water area limit submerged aquatic vegetation to scattered patches of two seagrass species, widgeon grass and shoal grass. Mangrove heads, remnants of the original tidal creeks, contain primarily red mangrove, but white mangrove and black mangrove are also present. The connection between these creeks and Biscayne Bay were severed during construction of the cooling canals. Wetland spoil areas adjacent to the remnant canals are typically occupied by Australian pine, buttonwood, and mangrove.

Non-wetland areas within the Units 6 & 7 plant area and the adjacent laydown area to the west include approximately 20 acres of fill area/roadway habitat and approximately 8 acres of upland spoil piles ([Figure 2.4-2](#)). The former are limerock aggregate uplands filled for construction of access roads, parking areas, and research facilities. These areas are dominated by maintained grasses with wetland edges containing Brazilian pepper, buttonwood, and assorted herbaceous plants. Upland spoil piles were formed with spoil from the canal dredging operation. The vegetation in these areas is dominated by exotic species such as Brazilian pepper and Australian pine, as well as poisonwood, buttonwood, wild sage, ground orchid, and sea grape.

[Figure 2.2-1](#) shows the location of the Turkey Point plant property boundary. [Figure 2.2-3](#) shows the location of the exclusion area boundary (EAB) for Units 6 & 7 in relationship to the existing EAB for Units 3 & 4 (2009 acres) and the combined EAB (2070 acres) for all units. [Table 2.7-12](#) identifies the distance to the EAB from the Units 6 & 7 power block area in each of the 16 major compass directions. These distances were calculated to model potential dispersion effects from

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plant operations to offsite areas ([Section 2.7](#)). The minimum distance to the EAB is 1427 feet in the northeast direction.

There are no public roads, railroads or waterways within the EAB. There are no domestic residences within the plant property boundary, nor are there any residences within two miles of Units 6 & 7.

#### 2.2.1.1.3 Other Areas

Additional facilities associated with Units 6 & 7 would be located outside of the Units 6 & 7 plant area but on the Turkey Point plant property including the FPL reclaimed water treatment facility and reclaimed water pipelines, radial collector wells and pipelines, nuclear administration and training buildings, parking areas, laydown areas, expanded equipment barge unloading area, security buildings, access and heavy haul roads, spoils areas, transmission infrastructure, and potable water supply pipelines. The locations of these facilities are presented in [Figure 3.9-1](#).

- An FPL reclaimed water treatment facility would be constructed on approximately 44 acres of sawgrass marsh, dwarf mangroves, upland Australian pine, excavated canals, and exotic wetland hardwoods-Australian pine located at the northwest corner of the plant property between SW 344th Street/Palm Drive and the L-31E Canal.
- Four radial collector well caissons would be installed on the Turkey Point peninsula, east of the existing units, with laterals drilled horizontally in the subsurface beneath the floor of Biscayne Bay. The radial collector well water supply pipelines would be routed west from the caissons and south to the Units 6 & 7 cooling towers along the eastern side of the plant area.
- An approximate 32-acre area for location of a nuclear administration building, training building, and a parking area would be located on two adjacent parcels of land immediately north of the Units 6 & 7 plant area. These parcels of land are comprised of a variety of land cover types, the majority land cover being mangrove swamps. Two smaller laydown areas, totaling approximately one acre, would be located on paved areas within the existing facilities area of the plant property.
- The existing barge turning basin located at Turkey Point connects Biscayne Bay to the Turkey Point plant property and would be used for Units 6 & 7 plant module and component delivery, the transport of which is planned to be accomplished by barge. The barge turning basin is a dead-end canal approximately 300 feet wide, 1200 feet long, and 18 feet deep. The turning basin, constructed in 1979 for transport of major equipment to the existing units, was designed to allow for the maneuvering of major equipment barges within the basin and not in the bay or the bay channel. The turning basin is currently used for fuel deliveries for Units 1 & 2. Water depths in the entrance channel to the turning basin are between 8 and 12 feet. The

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near shore shallow areas outside of the channel are generally less than 5 feet deep. The only flushing that occurs in the basin is from slight tidal action and rare westerly winds.

Fuel oil is delivered to the existing units by barge and tug from a fuel oil terminal at the Port of Miami on Dodge Island. The barge route is via the Intracoastal Waterway through Biscayne Bay using the existing barge channel. The barge channel is approximately 3.4 miles long and 90 feet wide with a depth of –11 feet NAVD (–9.37 feet mean low water) or more for the majority of its length. The fuel deliveries are currently made to the fuel oil unloading area near the head of the turning basin (southwest of the equipment barge unloading area; [Figure 3.9-1](#)) and would continue during the period of Units 6 & 7 module and component delivery; current fuel oil deliveries are typically 5–7 deliveries per week.

For each new unit, there would be approximately 80 round-trip barge deliveries of modules over an approximate six-year duration. The existing equipment barge unloading area, located on the north side of the turning basin ([Figure 3.9-1 \[Sheet 1\]](#)), would be extended landward to approximately 90 feet by 150 feet (0.31 acres) and 9 feet deep, with a total disturbed area, including concrete apron, of 130 feet by 250 feet (0.75 acres) to facilitate heavy equipment and component unloading for construction of Units 6 & 7.

- The existing heavy haul road, originating at the equipment barge unloading area, would be improved and terminate at three locations at the Units 6 & 7 plant area, to facilitate unloading plant modules and components. The road from the equipment barge unloading area to the Units 6 & 7 plant area would be approximately 2 miles long and 24 feet wide. The road would start at the equipment barge unloading area and extend generally west between and around Unit 5 and Units 1 & 2. The road would then extend generally south and cross over two new heavy haul bridges, one at the main cooling discharge canal and the other at the main cooling return canal. The heavy haul road would then terminate at three locations of the plant area.
- A new entrance to the Turkey Point plant property would be constructed for access to Units 6 & 7, beginning with onsite construction activities. The new entrance would be SW 359th Street. The existing SW 359th Street and the existing service road at the northern end of the cooling canals/industrial wastewater facility would be joined by a new road segment, and improved to four lanes, two eastbound and two westbound, and a bridge constructed over the L-31E canal to handle the traffic to and from Units 6 & 7. The SW 359th Street improvements would extend offsite from the Turkey Point plant property westward to connect to SW 117th Avenue and SW 137th Avenue/Tallahassee Road that would also be improved.
- Spoils areas would be established on the Turkey Point plant property south of the Units 6 & 7 plant area to allow dewatering of materials during construction of Units 6 & 7 from activities such as clearing, grubbing, and excavation. Three separate spoils areas, denoted as "A," "B,"

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and "C" would be established at the southern end of the industrial wastewater facility. Spoils areas "A" and "C" would be located on the western and eastern side of the main return canal, respectively, and each pile would be 4.6 to 5 miles long. Spoils area "B" would be established at the southern end of the industrial wastewater facility and would be approximately 1.8 miles in length. The total area for spoils area "A," "B," and "C" would be approximately 77 acres, 18 acres, and 116 acres, respectively, resulting in a total spoils capacity of approximately 2 million cubic yards. The estimated height of the spoils pile will be determined after the spoils storage area has been surveyed and final dirt road width for the berms has been established. It is anticipated that the final spoils elevation will be approximately 16–20 feet NAVD 88.

- Existing transmission infrastructure on the Turkey Point plant property would be expanded to include: construction of the new 500/230 kV Clear Sky substation; construction of a single-circuit 230 kV transmission line between Clear Sky substation and the existing Turkey Point substation and six 230 kV underground connections with the new Units 6 & 7 transformers; and construction of the onsite portions of the new transmission lines from Clear Sky substation to the Levee and Pennsuco substations in the proposed West Corridor and from Clear Sky substation to the existing Davis substation, and then on to the Miami substation in the proposed East Corridor. Improvements at the Turkey Point substation would include a 0.9-acre expansion of the substation site to accommodate a new bay with two new 230 kV line terminals and enlargement of the existing relay vault building.
- Potable water pipelines, approximately 10 miles long, would be constructed to supply potable water for Units 6 & 7. The new water pipelines would deliver potable water from the Miami-Dade County Water and Sewer Department potable water source facility to the Units 6 & 7 plant area. Routing for the pipelines is identified in [Figure 3.9-1](#). The pipelines would enter the Turkey Point plant property at the intersection of SW 117th Avenue and SW 359th Street, following the new four-lane SW 359th Street to a position on the plant property and then south to Units 6 & 7.

Other supporting infrastructure for Units 6 & 7, including an FPL-owned fill source, transmission lines and expanded substations, portions of the reclaimed water and potable water pipelines, and access roads, would be located offsite of the Turkey Point plant property and are discussed in [Subsection 2.2.2](#).

#### 2.2.1.1.4 Land Use

Laws adopted during 1984-1986 established Florida's growth management system, including adoption of a state comprehensive plan. The laws also required regional planning councils to prepare and adopt comprehensive regional policy plans consistent with the state comprehensive plan. Miami-Dade, Broward, and Monroe Counties are included in the South Florida Regional Planning Council, which works with the regional community to identify issues and opportunities

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that are regional in scope and create implementing strategies to achieve the desired future. The *Strategic Regional Policy Plan for South Florida* (SFRPC 2004) is the policy document that guides all of the Council's activities.

The Local Government Comprehensive Planning and Land Development Regulation Act (Chapter 163, Part II, Florida Statutes), also known as Florida's Growth Management Act, requires all of Florida's 67 counties and 410 municipalities to adopt local government comprehensive plans that guide future growth and development. The comprehensive plans contain chapters or "elements" that address future land use, housing, transportation, infrastructure, coastal management, conservation, recreation and open space, intergovernmental coordination, and capital improvements. A key component of the Act is its "concurrency" provision that requires facilities and services to be available concurrent with the impacts of development. The Act mandates that specific level of service standards for traffic, mass transit, parks, water, sewer, solid waste, and drainage be included in local comprehensive plans and that no development orders be issued when the adopted levels of service would not be met. The Act also requires consistency between the local plan, the applicable regional plan, and the state comprehensive plan, and all development regulations and orders must be consistent with the adopted local comprehensive plan.

Florida's Growth Management Act authorizes the Florida Department of Community Affairs, Division of Community Planning, to review comprehensive plans and plan amendments for compliance with the Act. Other review agencies, including the regional planning councils, water management districts, the Departments of State, Transportation, Environmental Protection, and Agriculture and Consumer Services, and the Florida Fish and Wildlife Conservation Commission, also review comprehensive plans and amendments and issue recommended objections. Local governments may amend their comprehensive plans twice per year.

Effective comprehensive planning has been a central focus of the Miami-Dade County government from its formation. The power to "prepare and enforce comprehensive plans for the development of the county" was one of 24 specified in the County Charter and a Department of Planning is one of the four departments required by it. Miami-Dade County developed its first land use plan in 1965 and has since enacted a series of increasingly more refined growth management plans and procedures.

The Miami-Dade County Comprehensive Development Master Plan (CDMP; MDC 2009) is adopted by ordinance by the Board of County Commissioners. This ordinance is codified at Chapter 12-114, Code of Miami-Dade County, Florida. The CDMP for Miami-Dade County, which is usually revised twice yearly, necessarily addresses both incorporated and unincorporated areas due to the many area-wide responsibilities of County government. Each of the 34 municipalities in Miami-Dade County is also required by Florida's Growth Management Act to adopt its own comprehensive plan for the area within its jurisdiction. The County CDMP



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emphasizes the regulation of land development in the unincorporated areas and the County's jurisdictional responsibilities in municipal areas.

The Miami-Dade County CDMP is organized into eleven Plan Elements preceded by a statement of legislative intent: Land Use; Housing; Conservation; Aquifer Recharge and Drainage; Water, Sewer, and Solid Waste; Recreation and Open Space; Coastal Management; Intergovernmental Coordination; Capital Improvements; Educational; and Economic.

Miami-Dade County has more than 2000 square miles of land, of which almost 500 square miles have been developed for urban uses. The county-wide land use plan broadly defines land use categories, with the smallest distinguishable area of the land use map set at 5 acres. The land use portion of the CDMP includes a map for 2015-2025, which visually shows recommended future land uses by major categories, each of which is interpreted locally through zoning designations.

The Miami-Dade County CDMP has designated the location of Turkey Point, including the location of Units 6 & 7, as Environmental Protection Subarea F (Coastal Wetlands and Hammocks). These areas are low-lying, flood-prone, and characterized predominantly by coastal wetland communities. Accordingly, land use or site alteration proposals would be carefully evaluated case by case by federal, state, regional, and county agencies. In addition, necessary electrical generation and transmission facilities are permitted in this area. The approval of any new use, and the replacement or expansion of any existing use, would be conditioned upon its demonstrated consistency with the CDMP's adopted goals, objectives, and policies, and conformity with prevailing environmental regulations (MDC 2009).

All of Miami-Dade County is zoned, including the unincorporated portion of the county. According to the Miami-Dade County CDMP map, Units 1–5 have a future land use category which allows a full range of institutions, communications, and utilities. The Units 6 & 7 plant area is zoned as Interim District (GU). Nuclear reactors are a permitted use in this district with the approval of an Unusual Use by Miami-Dade County, as described below (MDC 2009).

After consultations with Miami-Dade County and its various agencies concerning application number Z07-207, the county's Developmental Impact Committee Executive Council issued its recommendation by concluding that the construction of two new nuclear reactors, with mitigation measures imposed through conditions of approval, would be consistent with the CDMP. The county issued its decision in 2007 to approve the Unusual Use to permit two new nuclear power stations and the associated facilities as well as the excavation and filling of the Units 6 & 7 plant area. The approval was issued by the Miami-Dade County Board of County Commissioners as Resolution Z-56-07, with identified conditions of approval.



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The NRC Office of Nuclear Reactor Regulation has issued guidance to its staff regarding compliance with the federal Coastal Zone Management Act. This guidance acknowledges that Florida has an approved Coastal Zone Management Program. Units 6 & 7 would be located within the Florida coastal zone.

#### 2.2.1.2 The Vicinity

For the purposes of this environmental report, the vicinity is defined as the area within a 6-mile radius of the centerpoint between Units 6 & 7 (Figure 2.1-3).

The Turkey Point plant property and its immediate environs are located on the Floridan plateau, a partly submerged peninsula of the continental shelf. The topography of the area is flat and rises very gently from sea level to an approximate elevation of 10 feet (NAVD 88) at a point some 8 to 10 miles west of the plant property.

Biscayne Bay is immediately adjacent to the Turkey Point plant property (Figure 2.1-3) and the Units 6 & 7 plant area. To the east, 5 to 8 miles across Biscayne Bay, is a chain of offshore islands, comprising the northern part of the Florida Keys running in a northeast-southwest direction between the bay and the Atlantic Ocean, the largest of which, near the plant property, is Elliott Key. Figure 2.2-4 and Table 2.2-2 identify land use classifications in the vicinity of Turkey Point. The closest incorporated communities are Homestead and Florida City. Florida City is 8 miles west of the plant property and the municipal limits of Homestead are 4.5 miles west of the plant property. The nearest full-time residence is approximately 2.7 miles from the Units 6 & 7 plant area.

Land in the area surrounding the Turkey Point plant property is almost exclusively undeveloped. The FPL-owned EMB is adjacent to most of the western and southern boundaries of the plant property. The South Florida Water Management District Canal L-31E is also located to the west of the plant property. The eastern portions of the Turkey Point plant property are adjacent to the open waters of the Biscayne Bay Aquatic Preserve and Biscayne National Park. The southernmost eastern portion of the plant property is bounded by state-owned land located on Card Sound. Undeveloped land owned by Miami-Dade County is located to the north of the plant property and is part of Biscayne National Park.

There is one state-managed aquatic preserve, a wetlands habitat preserve, two national parks, and a national wildlife refuge in the vicinity of Units 6 & 7. Biscayne Bay Aquatic Preserve is a shallow, subtropical lagoon consisting of three separate areas of Biscayne Bay, located northeast, east, and southeast of the Turkey Point plant property (Figure 2.1-3). The northern part of the Preserve begins just south of Cape Florida on the east and south of Chicken Key on the west. The southern portion is in Card Sound. The Preserve is approximately 69,000 acres of submerged state land that has been designated as an Outstanding Florida Water, Class III. The

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Florida Department of Environmental Protection (FDEP), Office of Coastal and Aquatic Managed Areas manages the Preserve. The Preserve offers recreational and commercial on- and in-water activities, such as boating, water sports, and fishing.

The Model Lands Basin was a Save Our Rivers (SOR) land acquired for conservation by the South Florida Water Management District. The Model Lands are fragmented, with state, local, and private ownership west of the Turkey Point plant property and east of U.S. Highway 1. With the exception of a small segment of Canal L-31E, the closest Model Lands properties are approximately 3 miles from the plant property. The Model Lands Basin is comprised largely of fresh and salt-water wetlands that form a contiguous habitat corridor with the Everglades National Park, the Southern Glades SOR project located further to the southwest, the Biscayne National Park, and other designated lands in Miami-Dade County.

Biscayne National Park is immediately north and east (Figure 2.1-3). The park headquarters building is approximately 2.3 miles north of the Units 6 & 7 plant area. The Biscayne National Park was first established in 1968 as a National Monument and was expanded in 1980 to approximately 173,000 acres of water, coastal lands, and 42 keys. The park fulfills a multi-purpose mission by managing natural and historic resources, advocating responsible stewardship, and enabling visitors to experience scenic vistas and compatible recreational activities. Boating is the most prevalent activity in the park, and recreational and commercial fishing are allowed. Other recreational activities include snorkeling, diving, camping, picnicking, and hiking.

Everglades National Park is approximately 10 miles southwest of the plant property. Everglades National Park consists of 1,509,000 acres, including most of Florida Bay. The Ernest Coe Visitors Center in the park is located approximately 16 miles southwest of Units 6 & 7. The Crocodile Lake National Wildlife Refuge is approximately 10 miles south of the plant property. The Big Cypress National Preserve is approximately 35 miles northwest of the plant property.

Homestead Bayfront Park is located adjacent to Biscayne National Park, within about 1.5 miles of the Units 6 & 7 plant area (Figure 2.1-3). Homestead Bayfront Park is a large recreational park south of the North Canal on Biscayne Bay which also includes a marina.

The Homestead Air Reserve Base is approximately 4.5 miles northwest of the Units 6 & 7 plant area (Figure 2.1-3). The base encompasses 2938 acres. The U.S. Air Force determined that it would make available 717 acres at the base to Miami-Dade County for future mixed economic uses that could include commercial development as well as residential or recreational uses. However, the U.S. Air Force rejected a proposal for a civilian commercial airport at the base.

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The Homestead Miami Speedway is approximately 5 miles northwest of the Units 6 & 7 plant area. The speedway can seat 65,000 people in the grandstands, but has greater overall seating capacity and hosts various motor racing events throughout the year.

Land south and west of the plant property is the FPL-owned Everglades Mitigation Bank (EMB). The EMB comprises approximately 13,000 acres of relatively undisturbed freshwater and estuarine wetlands.

The predominant existing land uses in the immediate area surrounding the Turkey Point plant property are undeveloped land and protected areas (Figure 2.1-3). Land use adjacent to the Units 6 & 7 plant area comprises undeveloped land, Units 1 through 5, a gas pipeline, a potable water pipeline, and electric transmission infrastructure. The industrial wastewater facility is located to the immediate west and south of the Units 6 & 7 plant area.

Current land use within 6 miles of Units 6 & 7 is described in Table 2.2-2. Most of the area south and southwest consists primarily of marshland and glades and contains no resident human population (Figures 2.1-3 and 2.2-4). The area west to northwest within 6 miles of Units 6 & 7 consists primarily of agricultural land (Figure 2.2-4).

The agricultural lands are located to the west, northwest, and north of the plant property within Miami-Dade County. An assessment of soil types in the area of the plant property indicated that no prime farmland, as defined in the Farmland Protection Act (7 U.S.C. Section 4201(b)), occurs on the Turkey Point plant property in the vicinity. In addition, there is no indication of unique farmland in the 6-mile vicinity. Further discussion of agriculture in the four-county region surrounding the Turkey Point plant property is provided in Section 2.3.

The closest population center of 25,000 residents or more, as defined in 10 CFR 100.3, is Homestead (Figure 2.1-4). Homestead had a 2005-2009 census range population of 55,036 (USCB 2010). Homestead's political boundary is approximately 5 miles from Units 6 & 7 at its closest point. However, no resident population exists at this distance from Units 6 & 7. The nearest populated area of Homestead lies approximately 7 miles west of the Turkey Point plant property.

There are no hospitals located within 6 miles of Units 6 & 7. Homestead Hospital is the primary health care provider in the southeast portion of Miami-Dade County and is located approximately 9.6 miles northwest of Units 6 & 7. There are no existing public schools within 5 miles of Units 6 & 7. The closest public school is the Keys Gate Charter School, located approximately 6 miles west of the Units 6 & 7 plant area. There are no prisons within 6 miles of Units 6 & 7.

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The Units 6 & 7 plant area is 10 miles east of the nearest rail line, which is owned by CSX (National Atlas 2008a), and is also located adjacent to a navigable waterway—Biscayne Bay. There is a U.S. Naval Reservation 7 miles southwest of the plant area (National Atlas 2008b).

There are two industrial facilities located within 6 miles of the Units 6 & 7 plant area, the RMC Florida Group Ltd. which mines limestone, and the Homestead Air Reserve Base.

Most of Miami-Dade County is underlain by Miami limestone. An area of past, present, or future mineral extraction is located within 4 miles of the Units 6 & 7 plant area (MDC 2009). There is an active limestone mine 6 miles west of the plant area (the RMC Florida Group Ltd. facility identified above) as well as an abandoned quarry 6 miles north of the plant area (MSHA 2008).

## 2.2.2 TRANSMISSION CORRIDORS AND OFFSITE AREAS

The existing transmission corridors are described in [Subsection 2.2.2.1](#). Proposed transmission lines would be constructed in these corridors and are described in [Subsection 2.2.2.2](#). Other offsite areas required to construct or operate the new units are identified in [Subsections 2.2.2.3 through 2.2.2.6](#). Florida Land Use, Cover, and Forms Classification System (FLUCCS) land use/land cover data (level 3) was used to analyze potential impacts within the transmission corridors.

### 2.2.2.1 Existing Circuits

Existing transmission lines are identified in [Figure 2.2-5](#). There are two 230 kV substations on the Turkey Point plant property—the 1-acre McGregor substation and the approximately 6-acre Turkey Point substation. The McGregor substation is approximately 0.25 miles west of the Turkey Point substation and is connected via one 230 kV circuit.

Seven 230 kV transmission circuits depart from Turkey Point substation and proceed northward to the Davis substation near the town of Three Lakes. These lines are within the Turkey Point-Davis transmission corridor. This corridor is typically 330 feet wide, 19 miles long, and typically contains four sets of transmission line structures. Three of the structure sets carry two outgoing 230 kV circuits each, and the fourth carries a single 230 kV circuit. The first 6 miles of the existing corridor pass through and alongside Biscayne National Park.

Currently, a single transmission circuit is located in the Turkey Point-Levee corridor. This corridor proceeds west, continues for approximately 7 miles, and turns north toward the Levee substation for approximately 16 miles. This corridor is nominally 330 feet wide.

In total, the corridors carrying the eight 230 kV transmission circuits from the Turkey Point plant property extend a distance of approximately 27 miles, and occupy approximately 1111 acres of land. They are contained in Miami-Dade County.

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#### 2.2.2.2 Proposed Circuits

Units 6 & 7 would require new transmission facilities to provide reliable interconnection and integration of approximately 2200 MW of new electricity generation into the FPL transmission system. Existing linear features would generally be followed where available, within two proposed corridors, a West Preferred or Secondary Corridor and an East Preferred Corridor, from the Units 6 & 7 plant area to existing substations (Figure 2.2-5). As depicted in Figure 2.2-5, the first leg of the Western Preferred or Secondary Corridor is the transmission corridor between Clear Sky substation and the initial junction at the Western Preferred or Secondary Corridor split. The second leg is defined as either the Western Preferred or Secondary Corridor option. The third leg is defined as the corridor between the Western Preferred or Secondary Corridor junction and the Levee substation.

Units 6 & 7 would be connected to a new 500/230kV substation known as Clear Sky substation, which would be constructed in the Units 6 & 7 plant area. The connection would be to the 230kV section of the substation via underground transmission facilities. The Clear Sky substation would have two 500 kV transmission lines, approximately 43 miles long, connecting it to the existing Levee 500kV substation in a proposed transmission West Preferred Corridor. A second new 230kV line, approximately 52 miles long, would be constructed in the same West Preferred Corridor between Clear Sky substation and a new 230kV bay position at the existing Pennsuco substation; the line would share the same right-of-way with the two new 500kV lines between Clear Sky and Levee substations.

In addition to the proposed new transmission lines in the West Preferred Corridor, a new 230 kV line, approximately 19 miles long, would be constructed to connect the Clear Sky substation to a new 230 kV bay position at the existing Davis substation in a proposed transmission East Preferred Corridor. In addition, a new 230 kV line, approximately 18 miles long, would be constructed (in a largely collocated existing right-of-way or other linear/transportation corridors) to connect the Davis substation to a new 230 kV bay position at Miami substation.

As described in Chapter 1, routing of the new 500 kV and 230 kV transmission lines requires certification through the Florida Power Plant Siting Act (PPSA) site certification application process. In addition, installation of these lines would require easement acquisition. Various approvals and agency notifications would be required for each of the required transmission lines and would be acquired as part of the PPSA process. Table 2.2-3 summarizes the major land uses along each corridor/option.

#### West Preferred or Secondary Transmission Corridor

The proposed transmission West Corridor includes two options, a West Preferred Corridor option and a West Secondary Corridor option. The proposed West Corridor, with either option, would

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include two 500 kV single-circuit transmission lines connecting the new Clear Sky substation to the existing Levee substation and one 230 kV single-circuit transmission line connecting the Clear Sky substation to the existing Pennsuco substation.

From the Clear Sky substation, the two 500 kV and single 230 kV transmission lines would extend west and north to the Levee substation located in an area of unincorporated Miami-Dade County east of Krome Avenue (SR 997) and north of U.S. Highway 41 (Tamiami Trail). FPL currently has available right-of-way, either in fee or easement, for a significant portion of this distance. The total length of the line to Levee substation would be approximately 43 miles, of which approximately 13 miles would be a proposed relocation (preferred corridor option) of an existing right-of-way (secondary corridor option) partially located within Everglades National Park. The existing Levee substation would be expanded to accommodate the two new 500 kV lines.

The West Preferred corridor between Clear Sky and Levee substation (preferred option), which runs along the eastern boundary of Everglades National Park, has a current land use distribution described in [Table 2.2-3](#). The West Secondary corridor between Clear Sky and Levee substation (secondary option), which runs through Everglades National Park, has a current land use distribution described in [Table 2.2-3](#).

The single 230 kV transmission line (maximum current rating of 2990 amps) would extend from the Clear Sky substation to the Levee substation using the same transmission corridor, but would not connect to but bypass the Levee substation and follow largely an existing 230 kV transmission easement for approximately 8 miles to connect to the existing Pennsuco substation. The Pennsuco substation would be expanded to accommodate the single 230 kV line.

Current land use for the transmission corridor between Levee and Pennsuco substations is shown in [Table 2.2-3](#).

All three transmission lines would be constructed within a single right-of-way of approximately 330 feet in width within either of the proposed West Corridors to the Levee substation. From Levee to Pennsuco, the single 230 kV line would be constructed largely in an existing right-of-way.

Two access-only corridors would be constructed as part of the West Preferred/Secondary Corridor alignments. These corridors would be used to access the transmission corridor and eventual right-of-way. No transmission structures would be built in these access corridors, although access roads or road improvements may be required. The two access corridors are:

- Tamiami Trail Corridor
- Krome Avenue Corridor



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Current land use in the transmission line access corridors (Table 2.2-4) at Tamiami Trail is 2.74 acres of streams and waterways/canals, 3.06 acres of freshwater marshes, and 4.70 acres of roads and highways (Table 2.2-4).

Current land use for the transmission line access corridor at Krome Avenue is 85.33 acres of streams and waterways/canals, 56.81 acres of exotic wetland hardwoods, 143.40 acres of freshwater marshes, and 79.17 acres of roads and highways (Table 2.2-4).

#### East Preferred Transmission Corridor

The proposed East Preferred Corridor would include a single-circuit 230 kV transmission line. This line would provide connection from the Clear Sky substation to the existing Davis substation (maximum current rating of 2990 amps) and then connection from the Davis substation to the existing Miami substation (maximum current rating of 2300 amps), both substations located in Miami-Dade County. The Davis substation is located at the intersection of SW 136th Street and SW 127th Avenue. The Miami substation, located within the city limits of Miami, is at the intersection of SW 2nd Avenue and SW 3rd Street along the Miami River. There would be improvements made to both substations to accommodate the new 230 kV line.

The Clear Sky-Davis portion of the East Preferred Corridor would use an existing, 19-mile-long, multicircuit FPL transmission line right-of-way. This right-of-way has the ability to accommodate the proposed single-circuit 230 kV line without the need for additional right-of-way. However, for a portion of the Davis to Miami corridor, new rights-of-way would be required, but much of the proposed corridor includes existing transportation rights-of-way (e.g., U.S. Route 1, Metrorail). The Davis-Miami portion of the East Preferred Corridor is approximately 18 miles long.

Current land use for the transmission corridor between Clear Sky and Davis substations is shown in Table 2.2-3.

Current land use for the transmission corridor between the Davis and Miami substations is also shown in Table 2.2-3.

Also included as part of the East Preferred Corridor is another single-circuit 230 kV transmission line that would connect the Clear Sky substation to the Turkey Point substation on the plant property (maximum current rating of 2990 amps) that are approximately 0.4 miles apart. Improvements would be made to the Turkey Point substation to accommodate the new 230 kV line from Clear Sky substation.

In some portions of the proposed Davis-Miami transmission line section, it would be collocated with other transmission lines on the existing right-of-way. In some of the locations, to accommodate both power lines on one pole, the transmission line would be constructed using double-circuit concrete poles directly embedded in the ground. An additional, short portion of the

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Davis-Miami line section, located at the crossing of the Miami River adjacent to the existing Miami substation, would be constructed as an underground extruded dielectric cable system using cross-linked polyethylene (XLPE) insulating cables.

In some cases along the proposed transmission line routes, the new lines may also be designed to provide for other attachments such as electric distribution lines, communication facilities, or other utility equipment. The typical span lengths between structures along the three proposed transmission lines would range from approximately 200 to 750 feet, depending on site-specific right-of-way widths and other design considerations.

### Transmission Substations

In addition to the new and modified transmission lines discussed above, the interconnection and integration of new Units 6 & 7 generating capacity would include one new substation and upgrades and expansions of the following existing substations ([Figure 2.2-5](#)): Turkey Point, Miami, Levee, Davis, and Pennsuco. Improvements at the Turkey Point, Levee, and Davis substations would require site expansions on existing FPL property in previously disturbed areas. Work at the Pennsuco substation would require acquisition of additional property for expansion on a previously disturbed area. Acreages and current land use for the areas of substation expansion are identified in [Table 2.2-5](#).

The Clear Sky substation would be a new 500/230 kV switchyard constructed in the Units 6 & 7 plant area utilizing 230 kV underground facilities to connect Units 6 & 7 transformers for a total of six 230 kV underground connections. The two new 500 kV transmission lines to the Levee substation would be connected to the 500 kV section of the Clear Sky substation and three new 230 kV transmission lines, one each to the Davis, Pennsuco, and Turkey Point substations, would be connected to the 230 kV section of the Clear Sky substation.

The Turkey Point substation would be expanded by 0.9 acre to accommodate a new bay with two new 230 kV line terminals and enlargement of the existing relay vault building. The new bay would be rated at 3000 amps and include new pulloff towers, breakers, line switch, disconnect switches and all associated bus work, cable trench, foundations, conduits, and grounding. Current land use of the approximately 0.9 acre area of expansion for the Turkey Point substation is 100 percent electric power facilities.

The existing Levee substation, located at NW 41st Street and NW 147th Avenue, would be expanded by 2.3 acres to accommodate a new bay with two 500 kV line terminals. The interconnection work at the Levee substation would include filling, grading, and rocking an expansion area of approximately 130 x 850 feet to the north of the existing 500 kV yard for construction of a new bay and associated equipment. In addition, a new stormwater retention system would be constructed. Current land use of the 2.3 acres area of expansion for the Levee



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substation is approximately 1.81 acres of exotic wetland hardwoods and 0.52 acres of electric power facilities.

The existing Pennsuco substation, located at 10800 NW 107th Avenue, would be expanded by 0.65 acres to accommodate addition of a stormwater retention system and installation of new equipment including a new 230 kV line terminal; new breakers and conversion/reconfiguration of existing buses, relocation of distribution transformers, and installation of a new pulloff structure and disconnect switches. Current land use of the 2.42 acres area of expansion for the Pennsuco substation is 100 percent rock quarries.

The existing Davis substation, located at 12701 SW 136th Street, would be expanded by 1.12 acres to accommodate addition of two new 230 kV line terminals and installation of a switchable inductor to control power flow for the line connecting to the Miami substation. Current land use of the approximately 1.12 acres area of expansion for the Davis substation is 100 percent tree nurseries.

The Miami substation, located at 122 SW 3rd Street, would be modified to expand the 230 kV section to a double bus configuration, add a new 230 kV line terminal for connection of the line from the Davis substation, and replace the autotransformer to match the long-term emergency rating of the Miami substation autotransformer all within the existing fence line.

#### 2.2.2.3 Makeup and Potable Water Systems

Makeup water for the Units 6 & 7 cooling system would consist of both reclaimed water and saltwater. As described in [Sections 3.4 and 3.9](#), reclaimed water pipelines would require approximately 9 miles of pipeline corridor between the FPL reclaimed water treatment facility on the plant property and the Miami-Dade Water and Sewer Department South District Wastewater Treatment Plant to the north ([Figure 2.2-5](#)). For about 6.5 miles of their length, the pipelines would be collocated with the existing Clear Sky-to-Davis transmission line right-of-way and adjacent road and canal rights-of-way, although most of the route is classified as wetland, agricultural, or electrical power transmission lines land use types. The remaining 2.5 miles would be located along new pipeline corridor. The reclaimed water pipelines from the FPL reclaimed water treatment facility would be routed south along the eastern side of the cooling canals to the makeup water reservoir, traversing the laydown area on the western side of the Units 6 & 7 plant area ([Figure 3.9-1](#)).

Current land use within the reclaimed water pipeline corridor is described in [Table 2.2-6](#) and consists mainly of tree nurseries, solid waste disposal, sewage treatment, mangrove swamps, mixed wetland hardwoods, field crops, and streams and waterways/canals.

Saltwater would be supplied by four radial collector wells drawing water from below Biscayne Bay. The wells would be located on the Turkey Point peninsula, east of the existing units. Each

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radial collector well would consist of a central reinforced concrete caisson extending below the ground level with horizontal laterals projecting up to a distance of 900 feet from the caisson in the subsurface beneath the floor of Biscayne Bay. The radial collector well locations are shown on [Figure 3.1-3](#). The radial collector well pipelines would be routed west from the caissons and south to the Units 6 & 7 cooling towers along the eastern side of the plant area ([Figure 3.9-1](#)).

Potable water pipelines, approximately 10 miles long, would be constructed to supply potable water for Units 6 & 7. The new water pipelines would deliver potable water from the Miami-Dade County Water and Sewer Department potable water source facility to the Units 6 & 7 plant area. Routing for the pipelines is identified in [Figure 3.9-1](#). Approximately 2.5 miles of the pipeline corridor (origination at SW 288th Street and SW 137th Avenue/Tallahassee Road to SW 328th Street/N. Canal Drive) would require new land disturbance. The major land categories disturbed would be mainly row crops, tree nurseries, streams and waterways/canals, mixed wetland hardwoods, exotic wetland hardwoods, freshwater marshes, and roads and highways. The remaining pipeline route would be along roadways that would be improved.

#### 2.2.2.4 Fill Material

An estimated 10.7 million cubic yards of fill (Category I - safety-related; and Category II - general area) would be required to raise the elevation of the Units 6 & 7 plant area to a final elevation of 19 to 26 feet above sea level. As described in [Section 3.9](#), fill material would be obtained from a combination of an FPL-owned fill source, other regional sources, or reused material.

The FPL-owned fill source is located approximately 4 miles northwest of the Turkey Point plant property ([Figure 3.9-1](#)). The fill source land, which is approximately 300 acres, is located northwest of the intersection of SW 107th Avenue and SW 312th Street. The land is predominantly tree nurseries and mixed wetland hardwood. The land surface elevation in this area is approximately 3-4 feet NGVD. The land is nearly flat, with a slope of 1-2 feet per mile to the east. Water levels in this area range from approximately 2 feet in the wet season to 1 foot in the dry season. The upper 4-5 feet of soil is a mixture of marl, peat, and fills. Rock (Miami oolite) is generally encountered 4-5 feet below land surface (bls). The Fort Thompson Formation and Key Largo Limestone (interbedded) are found between 9 and 74 feet bls. Surface drainage in the area is currently through swales and roadside ditches to Military or Mowry Canals and then east toward Biscayne Bay.

The aggregate mining operation at this location to obtain fill material for construction of Units 6 & 7 would create a lake in the deep cut areas. There would be a shallow (maximum 3-4 feet deep) littoral zone around the shoreline with 4:1 slopes. The final depth of the lake in the deep cut areas would be based on Miami-Dade County Department of Environmental Resources criteria for rock mining, which require a 10 foot vertical buffer between the bottom of the mine and the 250 mg/L chloride level in the aquifer.

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#### 2.2.2.5 Emergency Operations Facility

The existing emergency operations facility for Units 3 & 4 would also be used for Units 6 & 7. This facility is located offsite in Miami-Dade County at the intersection of West Flagler Street and SW 92nd Avenue. The facility is not further considered in this environmental report.

#### 2.2.2.6 Roads and Highways

The roads and highways in the area surrounding the Turkey Point plant property and providing potential access to the property and the Units 6 & 7 plant area include U.S. and interstate highways, multilane divided state highways, and local streets. The major federal highways in Miami-Dade County are U.S. Highway 1, which bisects the county from north to south and continues south to the Florida Keys, and Interstates 75 and 95, which also have a north-south direction but terminate in Miami.

Two of the major state highways in Miami-Dade County are Florida's Turnpike and SR 997. Florida's Turnpike is a multilane, divided toll road that traverses much of Florida, linking Interstate 75 in the interior south of Ocala to Miami. The Homestead extension of Florida's Turnpike terminates at U.S. Highway 1 north of Florida City. SR 997 connects U.S. Highway 1 in Homestead with U.S. Highway 27, which fringes the western edge of metropolitan Miami and terminates in Homestead, becoming Krome Avenue. Krome Avenue continues south and terminates at U.S. Highway 1, south of Florida City.

The existing access road for the Turkey Point plant property is SW 344th Street/Palm Drive. SW 344th Street/Palm Drive intersects with U.S. Highway 1 and SR 997. It is a four-lane road that narrows at its intersection with SW 137th Avenue/Tallahassee Road to two lanes as it leads to the Turkey Point plant property. Access to the plant property and the Units 6 & 7 plant area from U.S. Highway 1 could also be made using SW 328th Street/N. Canal Drive, which parallels SW 344th Street/Palm Drive to the north. This road is linked to SW 344th Street/Palm Drive by cross streets such as the four-lane SW 137th Avenue/Tallahassee Road and the two-lane SW 117th Avenue. Access to the site from Florida's Turnpike could be made via the exit at SW 312th Street/Campbell Drive or via the Turnpike terminus at U.S. Highway 1. SW 312th Street/Campbell Drive is a four-lane road that parallels SW 344th Street/Palm Drive to the north. A connecting road is SW 137th Avenue/Tallahassee Road. The functional class for each of these roads is presented in [Tables 2.5-14](#).

Road improvements are planned to allow access to the Turkey Point plant property for construction and operations. As described in [Section 3.9](#), the improvements include the widening of three existing roadways and the development of existing unpaved roads to four paved roadways.

Acreages and current land use for the areas of road improvements are identified in [Table 2.2-7](#).

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### 2.2.3 THE REGION

The region is defined as the area within a 50-mile radius of the centerpoint between Units 6 & 7, but excluding the plant property and vicinity described in [Subsection 2.2.1](#). All or parts of four counties are located within 50 miles: Broward, Collier, Miami-Dade, and Monroe. [Figure 2.2-6](#) shows the 50-mile radius bounded by the four counties. Major land use classifications and waterways in the region are shown on [Figure 2.2-6](#). Major highways and rail lines are shown on [Figure 2.2-5](#).

In determining what regional land use information would be relevant to [Subsection 2.2.3](#), the construction and operational impacts of the new units on regional land use were evaluated. Land use impacts identified were limited to the Turkey Point plant property, 6-mile vicinity, and those counties in the region that would receive the bulk of new residents and taxes. There are county land use plans for the four counties within the region (Broward 2009, Collier 2007, MDC 2009, and Monroe 2009). The plan that is most directly relevant to new Units 6 & 7 is the Miami-Dade CDMP, which is addressed in [Subsection 2.2.1.1](#).

As summarized in [Table 2.2-8](#), the regional land use area encompasses approximately 2,634,939 acres of FLUCCS land use data (FLUCCS data does not extend all the way out into the Atlantic Ocean, Gulf of Mexico, Biscayne Bay, Card Sound, or Florida Bay).

Within the region there are many federal, state, county, and city public lands that offer both recreational and educational services. Parks include Everglades National Park, Crocodile Lake National Wildlife Refuge, Biscayne National Park, Biscayne Bay Aquatic Preserve, and Homestead Bayfront Park among others.

There are two nearby major roadways. U.S. Highway 1, the closest major roadway to the plant property, intersects Palm Drive in Florida City. The southernmost access to Florida's Turnpike is from U.S. Highway 1, approximately 0.25 miles north of the U.S. Highway 1 intersection with Palm Drive. Other access/entrances to both U.S. Highway 1 and Florida's Turnpike are provided from various local roads that can be accessed from Palm Drive. Road access to the plant property is provided by SW 344th Street/Palm Drive, which extends from the Turkey Point plant entrance through the intersection with U.S. Highway 1.

Two Indian reservations are located within the region ([Figure 2.5-25](#)). The Miccosukee Indian Reservation is located 50 miles from the plant area. The Seminole Indians have a reservation north of Hollywood named Seminole Paradise.

In accordance with NUREG 1555, principal agricultural products, crop areas, and average annual yields are addressed below by county, along with other county-specific information. The most recent data available is from 2007. [Table 2.2-9](#) presents information for farms and harvested lands in the region for the period 1997 to 2007.

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#### 2.2.3.1 Broward County

Broward County is bounded on the north by Palm Beach County, on the northwest by Hendry County, on the west by Collier County, on the east by the Atlantic Ocean, and on the south by Miami-Dade County. Primary access routes in Broward County include Interstates 95, 75, and 595, Florida's Turnpike, and SR 869 (Sawgrass Expressway).

Broward County consists of 1197 square miles, of which 787 square miles is conservation area and 410 square miles is developable area (Broward Aug 2003). Elevations range from sea level to 25 feet above sea level, with most of the county below 10 feet elevation.

As shown in [Table 2.2-9](#), there were 547 farms totaling approximately 8737 acres in Broward County in 2007 (NASS 2007). The 2007 numbers reflect an increase from 347 farms in 1997 but a decrease in the total acreage of farms from 30,897 acres in 1997 (AgCensus 2004a).

In 2007, approximately 29 percent (2577 acres) of the 8737 acres of total farmland in Broward County was used as harvested cropland and 47 percent (4141 acres) as pastureland (NASS 2007). The chief agricultural products of Broward County are cattle, orchard crops, vegetables, poultry, hogs and pigs, and hay. In 2007, the yields of agricultural products for Broward County were:

- 1253 head of cattle and calves
- 347 acres of land in orchards
- 768 acres of vegetables for harvest
- 938 head of poultry (layers)
- 8 head of hogs and pigs
- 272 tons of hay

#### 2.2.3.2 Collier County

Collier County is on the Gulf coast of Florida between the cities of Bonita Springs and the mainland component of Monroe County. Collier County is bordered on the north by Lee and Hendry counties, on the west by the Gulf of Mexico, on the south by Monroe County, and east by Miami-Dade and Broward Counties. The county seat of Collier County is located in East Naples, and is accessible by major roadways including Interstate 75 and U.S. Route 41.

The total area of Collier County is 2025 square miles (USCB 2009a). The elevation across the county ranges between sea level and 40 feet above sea level (Collier Apr 2005).

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As shown in [Table 2.2-9](#), the number of farms in Collier County increased from 235 in 1997 to 322 farms in 2007. However, farm acreage decreased from 277,279 acres in 1997 to 109,934 acres in 2007 (AgCensus 2004b, NASS 2007).

In 2007, 32 percent (35,288 acres) of the 109,934 acres of total farmland in the county were devoted to harvested cropland and 58 percent (63,612 acres) to pastureland (NASS 2007). Cattle and calves, poultry, orchards crops, vegetables, hogs and pigs, and hay are the chief agricultural products. In 2007, the yields of the primary agricultural products in Collier County were:

- 10,458 head of cattle and calves
- 21,622 acres of land in orchards
- 12,982 acres of vegetables for harvest
- 849 head of poultry (layers)
- 358 head of hogs and pigs
- 150 head of sheep and lambs
- 566 tons of hay

#### 2.2.3.3 Miami-Dade County

Miami-Dade County is on the Atlantic Ocean coastline and is bounded on the north by Broward County, on the east and the south by Biscayne Bay, on the west by Collier County, and on the west and south by Monroe County. The county seat is the City of Miami, the county's largest municipality. Miami-Dade County is accessible by major roadways including Interstates 395, 75, 95 and 195, and U.S. Routes 1, 27, 41, and 441.

The total land area of Miami-Dade County is 1946 square miles (USCB 2009b). The elevation across the county ranges from 8 feet to 15 feet above sea level (MDC 2009).

In 2007, the county had 2498 farms covering 67,050 acres, representing an increase in the number of farms from 1576, but a decrease in total acreage from 85,093 in 1997 (AgCensus 2004c, NASS 2007).

Of the 67,050 acres of total farmland in the county in 2007, 73 percent (49,065 acres) were devoted to harvested cropland and 14 percent (9108 acres) to pastureland (NASS 2007). Cattle and calves, poultry, orchards crops, vegetables, hogs and pigs, sheep and lambs, sweet potatoes

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(most of the reported Florida crop), and hay are the chief agricultural products. In 2007, the yields of the primary agricultural products in Miami-Dade County were:

- 3385 head of cattle and calves
- 11,365 acres of land in orchards
- 33,451 acres of vegetables for harvest
- 7755 head of poultry (layers)
- 135 head of hogs and pigs
- 972 head of sheep and lambs
- 541 tons of hay (for the year 2002; 2007 data not reported)
- 2825 acres of sweet potatoes

#### 2.2.3.4 Monroe County

Monroe County is the southernmost county in Florida and consists of both mainland and island components. The county is located at the intersection of the Gulf of Mexico and the Atlantic Ocean and includes a large tract of land along the southwestern most part of mainland Florida, a small strip of land between Florida City and the U.S. Highway 1 causeway to Key Largo and all of the island chain known as the Florida Keys. Virtually all the Monroe County population (more than 99.9 percent) lives in the Florida Keys. Monroe County is bounded on the north by Collier County and Miami-Dade County, on the east by Miami-Dade County, on the east and south by the Atlantic Ocean, on the south and west by the Gulf of Mexico and on the north, south and west by the Florida bay. The county seat of Monroe County is in Key West, and is accessible by major roadway U.S. Highway 1.

Two-thirds of the large Monroe County mainland area south of Collier County (mainland Monroe) is protected by virtue of being part of the Everglades National Park, and the remainder by the Big Cypress National Preserve in the northeastern interior. The area is virtually uninhabited. The total land area of Monroe County is 997 square miles (USCB 2009c). Most of the Monroe County land area makes up the southwestern corner of the state of Florida. Two-thirds of Monroe County mainland is part of the Everglades National Park, while the remainder is part of the Big Cypress National Preserve and the islands of the Florida Keys.

In 2007, the county had 23 farms covering 187 acres, an increase from 18 farms in 2002, and an increase in acreage from 102 in 2002 (NASS 2007).

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Cropland is the predominant use comprising 83 percent (156 acres) of the 187 acres of farmland in the county. Pastureland comprises 6 percent (12 acres) of farmland use in the county. In 2007, the yields of the primary agricultural products in Monroe County were not disclosed.

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**Table 2.2-1**  
**Major Land Use Acreages Within the Turkey Point Plant Property**

<b>Level 3</b>	<b>FLUCCS Land Use Category</b>	<b>Acres</b>	<b>% of Total</b>
140	Commercial And Services	13.77	0.15
422	Brazilian Pepper	26.29	0.28
437	Australian Pines	2.35	0.02
510	Streams And Waterways/Canals	256.57	2.71
511	Ditches	9.34	0.10
512	Channelized River, Stream, Waterway/Canals	40.48	0.43
530	Reservoirs	12.54	0.13
531	Reservoirs Larger Than 500 Acres (202 Hectares)	12.83	0.14
534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	13.59	0.14
541	Embayments Opening Directly Into The Gulf Of Mexico Or The Atlantic Ocean	166.06	1.76
542	Embayments Not Opening Directly Into The Gulf of Mexico Or The Atlantic Ocean	<0.01	<0.01
543	Enclosed Saltwater Ponds Within A Salt Marsh	0.78	0.01
612	Mangrove Swamps	310.94	3.29
612-A	Mangrove Heads	12.20	0.13
612-B	Dwarf Mangroves	113.29	1.20
612-B/6411	Dwarf Mangroves/Sawgrass	42.87	0.45
617	Mixed Wetland Hardwoods	324.61	3.43
617-P	Mixed Wetland Hardwoods Planted	0.48	0.01
619	Exotic Wetland Hardwoods	12.81	0.14
619-AP	Exotic Wetland Hardwoods-Australian Pines	0.58	0.01
641	Freshwater Marshes	1490.53	15.76
6411	Sawgrass Marsh	14.03	0.15
642	Saltwater Marshes	12.28	0.13
643	Wet Prairies	6.29	0.07
650	Non-Vegetated Wetlands	216.35	2.29
651	Tidal Flats	149.26	1.58
740	Disturbed Land	27.74	0.29
743	Spoil Areas	61.98	0.66
743-WET	Wetland Spoils Areas	9.12	0.10
744	Fill Areas <Highways-Railways>	393.96	4.16
814	Roads And Highways	23.12	0.24
831	Electric Power Facilities	5682.84	60.07
832	Electrical Power Transmission Lines	0.08	<0.01
	<b>Total<sup>(a)</sup></b>	<b>9459.94</b>	<b>100.00</b>

(a) Due to rounding, table values may not exactly sum to the total acres and percentages.

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**Table 2.2-2 (Sheet 1 of 2)**  
**Major Land Use Acreages within the 6-Mile Vicinity**

Level 3	FLUCCS Land Use Category	Acres	% of Total
110	Residential, Low Density <Less Than Two Dwelling Units Per Acre>	1.73	<0.01
133	Multiple Dwelling Units, Low Rise <Two Stories Or Less>	45.92	0.07
140	Commercial And Services	13.88	0.02
155	Other Light Industrial	6.40	0.01
170	Institutional	8.45	0.01
173	Military	110.56	0.18
183	Race Tracks	513.45	0.82
185	Parks And Zoos	36.04	0.06
187	Stadiums <Those Facilities Not Associated With High Schools, Colleges Or Universities>	3.68	0.01
190	Open Land	7.76	0.01
214	Row Crops	616.75	0.98
215	Field Crops	176.18	0.28
221	Citrus Groves	13.90	0.02
222	Fruit Orchards	39.17	0.06
241	Tree Nurseries	1,961.41	3.12
243	Ornamentals	39.47	0.06
261	Fallow Crop Land	10.58	0.02
320	Shrub And Brushland	1,100.42	1.75
420	Upland Hardwood Forests	24.63	0.04
422	Brazilian Pepper	2,181.43	3.47
434	Hardwood - Coniferous Mixed	26.95	0.04
437	Australian Pines	15.85	0.03
510	Streams And Waterways/Canals	301.87	0.48
511	Ditches	19.42	0.03
512	Channelized River, Stream, Waterway	298.38	0.47
520	Lakes	29.73	0.05
530	Reservoirs	85.62	0.14
531	Reservoirs Larger Than 500 Acres (202 Hectares)	12.83	0.02
534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	13.59	0.02
542	Embayments Not Opening Directly Into The Gulf Of Mexico Or The Atlantic Ocean	24,412.85	38.79
543	Enclosed Saltwater Ponds Within A Salt Marsh	870.59	1.38
611	Bay Swamps	115.66	0.18
612	Mangrove Swamps	3343.7	5.31
612/618	Mangrove Swamps/Exotic Wetland Hardwoods	1.85	<0.01
612/618	Mangrove Swamps/Willow and Elderberry	<0.01	<0.01
612/619	Mangrove Swamps/Exotic Wetland Hardwoods	3.12	<0.01
612-A	Mangrove Heads	12.20	0.02
612-B	Dwarf Mangroves	113.29	0.18
612-B/6411	Dwarf Mangroves/Sawgrass	42.87	0.07
617	Mixed Wetland Hardwoods	4,022.29	6.39
617/641	Mixed Wetland Hardwoods / Freshwater Marshes	16.93	0.03

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**Table 2.2-2 (Sheet 2 of 2)**  
**Major Land Use Acreages within the 6-Mile Vicinity**

<b>Level 3</b>	<b>FLUCCS Land Use Category</b>	<b>Acres</b>	<b>% of Total</b>
617-P	Mixed Wetland Hardwoods Planted	0.48	<0.01
619	Exotic Wetland Hardwoods	45.08	0.07
619/631	Exotic Wetland Hardwoods/Wetland Scrub	30.71	0.05
619-AP	Exotic Wetland Hardwoods-Australian Pine	0.58	<0.01
625	Hydric Pine Flatwoods	83.61	0.13
630	Wetland Forested Mixed	552.64	0.88
631	Wetland Shrub	4.42	0.01
641	Freshwater Marshes	11,246.07	17.87
6411	Sawgrass Marsh	14.03	0.02
642	Saltwater Marshes	35.20	0.06
643	Wet Prairies	1,129.69	1.79
650	Non-Vegetated Wetlands	393.92	0.63
651	Tidal Flats	1,128.20	1.79
740	Disturbed Land	120.85	0.19
743	Spoil Areas	61.98	0.10
743-WET	Wetland Spoils Areas	9.12	0.01
744	Fill Areas <Highways-Railways>	516.92	0.82
811	Airports	1,067.36	1.70
814	Roads And Highways	103.49	0.16
831	Electric Power Facilities	5,725.28	9.10
832	Electrical Power Transmission Lines	0.08	<0.01
	<b>Total<sup>(a)</sup></b>	<b>62,941.15</b>	<b>100.00</b>

(a) Due to rounding, table values may not exactly sum to the total acres and percentages.

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**Table 2.2-3 (Sheet 1 of 5)**  
**Major Land Use Acreages Along the Proposed Transmission Corridors**

Transmission Line Route	Level 3	FLUCCS Land Use Category	Acres	% of Total
Clear Sky to Davis	111	Fixed Single Family Units	1.10	0.17
	121	Fixed Single Family Units	3.07	0.48
	131	Fixed Single Family Units <Six Or More Dwelling Units Per Acre>	1.67	0.26
	132	Mobile Home Units <Six Or More Dwelling Units Per Acre>	0.21	0.03
	133	Multiple Dwelling Units, Low Rise <Two Stories Or Less>	0.59	0.09
	139	High Density Under Construction	0.16	0.02
	140	Commercial And Services	0.38	0.06
	155	Other Light Industrial	0.14	0.02
	170	Institutional	1.28	0.20
	180	Recreational	0.33	0.05
	185	Parks And Zoos	0.48	0.08
	214	Row Crops	1.87	0.29
	215	Field Crops	0.30	0.05
	221	Citrus Groves	22.52	3.55
	222	Fruit Orchards	6.95	1.09
	241	Tree Nurseries	308.58	48.60
	242	Sod Farms	3.48	0.55
	243	Ornamentals	74.49	11.73
	251	Horse Farms	0.12	0.02
	310	Herbaceous (Dry Prairie)	60.89	9.59
	320	Shrub And Brushland	14.87	2.34
	330	Mixed Rangeland	0.31	0.05
	411	Pine Flatwoods	0.03	0.01
	420	Upland Hardwood Forests	0.36	0.06
	422	Brazilian Pepper	0.75	0.12
	510	Streams And Waterways/Canals	13.79	2.17
	511	Ditches	0.31	0.05
	530	Reservoirs	3.60	0.57
	612	Mangrove Swamps	64.28	10.12
	612/618	Mangrove Swamps/Willow and Elderberry	0.00	0.00
	612-B	Dwarf Mangroves	4.84	0.76
	619	Exotic Wetland Hardwoods	2.06	0.32
	641	Freshwater Marshes	0.50	0.08
	740	Disturbed Land	0.02	0.00
	744	Fill Areas <Highways-Railways>	1.62	0.25
	814	Roads And Highways	9.57	1.51
	831	Electric Power Facilities	29.37	4.63
		<b>Total<sup>(a)</sup></b>	<b>634.87</b>	<b>100.00</b>

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**Table 2.2-3 (Sheet 2 of 5)**  
**Major Land Use Acreages Along the Proposed Transmission Corridors**

Transmission Line Route	Level 3	FLUCCS Land Use Category	Acres	% of Total
Davis to Miami	111	Fixed Single Family Units	0.84	0.08
	119	Low Density Under Construction	0.25	0.02
	121	Fixed Single Family Units	61.08	6.11
	131	Fixed Single Family Units <Six Or More Dwelling Units Per Acre>	0.50	0.05
	133	Multiple Dwelling Units, Low Rise <Two Stories Or Less>	63.68	6.37
	134	Multiple Dwelling Units, High Rise <Three Stories Or More>	33.74	3.37
	140	Commercial And Services	224.39	22.44
	141	Retail Sales And Services	79.35	7.94
	155	Other Light Industrial	1.92	0.19
	170	Institutional	16.41	1.64
	171	Educational Facilities	0.48	0.05
	180	Recreational	0.39	0.04
	243	Ornamentals	13.63	1.36
	310	Herbaceous (Dry Prairie)	11.35	1.13
	320	Shrub And Brushland	7.86	0.79
	420	Upland Hardwood Forests	2.10	0.21
	510	Streams And Waterways/Canals	15.42	1.54
	530	Reservoirs	1.23	0.12
	810	Transportation	195.85	19.58
	812	Railroads	21.82	2.18
	814	Roads And Highways	187.32	18.73
	831	Electric Power Facilities	4.90	0.49
	832	Electrical Power Transmission Lines	55.49	5.55
		<b>Total<sup>(a)</sup></b>	<b>1,000.02</b>	<b>100.00</b>

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**Table 2.2-3 (Sheet 3 of 5)**  
**Major Land Use Acreages Along the Proposed Transmission Corridors**

Transmission Line Route	Level 3	FLUCCS Land Use Category	Acres	% of Total
Clear Sky to Levee 1 <sup>st</sup> Leg	120	Residential, Medium Density <Two-Five Dwelling Units Per Acre>	0.37	0.03
	121	Fixed Single Family Units	2.39	0.17
	129	Medium Density Under Construction	0.46	0.03
	211	Improved Pastures	37.36	2.71
	214	Row Crops	61.32	4.45
	215	Field Crops	157.05	11.39
	220	Tree Crops	40.37	2.93
	221	Citrus Groves	123.67	8.97
	222	Fruit Orchards	94.99	6.89
	223	Other Groves	63.53	4.61
	240	Nurseries And Vineyards	10.42	0.76
	241	Tree Nurseries	122.25	8.87
	243	Ornamentals	21.59	1.57
	310	Herbaceous (Dry Prairie)	1.22	0.09
	320	Shrub And Brushland	18.68	1.35
	420	Upland Hardwood Forests	3.69	0.27
	422	Brazilian Pepper	1.51	0.11
	436	Upland Scrub, Pine And Hardwoods	0.35	0.03
	437	Australian Pines	0.08	0.06
	510	Streams And Waterways/Canals	218.11	15.88
	511	Ditches	0.67	0.07
	511/641	Ditches/Freshwater Marshes	2.99	0.22
	531	Reservoirs Larger Than 500 Acres (202 Hectares)	0.85	0.06
	534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	11.61	0.84
	612	Mangrove Swamps	0.11	0.01
	612-B	Dwarf Mangroves	63.96	5.31
	617	Mixed Wetland Hardwoods	57.46	4.17
	617/641	Mixed Wetland Hardwoods/Freshwater Marshes	8.09	0.59
	617/643	Mixed Wetland Hardwoods/Wet Prairies	0.00	0.00
	619	Exotic Wetland Hardwoods	56.46	4.14
	619-AP	Exotic Wetland Hardwoods-Australian Pine	0.50	0.04
	641	Freshwater Marshes	75.60	5.48
	641/643	Freshwater Marshes/Wet Prairies	2.62	0.19
	6411	Sawgrass Marsh	9.97	0.83
	643	Wet Prairies	11.43	0.83
	650	Non-Vegetated Wetlands	0.43	0.03
	740	Disturbed Land	9.72	0.71
	743	Spoil Areas	53.69	3.89
	744	Fill Areas <Highways-Railways>	4.70	0.34
	814	Roads And Highways	12.03	0.89
	831	Electric Power Facilities	3.09	0.22
		<b>Total<sup>(a)</sup></b>	<b>1,365.43</b>	<b>100.00</b>

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**Table 2.2-3 (Sheet 4 of 5)**  
**Major Land Use Acreages Along the Proposed Transmission Corridors**

Transmission Line Route	Level 3	FLUCCS Land Use Category	Acres	% of Total
Clear Sky to Levee 2 <sup>nd</sup> Leg (Preferred Option)	163	Rock Quarries	5.24	0.37
	211	Improved Pastures	1.34	0.09
	214	Row Crops	50.29	3.56
	215	Field Crops	63.03	4.46
	222	Fruit Orchards	1.03	0.07
	251	Horse Farms	0.68	0.05
	310	Herbaceous (Dry Prairie)	41.83	2.96
	320	Shrub And Brushland	27.58	1.95
	422	Brazilian Pepper	61.67	4.36
	510	Streams And Waterways/Canals	166.98	11.82
	530	Reservoirs	0.08	0.01
	617	Mixed Wetland Hardwoods	31.96	2.26
	617/641	Mixed Wetland Hardwoods/Freshwater Marshes	408.00	28.88
	618	Willow And Elderberry	1.61	0.11
	619	Exotic Wetland Hardwoods	74.62	5.28
	619/641	Exotic Wetland Hardwoods/Freshwater Marshes	19.07	1.35
	641	Freshwater Marshes	254.04	17.98
	643	Wet Prairies	41.62	2.95
	814	Roads And Highways	162.29	11.49
		<b>Total<sup>(a)</sup></b>	<b>1,412.94</b>	<b>100.00</b>
Clear Sky to Levee 3 <sup>rd</sup> Leg	617	Mixed Wetland Hardwoods	33.19	13.16
	619	Exotic Wetland Hardwoods	92.93	36.83
	641	Freshwater Marshes	76.39	30.28
	643	Wet Prairies	26.58	10.53
	740	Disturbed Land	1.75	0.69
	814	Roads And Highways	0.03	0.01
	831	Electric Power Facilities	17.44	6.91
	832	Electrical Power Transmission Lines	3.98	1.58
		<b>Total<sup>(a)</sup></b>	<b>252.28</b>	<b>100.00</b>



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**Table 2.2-3 (Sheet 5 of 5)**  
**Major Land Use Acreages Along the Proposed Transmission Corridors**

Transmission Line Route	Level 3	FLUCCS Land Use Category	Acres	% of Total
Levee to Pennsuco	131	Fixed Single Family Units <Six Or More Dwelling Units Per Acre>	3.73	1.19
	133	Multiple Dwelling Units, Low Rise <Two Stories Or Less>	5.09	1.63
	140	Commercial And Services	9.14	2.93
	141	Retail Sales And Services	0.66	0.21
	149	Commercial And Services Under Construction	0.49	0.16
	163	Rock Quarries	44.64	14.30
	166	Holding Ponds	0.59	0.19
	182	Golf Courses	2.11	0.68
	190	Open Land	20.48	6.56
	510	Streams And Waterways/Canals	0.71	0.23
	511	Ditches	0.53	0.17
	534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	0.53	0.17
	619	Exotic Wetland Hardwoods	26.08	8.35
	619/641	Exotic Wetland Hardwoods/Freshwater Marshes	19.23	6.16
	631/641	Wetland Scrub/Freshwater Marshes	5.04	1.61
	641	Freshwater Marshes	111.95	35.85
	641/643	Freshwater Marshes/Wet Prairies	1.05	0.34
	643	Wet Prairies	6.06	1.94
	740	Disturbed Land	19.42	6.22
	814	Roads And Highways	10.96	3.51
	831	Electric Power Facilities	2.40	0.77
	832	Electrical Power Transmission Lines	21.40	6.85
		<b>Total<sup>(a)</sup></b>	<b>312.28</b>	<b>100.00</b>
Clear Sky to Levee 2 <sup>nd</sup> Leg (Secondary Corridor)	510	Streams And Waterways/Canals	0.99	0.20
	617	Mixed Wetland Hardwoods	8.79	1.76
	617/641	Mixed Wetland Hardwood/Freshwater Marshes	302.37	60.61
	619	Exotic Wetland Hardwoods	8.16	1.64
	641	Freshwater Marshes	177.66	35.61
	814	Roads and Highways	0.92	0.18
		<b>Total<sup>(a)</sup></b>	<b>498.88</b>	<b>100.00</b>

(a) Due to rounding, table values may not exactly sum to the total acres and percentages.

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**Table 2.2-4**  
**Major Land Use Acreages Along Transmission Line Access Corridors**

<b>Level 3</b>	<b>FLUCCS Land Use Category</b>	<b>Acres</b>	<b>% of Total</b>
Tamiami Trail			
510	Streams And Waterways/Canals	2.74	26.08
641	Freshwater Marshes	3.06	29.16
814	Roads And Highways	4.70	44.76
	<b>Total<sup>(a)</sup></b>	<b>10.50</b>	<b>100.00</b>
Krome Avenue			
510	Streams And Waterways/Canals	85.33	23.40
619	Exotic Wetland Hardwoods	56.81	15.58
641	Freshwater Marshes	143.40	39.32
814	Roads And Highways	79.17	21.71
	<b>Total<sup>(a)</sup></b>	<b>364.71</b>	<b>100.00</b>

(a) Due to rounding, table values may not exactly sum to the total acres and percentages.

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**Table 2.2-5**  
**Major Land Use Acreages in the Areas of the Access Road Improvements**

<b>Substation</b>	<b>Level 3</b>	<b>FLUCCS Land Use Category</b>	<b>Acres</b>	<b>% of Total</b>
Davis	241	Tree Nurseries	1.12	100.00
		<b>Total</b>	1.12	100.00
Levee	619	Exotic Wetland Hardwoods	1.81	77.68
	831	Electric Power Facilities	0.52	22.32
		<b>Total</b>	2.33	100.00
Pennsuco	163	Rock Quarries	2.42	100.00
		<b>Total</b>	2.42	100.00
Turkey Point	831	Electric Power Facilities	0.88	100.00
		<b>Total</b>	0.88	100.00

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**Table 2.2-6 (Sheet 1 of 2)**  
**Major Land Use Acreages Along the Reclaimed Water Pipeline to the FPL Reclaimed Water Treatment Facility and Potable Water Pipeline**

Level 3	FLUCCS Land Use Category	Acres	% of Total
<b>Reclaimed Water Pipeline</b>			
166	Holding Ponds	42.75	2.27
184	Marinas and Fish Camps	8.61	0.46
215	Field Crops	71.55	3.79
241	Tree Nurseries	421.77	22.37
242	Sod Farms	1.18	0.06
243	Ornamentals	2.15	0.11
310	Herbaceous (Dry Prairie)	26.35	1.40
320	Shrub And Brushland	43.13	2.29
330	Mixed Rangeland	29.80	1.58
422	Brazilian Pepper	2.06	0.11
510	Streams and Waterways/Canals	57.99	3.08
511	Ditches	1.44	0.08
512	Channelized Waterways, Canals	4.22	0.22
530	Reservoirs	13.69	0.73
534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	0.72	0.04
612	Mangrove Swamps	265.46	14.08
612 / 619	Mangrove Swamp / Exotic Wetland Hardwoods	4.47	0.24
617	Mixed Wetland Hardwoods	99.69	5.29
619	Exotic Wetland Hardwoods	3.02	0.16
630	Wetland Forested Mixed	2.52	0.13
631	Wetland Shrub	35.03	1.86
6411	Sawgrass Marshes	45.35	2.40
642	Saltwater Marshes / Halophytic Herbaceous Prairie	2.21	0.12
740	Disturbed Land	31.07	1.65
744	Fill Areas <Highways-Railways>	0.20	0.01
814	Roads and Highways	46.26	2.45
831	Electric Power Facilities	24.57	1.30
834	Sewage Treatment	234.47	12.43
835	Solid Waste Disposal	363.99	19.30
<b>Total</b>		<b>1885.70</b>	<b>100.00</b>
<b>Potable Water Pipeline</b>			
110	Residential, Low Density <Less Than Two Dwelling Units Per Acre>	1.19	0.37
131	Fixed Single Family Units <Six Or More Dwelling Units Per Acre>	3.51	1.07
133	Multiple Dwelling Units, Low Rise <Two Stories Or Less>	3.45	1.06
134	Multiple Dwelling Units, High Rise <Three Stories Or More>	4.76	1.46
139	High Density Under Construction	3.68	1.13
140	Commercial And Services	1.33	0.41
149	Commercial And Services Under Construction	1.75	0.53
214	Row Crops	20.94	6.40
215	Field Crops	6.98	2.14
221	Citrus Groves	3.44	1.05
222	Fruit Orchards	3.38	1.04

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**Table 2.2-6 (Sheet 2 of 2)**  
**Major Land Use Acreages Along the Reclaimed Water Pipeline to the FPL Reclaimed Water Treatment Facility and Potable Water Pipeline**

Level 3	FLUCCS Land Use Category	Acres	% of Total
241	Tree Nurseries	35.18	10.76
320	Shrub And Brushland	1.63	0.50
422	Brazilian Pepper	6.93	2.12
437	Australian Pine	0.72	0.24
510	Streams And Waterways/Canals	20.25	6.19
511	Ditches	2.14	0.66
530	Reservoirs	0.42	0.13
534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	1.91	0.59
612-B	Dwarf Mangroves	8.00	2.69
617	Mixed Wetland Hardwoods	23.04	7.04
617 / 641	Mixed Wetland Hardwoods / Freshwater Marshes	8.42	2.58
617-P	Mixed Wetland Hardwoods Planted	0.47	0.14
619	Exotic Wetland Hardwoods	24.51	7.50
619-AP	Exotic Wetland Hardwoods-Australian Pine	0.07	0.02
641	Freshwater Marshes	92.69	28.35
6411	Sawgrass Marsh	1.75	0.60
740	Disturbed Land	3.35	1.02
743	Spoil Areas	0.50	0.15
744	Fill Areas <Highways-Railways>	0.20	0.06
814	Roads And Highways	39.16	11.99
831	Electric Power Facilities	0.03	0.01
<b>Total<sup>(a)</sup></b>		<b>325.80</b>	<b>100.00</b>

(a) Due to rounding, table values may not exactly sum to the total acres and percentages.

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**Table 2.2-7 (Sheet 1 of 2)**  
**Major Land Use Acreages in Areas of the Access Road Improvement**

	Level 3	FLUCCS Land Use Category	Acres	% of Total
<b>SW 117th Ave. North</b>	241	Tree Nurseries	0.04	0.43
	510	Streams And Waterways/Canals	<0.01	<0.01
	511	Ditches	1.57	18.01
	619	Exotic Wetland Hardwoods	0.19	2.16
	814	Roads And Highways	6.91	79.40
		<b>Total</b>	<b>8.70</b>	<b>100.00</b>
<b>SW 117th Ave. South</b>	510	Streams And Waterways/Canals	<0.01	0.05
	617	Mixed Wetland Hardwoods	1.94	25.30
	617/641	Mixed Wetland Hardwoods/Freshwater Marshes	1.95	25.34
	641	Freshwater Marshes	2.62	34.18
	814	Roads And Highways	1.16	15.13
		<b>Total<sup>(a)</sup></b>	<b>7.68</b>	<b>100.00</b>
<b>SW 137th Ave.</b>	183	Race Tracks	0.63	8.54
	510	Streams And Waterways/Canals	1.66	22.55
	617	Mixed Wetland Hardwoods	0.75	10.17
	617/641	Mixed Wetland Hardwoods/Freshwater Marshes	2.78	37.73
	814	Roads And Highways	1.55	21.01
		<b>Total<sup>(a)</sup></b>	<b>7.38</b>	<b>100.00</b>
<b>SW 328th St.</b>	110	Residential, Low Density <Less Than Two Dwelling Units Per Acre>	0.53	2.18
	214	Row Crops	2.95	12.04
	222	Fruit Orchards	1.59	6.50
	241	Tree Nurseries	2.73	11.14
	510	Streams And Waterways/Canals	0.67	2.72
	511	Ditches	1.40	5.73
	619	Exotic Wetland Hardwoods	4.01	16.38
	814	Roads And Highways	10.60	43.31
		<b>Total<sup>(a)</sup></b>	<b>24.49</b>	<b>100.00</b>
<b>SW 344th St.</b>	183	Race Tracks	0.64	38.74
	814	Roads And Highways	1.02	61.26
		<b>Total<sup>(a)</sup></b>	<b>1.66</b>	<b>100.00</b>
<b>SW 359th Ave. East</b>	437	Australian Pine	0.76	1.62
	510	Streams And Waterways/Canals	1.54	3.28
	511	Ditches	0.32	0.68
	534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	0.06	0.13
	612	Mangrove Swamps	0.02	0.05
	612-B	Dwarf Mangroves	6.26	13.37
	617	Mixed Wetland Hardwoods	0.70	1.50
	617-P	Mixed Wetland Hardwoods Planted	0.01	0.01
	619-AP	Exotic Wetland Hardwoods-Australian Pine	<0.01	0.01
	641	Freshwater Marshes	23.97	51.21
	6411	Sawgrass Marsh	0.60	1.27
	740	Disturbed Land	6.57	14.05
	743	Spoil Areas	0.01	0.01

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**Table 2.2-7 (Sheet 2 of 2)**  
**Major Land Use Acreages in Areas of the Access Road Improvement**

<b>SW 359th Ave. East</b>	744	Fill Areas <Highways-Railways>	0.36	0.77
	814	Roads And Highways	4.31	9.20
	831	Electric Power Facilities	1.33	2.85
		<b>Total<sup>(a)</sup></b>	<b>46.81</b>	<b>100.00</b>
<b>SW 359th Ave. West</b>	510	Streams And Waterways/Canals	0.07	0.22
	617	Mixed Wetland Hardwoods	5.71	18.44
	617/641	Mixed Wetland Hardwoods/Freshwater Marshes	0.76	2.45
	641	Freshwater Marshes	21.35	68.92
	814	Roads And Highways	3.09	9.98
		<b>Total<sup>(a)</sup></b>	<b>30.98</b>	<b>100.00</b>

(a) Due to rounding, table values may not exactly sum to the total acres and percentages.

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**Table 2.2-8 (Sheet 1 of 4)**  
**Major Land Use Acreages Within the 50-Mile Region**

Level 3	FLUCCS Land Use Category	Acres	% of Total
110	Residential, Low Density <Less Than Two Dwelling Units Per Acre>	1.73	<0.01
111	Fixed Single Family Units <Less Than Two Dwelling Units Per Acre>	25,112.89	0.95
112	Mobile Home Units <Less Than Two Dwelling Units Per Acre>	72.21	<0.01
113	Residential, Mixed Units <Fixed And Mobile Home Units> <Less Than Two Dwelling Units Per Acre>	22.78	<0.01
118	Rural Residential	14,208.21	0.54
119	Residential, Low Density Under Construction <Less Than Two Dwelling Units Per Acre>	692.72	0.03
120	Residential, Medium Density <Two-Five Dwelling Units Per Acre>	0.37	<0.01
121	Fixed Single Family Units <Two-Five Dwelling Units Per Acre>	130,383.55	4.95
122	Mobile Home Units <Two-Five Dwelling Units Per Acre>	56.77	<0.01
129	Residential, Medium Density Under Construction <Two-Five Dwelling Units Per Acre>	2,772.41	0.11
131	Fixed Single Family Units <Six Or More Dwelling Units Per Acre>	17,490.42	0.66
132	Mobile Home Units <Six Or More Dwelling Units Per Acre>	4,220.80	0.16
133	Multiple Dwelling Units, Low Rise <Two Stories Or Less>	30,535.69	1.16
134	Multiple Dwelling Units, High Rise <Three Stories Or More>	7,238.34	0.27
135	Residential, Mixed Units <Fixed And Mobile Home Units> <Six Or More Dwelling Units Per Acre>	15.30	<0.01
139	Residential, High Density Under Construction <Six Or More Dwelling Units Per Acre>	1,852.51	0.07
140	Commercial And Services	33,873.53	1.29
141	Retail Sales And Services	7,060.66	0.27
142	Wholesale Sales And Services <Excluding Warehouses Associated With Industrial Use>	266.42	0.01
146	Oil And Gas Storage <Except Those Areas Associated With Industrial Use Or Manufacturing>	260.02	0.01
148	Cemeteries	1,092.24	0.04
149	Commercial And Services Under Construction	1,956.17	0.07
150	Industrial	390.41	0.01
154	Oil And Gas Processing	11.45	<0.01
155	Other Light Industrial	10,117.10	0.38
156	Other Heavy Industrial	417.60	0.02
160	Extractive	3.67	<0.01
163	Rock Quarries	4,030.03	0.15
165	Reclaimed Land	781.57	0.03
166	Holding Ponds	9,433.14	0.36
170	Institutional	5,689.47	0.22
171	Educational Facilities	9,649.10	0.37
172	Religious	19.42	<0.01
173	Military	1,623.50	0.06
176	Correctional	955.31	0.04
180	Recreational	723.35	0.03
181	Swimming Beach	634.95	0.02



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**Table 2.2-8 (Sheet 2 of 4)**  
**Major Land Use Acreages Within the 50-Mile Region**

Level 3	FLUCCS Land Use Category	Acres	% of Total
182	Golf Courses	8,925.01	0.34
183	Race Tracks	1,279.08	0.05
184	Marinas And Fish Camps	460.88	0.02
185	Parks And Zoos	7,711.71	0.29
187	Stadiums <Those Facilities Not Associated With High Schools, Colleges Or Universities>	495.02	0.02
190	Open Land	9,834.10	0.37
192	Inactive Land With Street Pattern But Without Structures	1,068.54	0.04
211	Improved Pastures	4,225.05	0.16
212	Unimproved Pastures	755.68	0.03
213	Woodland Pastures	17.42	<0.01
214	Row Crops	13,240.92	0.50
215	Field Crops	25,767.33	0.98
216	Mixed Crops	93.14	<0.01
220	Tree Crops	40.37	<0.01
221	Citrus Groves	6,026.74	0.23
222	Fruit Orchards	6,418.22	0.24
223	Other Groves	153.79	0.01
231	Cattle Feeding Operations	73.40	<0.01
240	Nurseries And Vineyards	10.42	<0.01
241	Tree Nurseries	11,277.64	0.43
242	Sod Farms	370.98	0.01
243	Ornamentals	11,792.88	0.45
250	Specialty Farms	276.71	0.01
251	Horse Farms	495.41	0.02
254	Aquaculture	25.46	<0.01
261	Fallow Crop Land	2,224.42	0.08
310	Herbaceous (Dry Prairie)	7,115.27	0.27
320	Shrub And Brushland	10,957.11	0.42
321	Palmetto Prairies	1.91	<0.01
322	Coastal Scrub	254.81	0.01
323	Abandoned Groves	102.98	<0.01
330	Mixed Rangeland	2,937.05	0.11
411	Pine Flatwoods	6,146.17	0.23
420	Upland Hardwood Forests	8,618.77	0.33
422	Brazilian Pepper	4,519.97	0.17
424	Melaleuca	2,257.98	0.09
427	Live Oak	5.62	<0.01
428	Cabbage Palm	36.15	<0.01
434	Hardwood - Coniferous Mixed	1,160.41	0.04
436	Upland Scrub, Pine And Hardwoods	0.35	<0.01
437	Australian Pines	971.99	0.04
441	Coniferous Plantations	11.54	<0.01
510	Streams And Waterways/Canals	617.61	0.02
511	Ditches	14,602.53	0.55
511/641	Ditches/Freshwater Marshes	2.99	<0.01

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**Table 2.2-8 (Sheet 3 of 4)**  
**Major Land Use Acreages Within the 50-Mile Region**

Level 3	FLUCCS Land Use Category	Acres	% of Total
512	Channelized River, Stream, Waterway	11,552.62	0.44
520	Lakes	960.47	0.04
530	Reservoirs	22,022.67	0.84
531	Reservoirs Larger Than 500 Acres (202 Hectares)	12.83	<0.01
534	Reservoirs Less Than 10 Acres (4 Hectares) Which Are Dominant Features	14.84	<0.01
541	Embayments Opening Directly Into The Gulf Of Mexico Or The Atlantic Ocean	431,309.56	16.37
542	Embayments Not Opening Directly Into The Gulf Of Mexico Or The Atlantic Ocean	16,182.61	0.61
543	Enclosed Saltwater Ponds Within A Salt Marsh	6,601.01	0.25
571	Atlantic Ocean	186,688.30	7.09
611	Bay Swamps	2,510.05	0.10
612	Mangrove Swamps	266,911.62	10.13
612/618	Mangrove Swamps/Exotic Wetland Hardwoods	1.85	<0.01
612/619	Mangrove Swamps/Exotic Wetland Hardwoods	4.47	<0.01
612-A	Mangrove Heads	12.20	<0.01
612-B	Dwarf Mangroves	113.29	<0.01
612-B/6411	Dwarf Mangroves/Sawgrass	42.87	<0.01
617	Mixed Wetland Hardwoods	107,695.45	4.09
617/641	Mixed Wetland Hardwoods/Freshwater Marshes	732.37	0.03
617/643	Mixed Wetland Hardwoods/Wet Prairies	<0.01	<0.01
617-P	Mixed Wetland Hardwoods Planted	0.48	<0.01
618	Willow And Elderberry	1.61	<0.01
619	Exotic Wetland Hardwoods	14,242.97	0.54
619/631	Exotic Wetland Hardwoods/Wetland Scrub	30.71	<0.01
619/641	Exotic Wetland Hardwoods/Freshwater Marshes	38.30	<0.01
619-AP	Exotic Wetland Hardwoods-Australian Pine	0.58	<0.01
621	Cypress	27,254.84	1.03
624	Cypress - Pine - Cabbage Palm	2,427.97	0.09
625	Hydric Pine Flatwoods	11,471.81	0.44
630	Wetland Forested Mixed	650.78	0.02
631	Wetland Shrub	39.45	<0.01
631/641	Wetland Scrub/Freshwater Marshes	5.04	<0.01
641/643	Freshwater Marshes/Wet Prairies	3.67	<0.01
641	Freshwater Marshes	890,026.17	33.78
6411	Sawgrass Marsh	14.03	<0.01
642	Saltwater Marshes	33,359.60	1.27
643	Wet Prairies	29,122.50	1.11
644	Emergent Aquatic Vegetation	7,019.07	0.27
650	Non-Vegetated Wetlands	1,663.59	0.06
651	Tidal Flats	21,533.42	0.82
720	Sand Other Than Beaches	10.62	<0.01
740	Disturbed Land	378.98	0.01
743	Spoils Areas	300.08	0.01
743-WET	Wetland Spoils Areas	9.12	<0.01

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**Table 2.2-8 (Sheet 4 of 4)**  
**Major Land Use Acreages Within the 50-Mile Region**

<b>Level 3</b>	<b>FLUCCS Land Use Category</b>	<b>Acres</b>	<b>% of Total</b>
744	Fill Areas <Highways-Railways>	2,330.92	0.09
810	Transportation	497.98	0.02
811	Airports	9,123.75	0.35
812	Railroads	801.50	0.03
814	Roads And Highways	18,743.52	0.71
815	Port Facilities	1,195.54	0.05
820	Communications	367.23	0.01
830	Utilities	39.47	<0.01
831	Electric Power Facilities	6,232.23	0.24
832	Electrical Power Transmission Lines	2,805.60	0.11
833	Water Supply Plants	155.02	0.01
834	Sewage Treatment	905.28	0.03
835	Solid Waste Disposal	1,720.74	0.07
	<b>Total<sup>(a)</sup></b>	<b>2,634,940.55</b>	<b>100.00</b>

(a) Due to rounding, table values may not exactly sum to the total acres and percentages.

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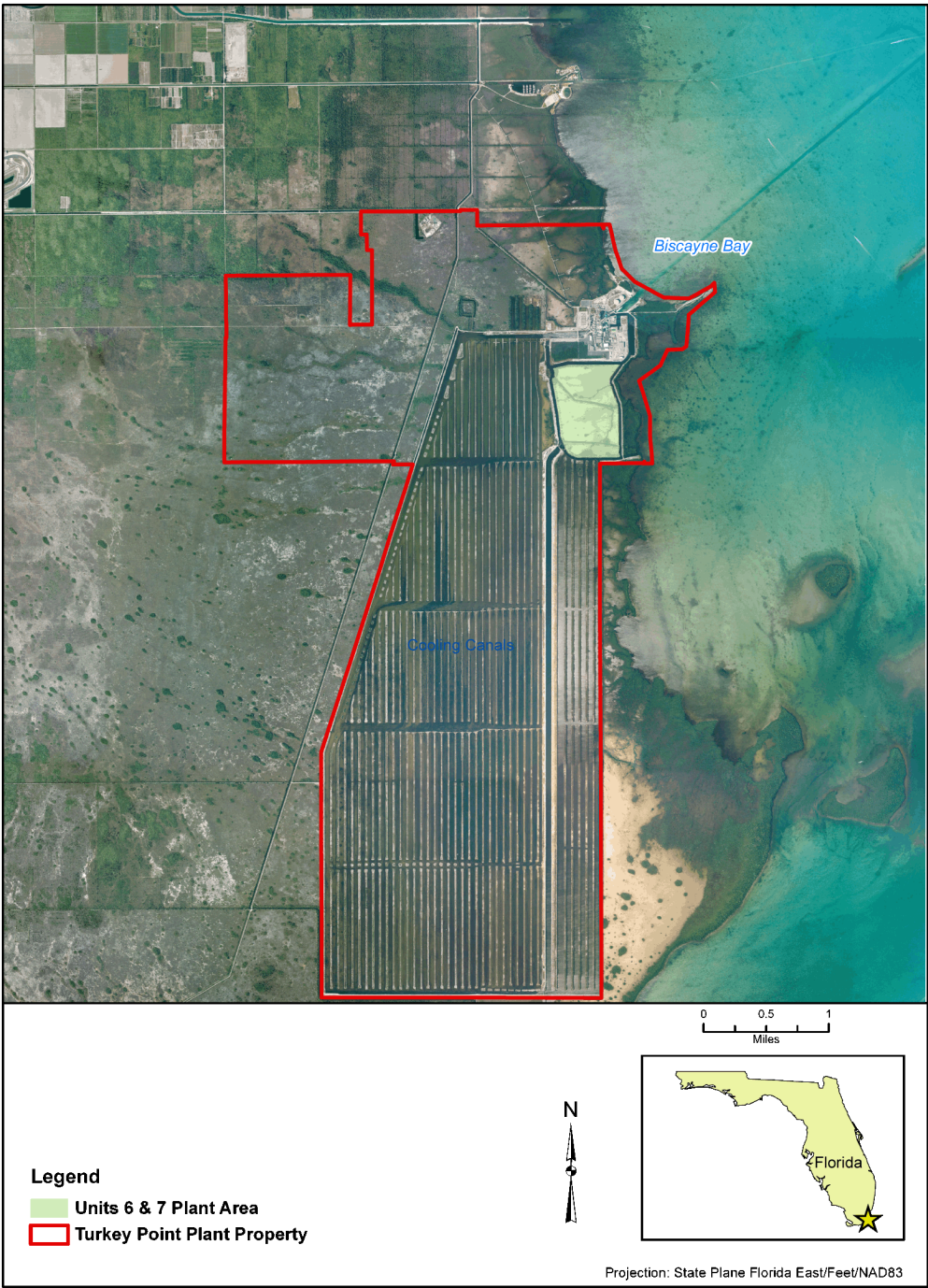
**Table 2.2-9**  
**Farms and Harvested Land in Broward, Collier, Miami-Dade, and Monroe Counties**

Item	Broward County			Collier County		
	1997	2002	2007	1997	2002	2007
Approximate land area (square miles)	1,197	1,197	1,197	2,025	2,025	2,025
Land in farms (acres)	30,897	23,741	8,737	277,279	180,852	109,934
Number of farms	347	494	547	235	273	322
Average size farm (acres)	89	48	16	1,180	662	341
Harvested land (acres)	3,737	4,385	2,577	55,213	NA <sup>(a)</sup>	35,288
Item	Miami-Dade County			Monroe County		
	1997	2002	2007	1997	2002	2007
Approximate land area (square miles)	1,946	1,946	1,946	997	997	997
Land in farms (acres)	85,093	90,373	67,050	NA <sup>(a)</sup>	102	187
Number of farms	1,576	2,244	2,498	NA <sup>(a)</sup>	18	23
Average size farm (acres)	54	40	27	NA <sup>(a)</sup>	6	8
Harvested land (acres)	62,693	55,142	49,065	NA <sup>(a)</sup>	NA <sup>(a)</sup>	NA <sup>(a)</sup>

(a) Information not available (NA) in source references, or information considered to be inaccurate.  
References: AgCensus 2004a, b, c, d; Broward Aug 2003; NASS 2002a, b, c, d; NASS 2007; USCB 2009a, b, c.

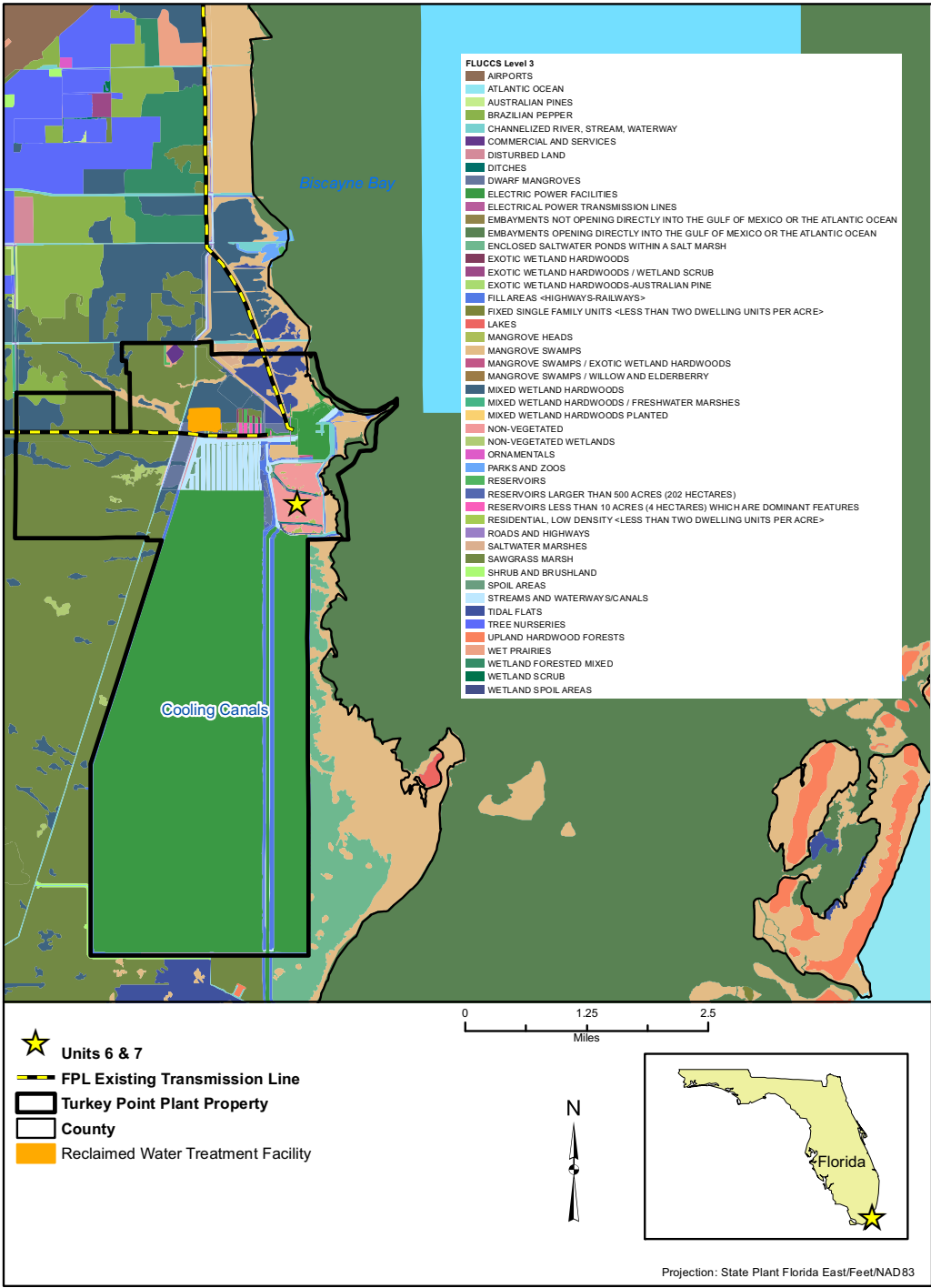
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**Figure 2.2-1 Turkey Point Units 6 & 7**



# Turkey Point Units 6 & 7 COL Application Part 3 — Environmental Report

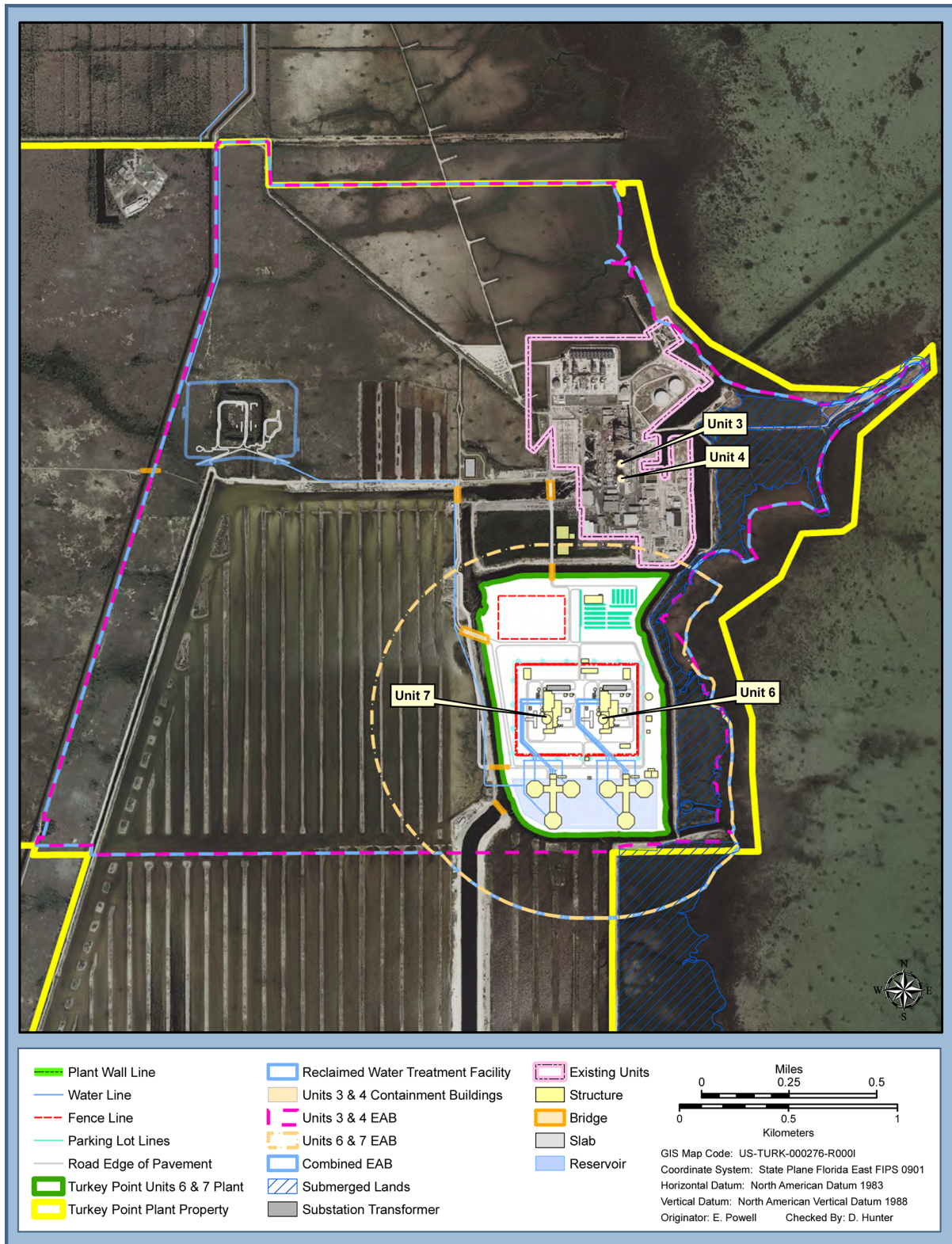
**Figure 2.2-2 Land Use**





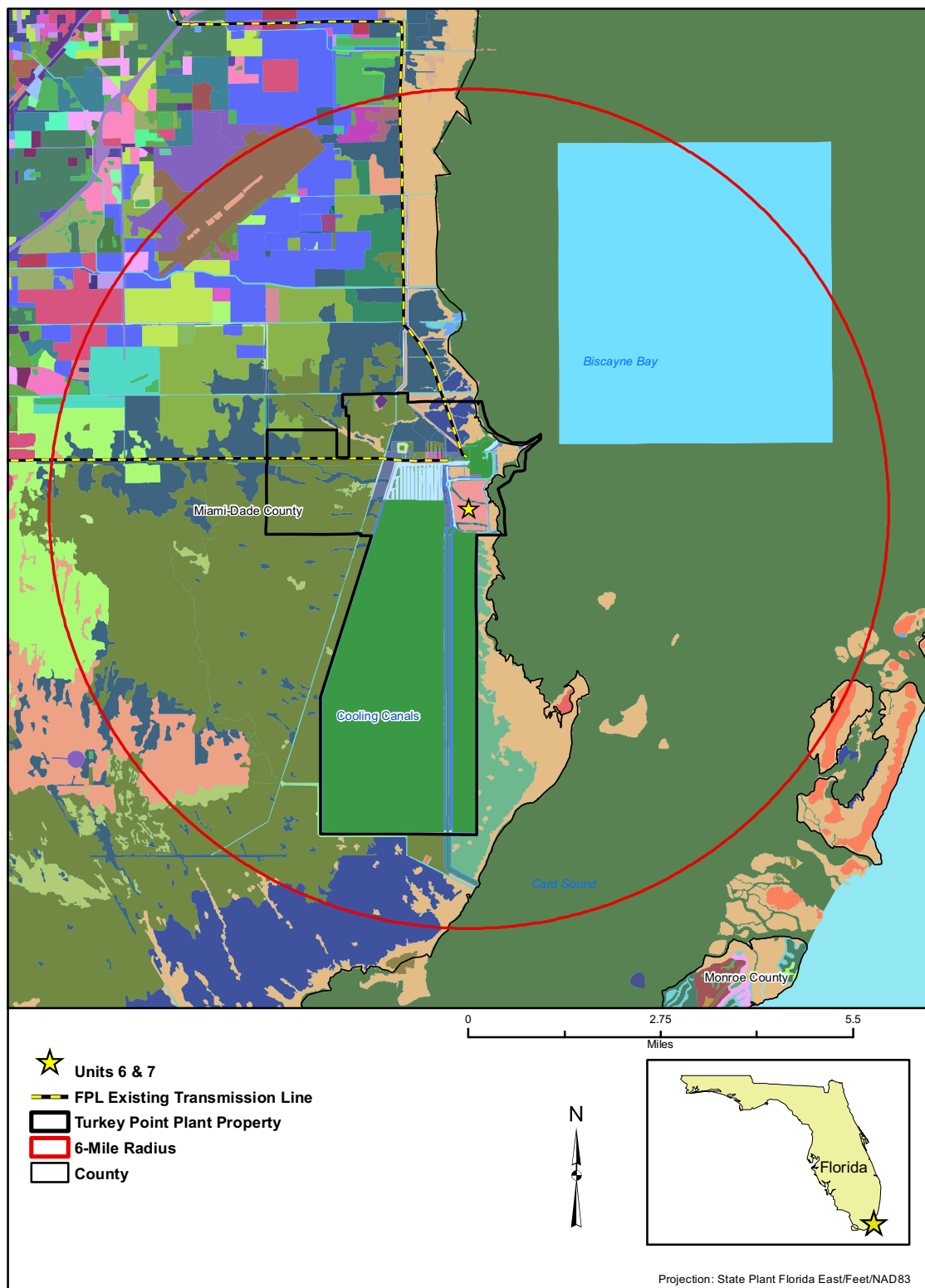
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**Figure 2.2-3 Turkey Point Exclusion Area Boundary**



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**Figure 2.2-4 6-Mile Land Use (Sheet 1 of 5)**





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**Figure 2.2-4 6-Mile Land Use (Sheet 2 of 5)**



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COL Application  
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**Figure 2.2-4 6-Mile Land Use (Sheet 3 of 5)**



Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

**Figure 2.2-4 6-Mile Land Use (Sheet 4 of 5)**



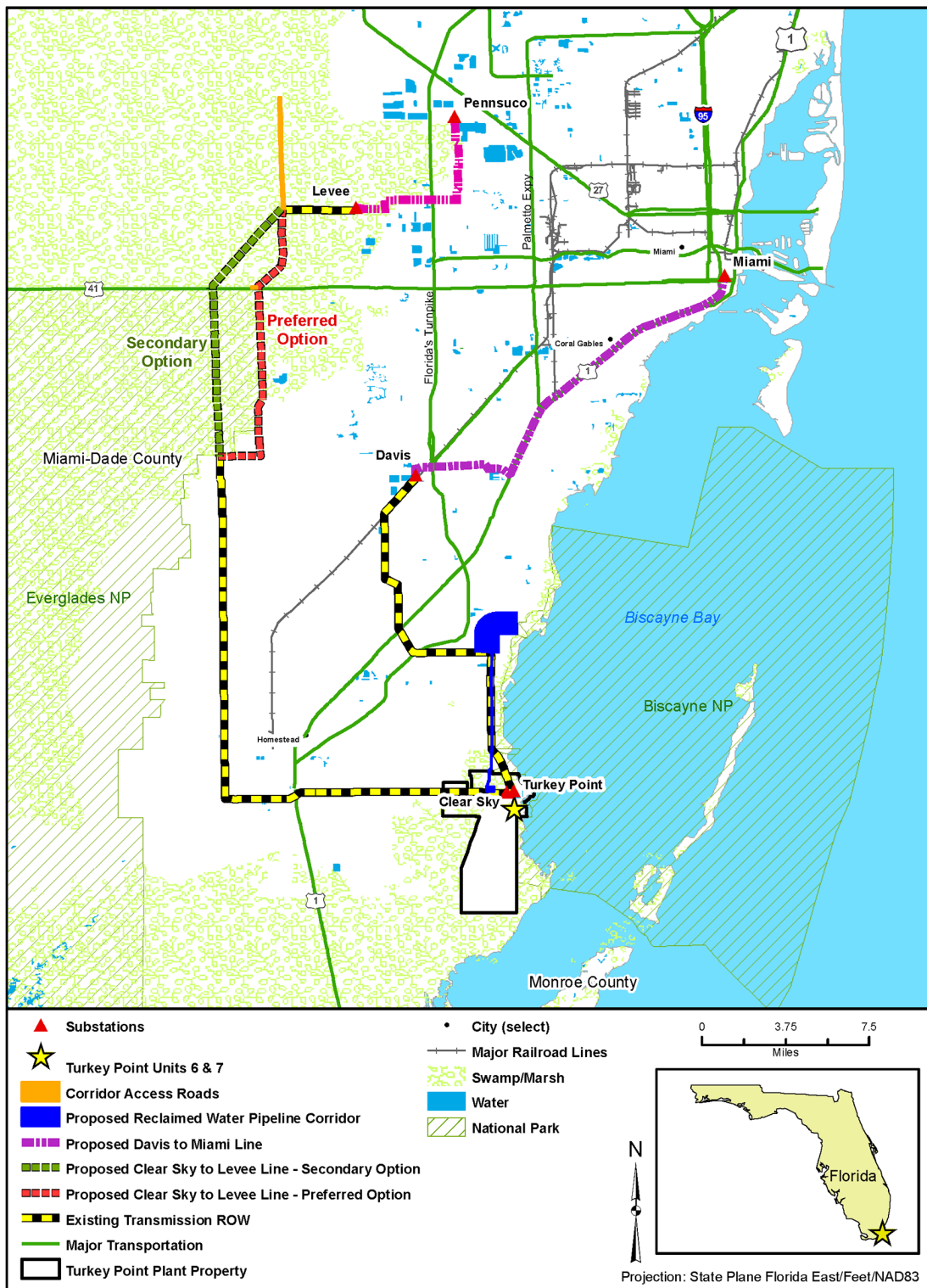
Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

**Figure 2.2-4 6-Mile Land Use (Sheet 5 of 5)**



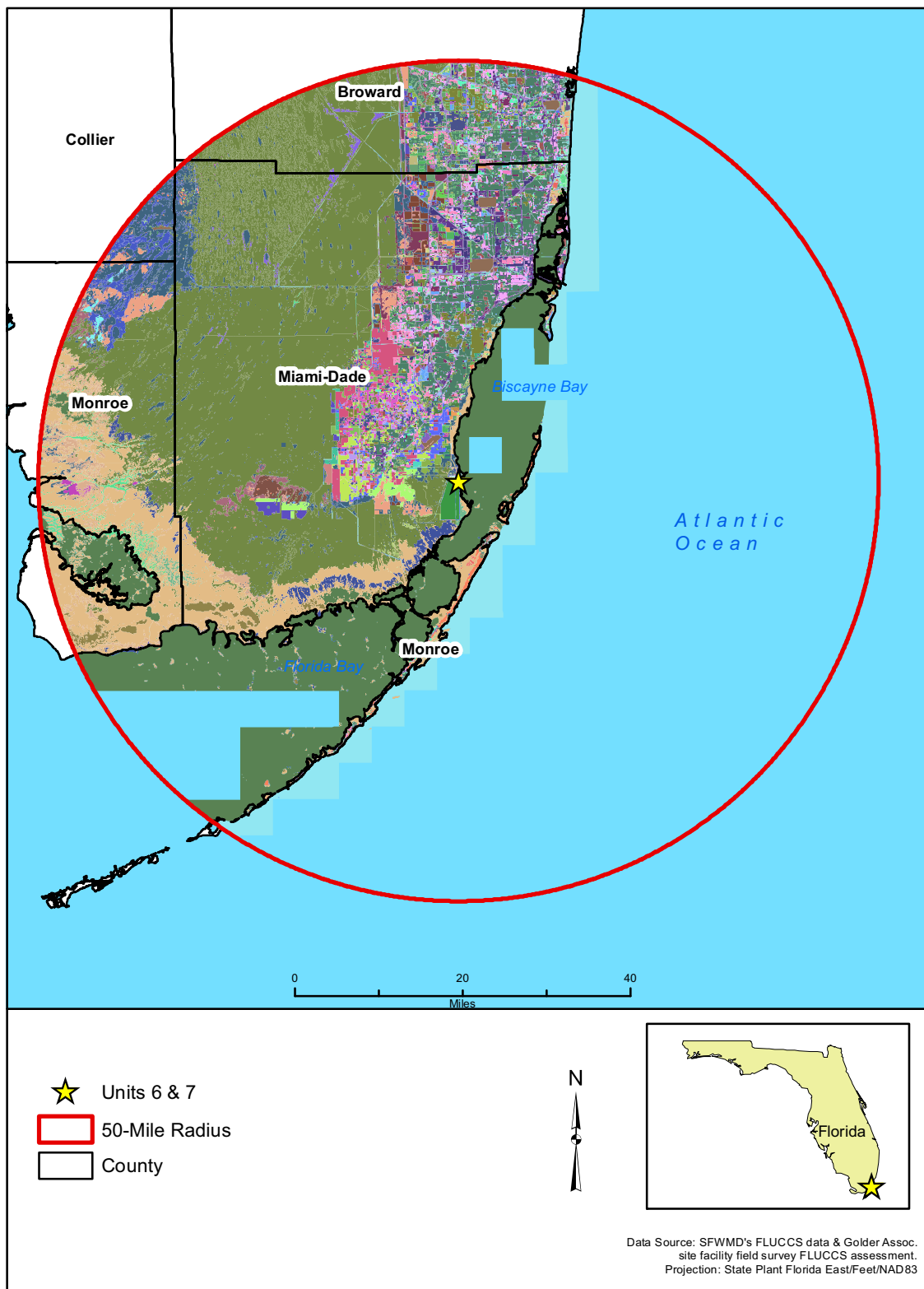
Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

**Figure 2.2-5 Transmission System and Reclaimed Water Pipelines Route**



Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

Figure 2.2-6 50-Mile Land Use (Sheet 1 of 5)



Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

**Figure 2.2-6 50-Mile Land Use (Sheet 2 of 5)**



Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

**Figure 2.2-6 50-Mile Land Use (Sheet 3 of 5)**





Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

**Figure 2.2-6 50-Mile Land Use (Sheet 4 of 5)**



Turkey Point Units 6 & 7  
COL Application  
Part 3 — Environmental Report

**Figure 2.2-6 50-Mile Land Use (Sheet 5 of 5)**

