BIOLOGICAL ASSESSMENT REPORT

DCP Midstream, LP
Jefferson County NGL Fractionation Plant

Prepared for:

DCP Midstream, LP
Houston, Texas

FOR SPIRIT ENVIRONMENTAL, LLC

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1.0 PROJECT DESCRIPTION

DCP Midstream, LP ("DCP") has submitted an air permit application to the United States Environmental Protection Agency ("USEPA") Region 6 proposing to construct a Natural Gas Liquids ("NGL") Fractionation facility. The facility will be located in Jefferson County, Texas, approximately 2 miles south of Beaumont, Texas (Figure 1-1). The site will be referred to as the "Jefferson County NGL Fractionation Plant."

As part of its review and permit issuance process, the USEPA must assess whether the action of issuing the permit will result in: (1) adverse impacts to any Threatened or Endangered Species ("TES") under the authority of the Endangered Species Act ("ESA"), or (2) adverse impacts to any critical habitat designated for such TES. The assessment must be performed in consultation with the United States Fish and Wildlife Service ("USFWS") and/or the National Marine Fisheries Service ("NMFS"), whichever agency has jurisdiction over management of the species and its habitat. This Biological Assessment ("BA") was commissioned by DCP to assist the USEPA in its compliance with the appropriate provisions of the ESA.

The facility, as currently proposed, is a two-train NGL fractionation plant designed to separate Y-grade NGL feed into liquid products (ethane, propane, butane, isobutane, and natural gasoline). The facility will have a nominal capacity of 75,000 barrels per day ("bpd") per train and also will include amine treating, mercaptan treating, molecular sieve dehydration, hot oil as the primary heat source, refrigerant propylene and wet surface air condensers ("WSAC") for cooling, a thermal oxidizer ("TO") for control of waste gas streams, and a flare. Compression for the propylene refrigeration will be accomplished using compressors powered by electric motors. The hot oil for the process will be heated using natural gas-fired heaters. Heat exchangers will be incorporated throughout the process to take advantage of heating and cooling efficiencies. The feed to the NGL facility will be supplied from an existing pipeline and/or from underground storage. The product distribution will consist of pipeline delivery to underground storage and/or sales.

Figure 1-1 shows the location of the proposed project boundary, along with off-site linear facilities that will be developed in support of the project. The land purchased for the proposed project is a 535-acre ("ac") tract; however, only about 70 acres will actually be disturbed for the construction of the plant. In support of the plant, several off-site linear features will also be developed. The linear facilities include an access road, a pipeline corridor connecting the plant site to the existing DCP Spindletop Storage Facility, a fuel gas pipeline connecting to an existing fuel gas pipeline, a feedstock pipeline connecting the site to an existing natural gas liquids pipeline, and a wastewater discharge pipeline. Many of these linear facilities will share a common corridor and, where possible, will be located within existing maintained right of way ("ROW"). The following off-site linear facilities will be constructed beyond the existing property boundary: (1) an approximate 1,000-foot ("ft") access road connecting the plant site to Erie Rd to the north; (2) an approximate 15,000-ft pipeline corridor connecting the plant site to the DCP Spindletop Storage Facility located northeast of the site; (3) an approximate 1,650-ft fuel gas pipeline connecting an existing fuel gas pipeline also used for an existing DCP natural gas plant located north of the site; (4) an approximate 2,400-ft feedstock pipeline connecting the site to an existing natural gas liquids pipeline also located north of the site; and (5) an approximate 900-ft wastewater discharge pipeline from the site to Hillebrandt Bayou.

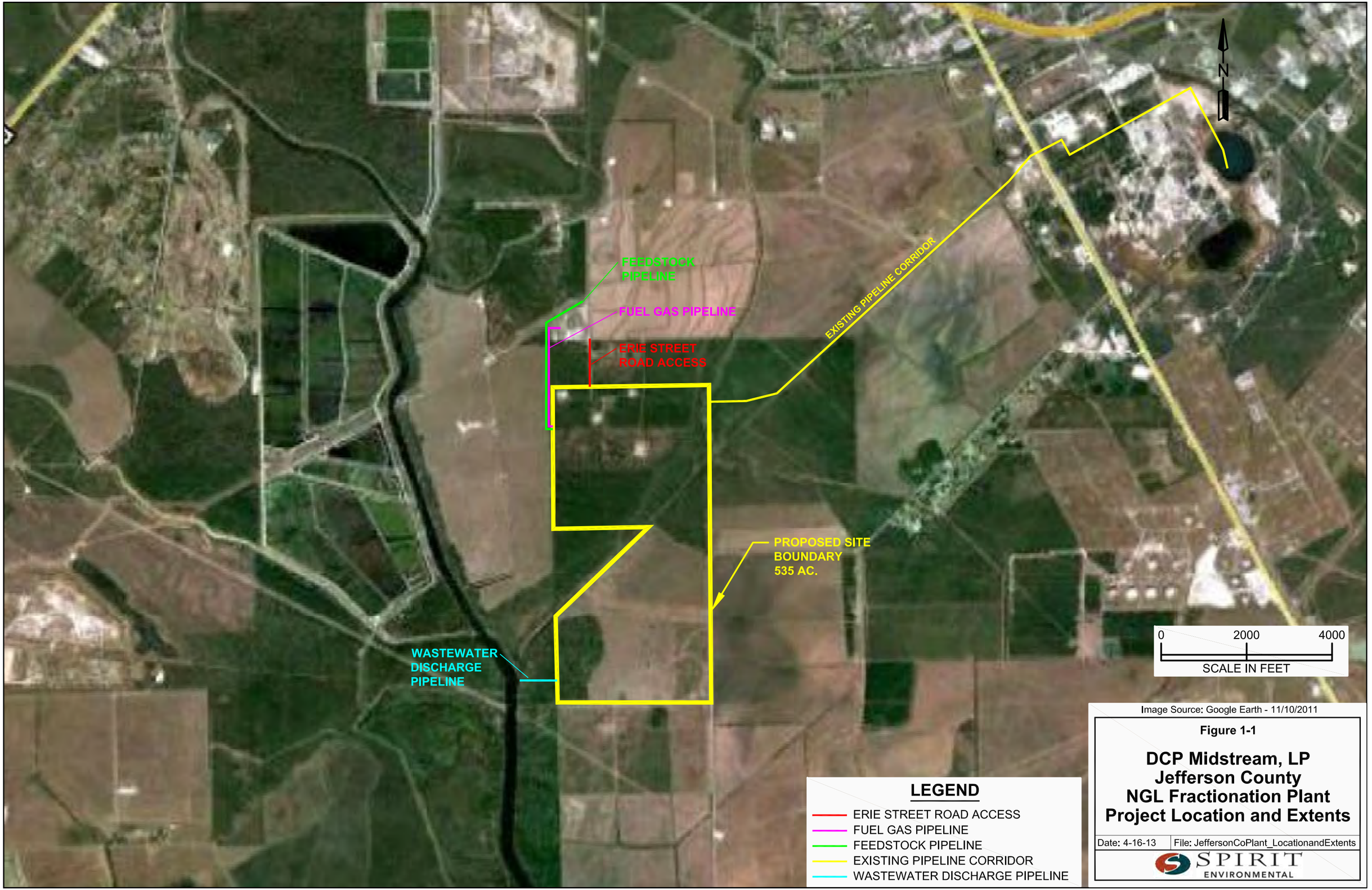

Image Source: Google Earth - 11/10/2011

Figure 1-1

DCP Midstream, LP
Jefferson County
NGL Fractionation Plant
Project Location and Extents

Date: 4-16-13 | File: JeffersonCoPlant_LocationandExtents

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2.0 SCOPING AND ACTION AREA DETERMINATION

The facility has the potential to emit more than 100,000 tons per year ("tpy") of carbon dioxide equivalents ("CO_2e"); therefore, the facility will be considered a new major stationary source of Greenhouse Gases ("GHG"). Because the facility will be a new major stationary source, it requires a greenhouse gas Prevention of Significant Deterioration ("PSD") air construction permit from USEPA Region 6.

The facility will be a new major stationary source for GHGs; therefore, all other pollutants were assessed against PSD significant emission levels to determine if the potential emission rates would trigger PSD review. A comparison of the PSD significant emission level with the potential site emissions of each non-GHG pollutant is provided in Table 2-1. The potential emissions of non-GHG pollutants in each case are below the PSD significant emission level and, consequently, will not require PSD review. Because the facility will be considered a minor stationary source for criteria pollutants, a minor source air construction permit application for criteria pollutants will be submitted to the Texas Commission on Environmental Quality ("TCEQ").

Table 2-1
DCP Midstream, LP
Jefferson County NGL Fractionation Plant
PSD Significant Emission Level to Potential Site Emissions Comparison

Pollutant	PSD Significant Emission Level (tpy)	Potential Site Emissions (tpy)
NO_X	40	33.04
CO	100	66.28
VOC	40	36.41
SO_2	40	21.92
PM_{10}	15	8.44
$PM_{2.5}$	10	6.90

2.1 PURPOSE OF THE BA

Pursuant to the provisions of Section 7 of the ESA, the USEPA is required to review and assess the project's potential to adversely affect Federally Listed TES as part of the agency's PSD permitting process. This review is to be conducted in consultation with the USFWS and/or NFMS depending on the agency holding jurisdiction over the species in question. Of concern is the project's potential to jeopardize the continued existence of any TES or their designated critical habitat(s). This BA reviews and assesses the potential effects of the project's construction, general operations, and atmospheric emissions on populations and habitats located within an "Action Area." The Action Area is determined by the expected areal extent of significant impacts resulting from these potential effects.

2.2 SCOPING OF THE BA

BAs can range from simple programmatic analyses to detailed impact studies. They typically are based on preliminary discussions among the "parties" to the process called "Scoping Meetings" held prior to any study activities. A Scoping Meeting for this BA was initially held with the USEPA, DCP, and Spirit Environmental, LLC ("Spirit") at the EPA Region 6 Offices in Dallas, Texas on May 17, 2012. The following individuals were present at the Scoping Meeting.

- Tina Arnold representing the USEPA office of General Counsel;
- Pete Stevenson, Lynn Ward, and Marty Smith representing DCP; and
- Brad Herrin and Sam Damico representing Spirit.

During this meeting, the expectations of the USEPA, for whom the BA was to be prepared, were discussed in detail along with the schedule and format of the document and its preparation.

Following the Scoping Meeting with USEPA, a telephone meeting was held on September 19, 2012 between Sam Damico representing Spirit and Edith Erfling, USFWS Field Supervisor. In this meeting, it was agreed that: (1) the USFWS would exercise jurisdiction over any Threatened or Endangered marine reptiles in cases where the potential impacts would occur on-shore, but potential impacts which would occur in offshore waters would require coordination with the

NMFS; and (2) the USFWS would not comment on the scope of the BA until they had the opportunity to review the entire document.

As a result of the Scoping Meetings held with the relevant parties, the scope of this BA will be an evaluation of the potential impacts of (A) project construction and (B) project operations on any Federally Listed TES known or suspected to occur within the Action Area of the project. In addition, an evaluation will be made of the potential impacts to known sensitive resources beyond the limits of the Action Area.

2.3 PRELIMINARY EMISSION ESTIMATES AND IMPACTS ANALYSIS

As part of the permit planning for the project, Spirit prepared emission estimates and performed dispersion modeling to determine what permits would be required to authorize construction of the facility. These estimates are, by design, conservative and likely exceed the final expected emissions once all engineering is completed and the facility is constructed. The resulting predicted impacts from dispersion modeling performed using the estimated emissions from the proposed facility are presented in Table 2-2.

Table 2-2
DCP Midstream, LP
Jefferson County NGL Fractionation Plant
NAAQS Significant Impact Summary

Pollutant	Averaging Period	Standard Classification	Significant Impact Level ($\mu g/m^3$)	Max Predicted Project Impact ($\mu g/m^3$)	Max Predicted Impact Above the Applicable Significant Impact Level?	Radius of Significant Impact (km)	Area of Significant Impact[a] (km^2)	Area of Significant Impact [a] (acres)	NAAQS ($\mu g/m^3$)
NO_2	1-Hour	Primary	7.5	11.06	Yes	0.40	0.13	31.05	188
NO_2	Annual	Secondary	1	0.96	No	N/A	N/A	N/A	100
$PM_{2.5}$	Annual	Primary/Secondary	0.3	0.11	No	N/A	N/A	N/A	15
$PM_{2.5}$	24-Hour	Primary/Secondary	1.2	0.98	No	N/A	N/A	N/A	35
PM_{10}	24-Hour	Primary/Secondary	5	4.66	No	N/A	N/A	N/A	150
SO_2	1-Hour	Primary	7.8	0.37	No	N/A	N/A	N/A	196
SO_2	3-Hour	Secondary	25	1.47	No	N/A	N/A	N/A	
SO_2	24-Hour	Secondary	5	0.22	No	N/A	N/A	N/A	
SO_2	Annual	Secondary	1	0.22	No	N/A	N/A	N/A	1300

[a] **The Area of Significant Impact is calculated as the area of a circle within the Radius of Significant Impact.**

2.4 DETERMINATION OF THE ACTION AREA

For the analysis of impacts due to construction, the Action Area is defined as the 535-ac site location and a nominal 100-ft ROW for each of the off-site linear facilities. The linear facilities represent a combined 44.2 ac of potential impact, albeit primarily to existing maintained ROW. Thus, approximately 579.2 total acres constitute the Construction Impact Action Area. The extent of the Construction Impact Action Area is shown in Figure 2-1.

For the analysis of impacts from plant operations, the Operations Impact Action Area is defined as the maximum area beyond the site boundary where one or more of the Significant Impact Levels ("SILs") for any of the Primary or Secondary National Ambient Air Quality Standards ("NAAQS") are predicted to be exceeded by the impact assessment dispersion modeling. This often extends the Action Area far beyond the boundary limits of small industrial sites. However, due to the unique configuration of combustion sources at the Jefferson County NGL Fractionation Plant, very few offsite receptor locations were found to be exceeded during the modeling process. Figure 2-1A shows the maximum areal extent of modeled offsite receptor locations where any of the NAAQS' SILs are predicted to be exceeded. The maximum distance from the center of emission sources at the proposed facility to any receptor predicted to exceed a NAAQS SIL is 0.25 miles ("mi") (0.40 kilometers), as shown in Table 2-2. This 0.25 mi maximum radius extends to only about 500 ft beyond the southern property boundary as shown in Figure 2-1A.

In addition to the potential effects of atmospheric emissions from plant operations, there are potential effects from wastewater discharges. While the final design of the wastewater systems is not complete, it is assumed that the discharge will be conveyed to Hillebrandt Bayou via buried pipeline. The discharge is expected to consist of cooling tower blowdown and reverse osmosis reject discharged at a maximum rate of 240 gallons per minute ("gpm"). The quality of this wastewater stream is expected to have the following characteristics: total hardness – 110 milligrams per liter ("mg/L"), chlorides – 50 mg/L, sulfates – 70 mg/L, total alkalinity – 75 mg/L, phosphorus 0.2 mg/L, total dissolved solids – 280 mg/L, pH in the range of 6.0 – 8.0 and temperature from 80 – 90 ^{o}F.

For the analysis of potential impacts to known sensitive areas beyond the limits of the Action Area, a database search for sensitive ecological resources was performed for a radius of 3 mi from the center of the project site. This area is shown in Figure 2-1.

Image Source: Google Earth - 11/10/2011

Figure 2-1

DCP Midstream, LP
Jefferson County
NGL Fractionation Plant
Action Area

Date: 4-16-13 | File: JeffersonCoPlant_LocationandExtents

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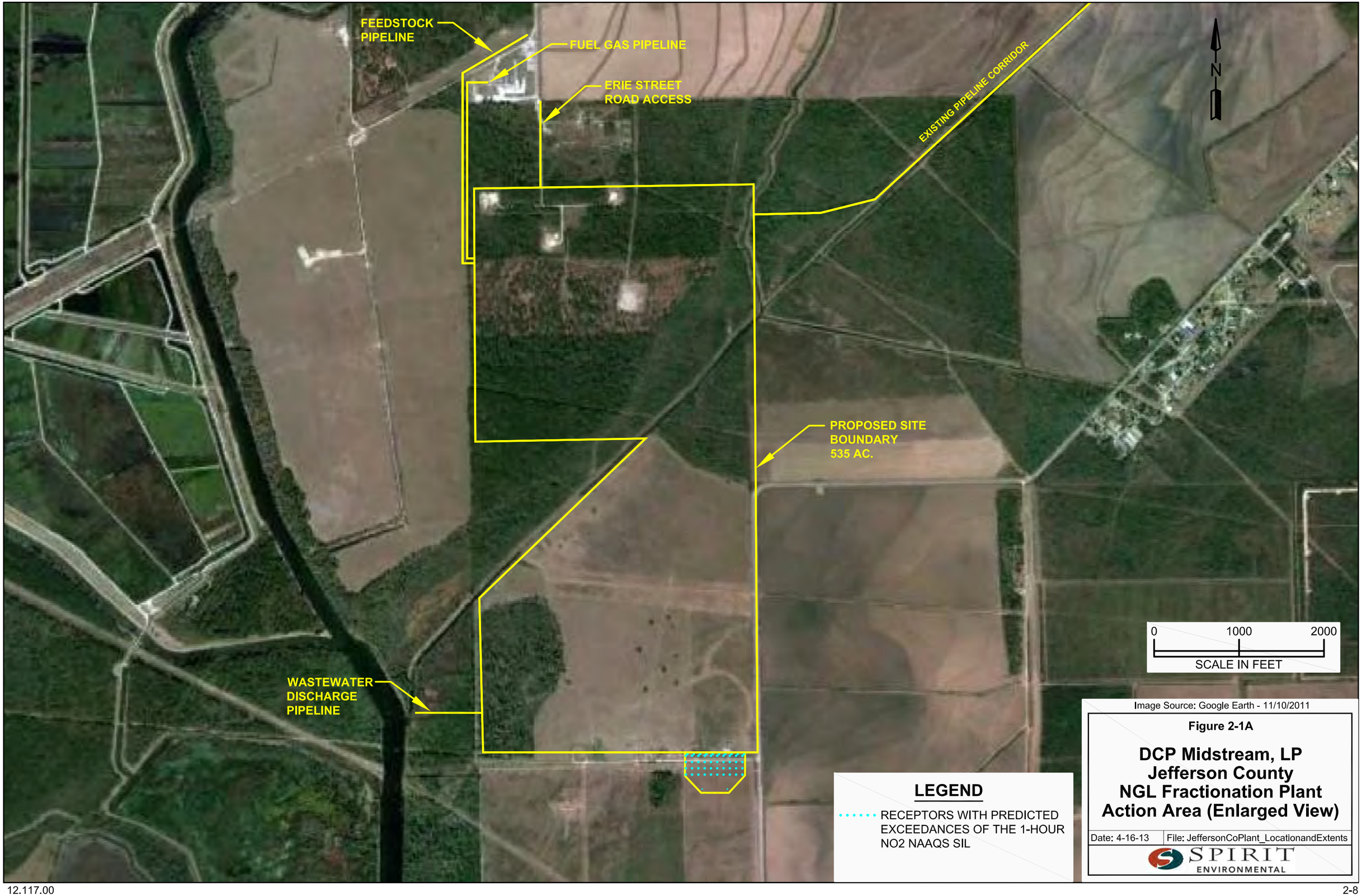

Image Source: Google Earth - 11/10/2011

Figure 2-1A

DCP Midstream, LP
Jefferson County
NGL Fractionation Plant
Action Area (Enlarged View)

Date: 4-16-13 | File: JeffersonCoPlant_LocationandExtents

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3.0 LISTED SPECIES ASSESSED

The scope of this BA is focused on those species listed as Threatened or Endangered under the provisions of the ESA. Also included is the Critical Habitat for any such species as may have been designated. According to the USFWS website, there are nine species listed for Jefferson County (Reference 1, Section 6). The species listed are the piping plover (*Charadrius melo*dus), green sea turtle (*Chelonia mydas*), the smalltooth sawfish (*Pristis pectinata*), the Louisiana black bear (*Ursus americanus luterolus*), the red wolf (*Canus rufus*), the loggerhead sea turtle (*Caretta caretta*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), Atlantic hawksbill sea turtle (*Eretmochelys imbricata*) ,and the leatherback sea turtle (*Dermochelys coriacea*). In addition to these listed species, this BA addresses the Sprague's pipit (*Anthus spragueii*) which has been identified as a candidate for listing as either Threatened or Endangered.

3.1 PIPING PLOVER

The piping plover (*Charadrius melodus*) is a small, sand-colored, sparrow-sized shorebird that nests and feeds along coastal sand and gravel beaches in North America. Piping plovers use wide, flat, open, sandy beaches with very little grass or other vegetation. Piping Plovers will forage for food around the high tide wrack zone and along the water's edge. They mainly eat insects, marine worms, and crustaceans. Piping plovers are very sensitive to the presence of humans. Too much disturbance causes the parent birds to abandon their nest. They are known to winter along the Texas Gulf Coast and the species is listed as Threatened wherever found in the state. There are 34 areas in Texas which have been designated as Critical Habitat for this species. The nearest such designated area is in Brazoria County, over 100 miles from the Jefferson County NGL Fractionation Plant site (Reference 3, Section 6).

3.2 SMALLTOOTH SAWFISH

The smalltooth sawfish is a large (up to 25-ft long) marine fish which historically occurred along the Texas Gulf Coast and north along the Atlantic Coast to North Carolina but currently occur only along the southern tip of Florida. Designated critical habitat for the smalltooth sawfish includes the southern and southwestern coast of Florida. There are no known populations of

smalltooth sawfish along the Texas coast. Smalltooth sawfish have marine and estuarine habitat requirements. They are seldom found in shallow (less than 150-ft) waters and are a benthic dwelling species (Reference 4, Section 6). No habitat suitable to support this species exists within or near the action area for this BA.

3.3 LOUISIANA BLACK BEAR

The Louisiana Black Bear is listed as threatened in Jefferson County, Texas on the basis of historical record. All verified occurrences in the state are from northeast Texas. Preferred habitat for this species includes large, contiguous, mixed bottomland hardwood forests with little or no human activity. Females prefer winter den sites in hollow trees, especially cypress or tupelo. The nearest designated critical habitat is located in the eastern one-third of Louisiana (Reference 5, Section 6). This species does not occur within the Action Area,

3.4 RED WOLF

The red wolf is currently considered to be extirpated in Texas. Its historic range at one time included the eastern half of Texas east to the Atlantic coast and the northeast U.S. No critical habitat has been designated for this species (Reference 6, Section 6),

3.5 GREEN SEA TURTLE

The green sea turtle (*Chelonia mydas*), like other marine reptiles, spends most of its life in open waters with the females only coming ashore to lay their eggs. The adult reaches a size of over 4 feet across and can weigh up to 500 lbs. Open sandy beaches with a sloping platform are required for nesting. It is Endangered throughout the world and remains vulnerable to such pressures as fishing nets, predation, and loss of nesting habitat due to beach erosion and development. No Critical Habitat has been designated in Texas for the green sea turtle (Reference 7, Section 6).

3.6 LOGGERHEAD SEA TURTLE

The loggerhead sea turtle (*Caretta caretta*), or loggerhead, is an oceanic turtle distributed throughout the world. Loggerhead sea turtles, listed as Threatened, spend most of their lives in the open ocean and in shallow coastal waters. They rarely come ashore, with the exception of the females' brief visits to construct nests and deposit eggs. Hatchling loggerhead turtles live in floating mats of *Sargassum* algae. Adults and juveniles live along the continental shelf, as well as in shallow coastal estuaries. The loggerhead has been severely impacted as a result of loss of habitat for nesting. Ironically, beach nourishment practices have also impacted nesting success due to the unsuitable characteristics of the replacement sands for turtle nest building. No Critical Habitat has been designated in Texas for the loggerhead sea turtle (Reference 8, Section 6).

3.7 KEMP'S RIDLEY SEA TURTLE

The Kemp's Ridley sea turtle (*Lepidochelys kempii*) is a marine reptile found in the Atlantic Ocean and the Gulf of Mexico. It is listed as Endangered throughout its range. The Kemp's Ridley sea turtle is the smallest of the sea turtles, with adults reaching about 2 feet in length and weighing up to 100 pounds. After hatching, males spend their entire lives in the water while the female comes ashore only to nest. A female will lay eggs during the day and may return to the same nesting beach the next year. Females reach sexual maturity in 10-15 years. A female may lay as many as 120 eggs in a nest, and may nest up to 3 times during the nesting season. Eggs hatch in 50-55 days and the hatchlings return to the sea. Kemp's Ridley sea turtles usually nest on the Gulf Coast beaches of Mexico and Texas from April to July. No Critical Habitat has been designated in Texas for the Kemp's Ridley sea turtle (Reference 9, Section 6).

3.8 ATLANTIC HAWKSBILL SEA TURTLE

The Atlantic hawksbill sea turtle (*Eretmochelys imbricata)* occurs in tropical and subtropical seas of the Atlantic, Pacific, and Indian oceans. This species is listed as Endangered throughout its range in the United States. It is seen most often in Florida where the warm Gulf Stream current passes close to shore. Texas is the only other state where hawksbills are sighted with any regularity; however, nesting is not known to occur, other than in Florida within the continental

United States. Most Texas sightings are of juveniles hauling out on stone jetties. They feed primarily on sponges when inhabiting the Texas coastal regions. No Critical Habitat has been designated for the hawksbill sea turtle (Reference 10, Section 6).

3.9 LEATHERBACK SEA TURTLE

The leatherback sea turtle (*Dermochelys coriacea)* is federally listed as Endangered worldwide. Nesting in the United States occurs primarily in southeastern Florida. It is the largest of the sea turtles, reaching a weight of as much as 2,000 pounds. Observations of leatherbacks in Texas have primarily been due to strandings. Only adult females are known to leave the water for nesting. No Critical Habitat has been designated in Texas for the leatherback sea turtle (Reference 11, Section 6).

3.10 SPRAGUE'S PIPIT

The USFWS reviewed the conservation status of Sprague's pipit (*Anthus spragueii)* to determine whether the species warrants protection under the ESA. The status review found that listing Sprague's pipit as Threatened or Endangered is warranted but that listing the species at this time is precluded by the need to complete other listing actions of a higher priority. The Sprague's pipit is a relatively small songbird endemic to the North American grasslands. The Sprague's pipit is a ground nester that breeds and winters on open grasslands (Reference 12, Section 6). There is no such open grassland habitat in abundance within the Action Area for this BA.

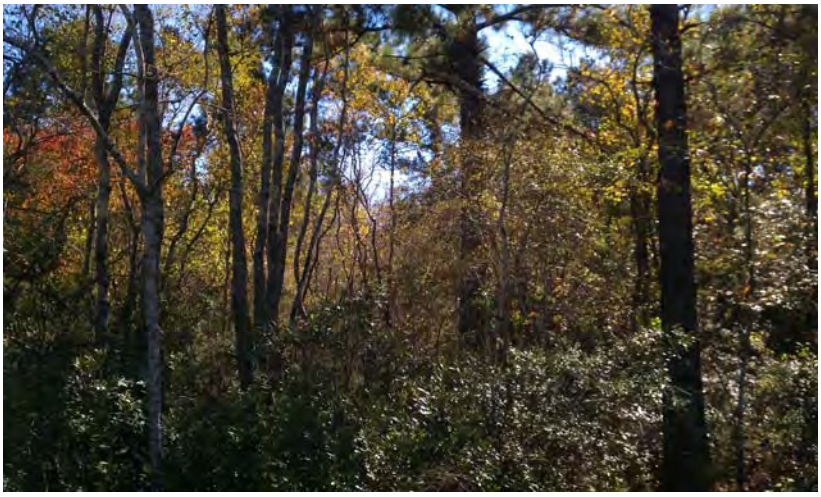
4.0 BA METHODOLOGY

4.1 CONSTRUCTION IMPACT ASSESSMENT

For the Construction Impact Action Area, those areas subject to physical disturbance during construction were traversed in a pedestrian survey to describe the vegetative habitat present at the site. Representative transects were walked through for each of the five habitat types observed at the site. Along each transect, multiple soil test pits were excavated in order to generally characterize the soils present. The off-site components of the linear facilities were traversed for their entire extents.

4.1.1 MIXED FOREST HABITAT

Approximately 22.4% of the site is composed of mature mixed forest habitat. The northern one-third of the site is in mature mixed hardwoods as is another tract along the southern border. This habitat is characterized by oak, maple, sweet gum, and elm trees. Some Chinese tallow tree invasion is occurring in this habitat. Crown cover exceeds 80% in most of this habitat. Most trees appear to be from 30 to 60 years old. The understory of saplings and some variable woody shrubbery is thick and dense. The terrain is flat and drainage is poor with typical slopes of one percent or less. This habitat is shown in the following photograph.



Mixed Forest Habitat

4.1.2 MIXED FOREST RECENTLY HARVESTED HABITAT

The mixed forest recently harvested habitat represents about 12.9% of the site. It consists of various oak species, along with sweet gum and occasional loblolly pine trees. Most of the area is composed of baccharis and sesbanea (rattlebox) in the shrub layer which has established itself since the tree harvesting several years ago. The terrain is flat and drainage is poor, but extreme rutting of the soils has allowed water to pond in many areas following rainfall. Chinese tallow trees are rapidly invading this habitat. An example of the mixed forest recently harvested habitat is shown in the following photo.

Mixed Forest Recently Harvested Habitat

4.1.3 MIXED FOREST - WETLAND HABITAT

The mixed bottomland hardwoods represent approximately 22.4% of the site. These poorly drained and flat surfaces show signs of prolonged soil saturation and surface ponding and inundation. Dominant trees are oak, sweet gum, and Chinese tallow trees. Herbaceous and shrub species include palmetto palm, bacharris, and grape vine. Blackberry and smilax are also common in the wetland herbaceous layers. An example of the mixed forest - wetland habitat is shown in the following photo.

Mixed Forest Wetland Habitat

4.1.4 CLEARED - GRADED HABITAT

Four areas within the site boundaries have been cleared and graded and are the locations of deep disposal wells at the site. Very little vegetation occurs at these locations which represent approximately 1.4% of the site. The following photograph shows the typical cleared and graded habitat characteristics.

Cleared – Graded Habitat

4.1.5 PASTURE

Approximately 40.9% of the site is abandoned rice farm land that has been converted to cattle grazing. It consists of native grasses and palmetto palm with occasional small groups of two to four hardwood trees widely dispersed within the site boundary. The terrain is flat and poorly drained. The following photograph shows the typical pasture habitat.

Pasture Habitat

4.2 OPERATIONS IMPACT ASSESSMENT

Within the Operations Impact Action Area, the habitat types were identified as pasture habitat for the emissions impacts and Hillebrandt Bayou immediately west of the site, located in Segment 0704 of the Neches-Trinity Coastal Basin only.

The impacts from the facility's emissions can be classified as resulting from direct exposure or resulting from deposition. Historically, the SIL associated with the Secondary NAAQS has been considered sufficient to protect biological resources. However, on April 3, 2012, the USEPA published new rules in the Federal Register which concluded that, in the case of deposition, the Secondary NAAQS may not be sufficient to protect the public welfare (including biological resources) and directed that new studies be performed within the next five years to evaluate

whether new standards need be adopted (Reference 14, Section 6). That rule summarizes the paucity of information regarding the direct and indirect effects of both exposure and deposition of NO_X and SO_2. No information more recent or relevant to the sources reviewed in Reference 14 was found in the several internet searches performed for this BA.

The water use classification of Hillebrandt Bayou at the expected discharge point is Primary Contact Recreation with an aquatic life subcategory of Intermediate. It is not a domestic water supply source. The in-stream criteria are: chlorides – 250 mg/L, sulfates – 100 mg/L, total dissolved solids – 600 mg/L, dissolved oxygen – 4.0 mg/L, and temperature – 95^{o}F. The most recently available United States Geological Survey ("USGS") data from a gauging station near the discharge point listed the stream width at approximately 110 feet and depth varying from 4.9 feet to 8.4 feet. Maximum flows were measured at 15,000 cubic feet per second ("cfs") (Reference 15, Section 6). The projected discharge rate of 240 gpm is equivalent to approximately 0.5 cfs or 1/30,000th of the maximum flow rate of the receiving stream. The quality of this wastewater stream is expected to have the following characteristics: total hardness – 110 milligrams per liter ("mg/L"), chlorides – 50 mg/L, sulfates – 70 mg/L, total alkalinity – 75 mg/L, phosphorus 0.2 mg/L, total dissolved solids – 280 mg/L, pH in the range of 6.0 – 8.0 and temperature from 80 – 90 ^{o}F. This minimal flow of relatively uncontaminated wastewater into such a large receiving stream is considered to be below any significance levels for purposes of this BA and does not support quantification of an action area for wastewater discharges. However, DCP Midstream will be required to apply for and receive authorization for this discharge from the USEPA, prior to operation of the plant. It is assumed that any authorized discharges will be regulated to minimize impacts on the aquatic life in Hillebrandt Bayou and that it may be concluded that such authorized discharges will not cause impacts to TES in the stream.

4.3 ASSESSMENT OF IMPACTS TO KNOWN SENSITIVE RESOURCES

The assessment of impacts to known sensitive resources was based on a review of the Texas Parks and Wildlife ("TPWD") Texas Natural Diversity Database ("TNDD"). The TPWD

database was accessed on June 29, 2012 for a radius of 3 mi from the center of the site. No sensitive areas were noted in the TNDD within the stated radius. The nearest locations with sensitive components were two rookeries located approximately 5.1 miles (EO_ID 6977) and 6.5 miles (EO_ID 2971) due east of the site, respectively. Approximately 6.5 mi due south of the site is the closest portion of the J.D. Murphree Wildlife Management Area (MA_Feature_ID 918) (Reference 16, Section 6).

5.0 EFFECTS ANALYSIS

Developments such as the present project have the potential for adversely affecting Federally Listed TES in a number of direct and indirect ways. Direct effects involve taking or injuring of one or more individuals from a population. Conversely, there can be indirect effects such as significant alteration of one or more of the basic life necessities for the TES to survive or flourish. Each listed TES is evaluated in the following sections.

5.1 PIPING PLOVER

The construction impact assessment established that there was no evidence of existing shoreline habitat necessary to support feeding or breeding activities for the piping plover at the site or along the linear facilities. This BA concludes there will be no direct impact to the piping plover due to construction of the facility and its linear components, on the basis that no evidence was found to indicate that the species is present on the site or that there exists any habitat suitable to support this species.

Driving surveys and aerial photograph interpretation performed in the operations impact assessment indicated that the offsite pasture habitats were likely equivalent to those found onsite and also were not conducive to piping plover habitation. Since habitat destruction in the operations impact action area is not an issue, the potential for adverse impacts due to operational emissions and wastewater discharges are the only potential effects to be evaluated. Maximum predicted levels of NO_X and SO_2 are well below the NAAQS to protect the public welfare (including biological resources) from exposure (Table 2-2). Any concern with regard to deposition is moot, considering this animal is not susceptible to depositional effects such as uncontrolled runoff and leaching into aquatic systems. The dilutive effects of mixing the small volume of wastewater with the relatively large flows of Hillebrandt Bayou render any potential impacts from operational discharges to *de minimus* levels. This BA concludes there will be no impact to the piping plover from the operation of the facility on the basis that no evidence was found to indicate that the species is present within the Operations Impact Action Area and that emission levels and wastewater discharges are not sufficient to impact the species. Finally, any

potential depositional impacts would not adversely affect the piping plover as it is not an aquatic species.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the piping plover within 3 mi of the proposed facility. This BA concludes there will be no impact on the piping plover within 3 mi of the project due to construction or operation of the plant or its linear facilities.

5.2 SMALLTOOTH SAWFISH

The construction impact assessment documented there to be no marine/estuarine habitat to support this marine species within the action area. No shallow water marine waters occur within 25 mi of the Construction Impact Action Area. Therefore, the construction of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not contain any habitat to support the marine benthic requirements of this species. The nearest marine habitat is located approximately 25 mi due south of the site. To be exposed to operations discharges, the animal would have to swim upstream through freshwater for over 25 miles to reach detectable concentrations of diluted wastewater constituents. Therefore, it is concluded that there will be no impacts resulting from operation of the plant.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the smalltooth sawfish within 3 mi of the facility. This BA concludes there will be no impact on the smalltooth sawfish or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

5.3 LOUISIANA BLACK BEAR

The construction impact assessment documented there to be no bottomland hardwood habitat suitable to support the life history of the Louisiana black bear. Therefore, the construction of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not include any bottomland hardwood habitat suitable to support the life history of the Louisiana black bear. Therefore, the operation of the plant will have no adverse impact on this species.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the Louisiana black bear within 3 mi of the facility. This BA concludes there will be no impact to the Louisiana black bear or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

5.4 RED WOLF

The red wolf is not believed to occur in Texas. No adverse impact to this species will occur from plant construction or operation.

5.5 GREEN SEA TURTLE

The construction impact assessment documented there to be no habitat suitable to support the limited terrestrial activities of the green sea turtle. No sandy beaches occur within 25 mi of the Construction Impact Action Area. Therefore, the construction of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not contain any habitat to support the limited terrestrial activities of this species. The nearest marine/beach habitat to the site is located approximately 25 mi due south of the site. To be exposed to operations discharges, the animal would have to swim upstream through freshwater for over 25 miles to reach detectable concentrations of diluted wastewater constituents Therefore, it is concluded that there will be no impacts resulting from operation of the plant.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the green sea turtle within 3 mi of the facility. This BA concludes there will be no impact on the green sea turtle or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

5.6 LOGGERHEAD SEA TURTLE

The results of the construction impact assessment documented there to be no habitat suitable to support the limited terrestrial activities of the loggerhead sea turtle. No sandy beaches occur within 25 mi of the Construction Impact Action Area. Therefore, the construction of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not contain any habitat to support the limited terrestrial activities of this species. The nearest marine/beach habitat to the site is located approximately 25 mi due south of the site. To be exposed to operations discharges, the animal would have to swim upstream through freshwater for over 25 miles to reach detectable concentrations of diluted wastewater constituents. Therefore, it is concluded that there will be no impacts resulting from operation of the plant.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the loggerhead sea turtle within 3 mi of the facility. This BA concludes there will be no impact on the loggerhead sea turtle or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

5.7 KEMP'S RIDLEY SEA TURTLE

The results of the construction impact assessment documented there to be no habitat suitable to support the limited terrestrial activities of the Kemp's Ridley sea turtle. No sandy beaches occur within 25 mi of the Construction Impact Action Area. Therefore, the construction of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not contain any habitat to support the limited terrestrial activities of this species. The nearest marine/beach habitat to the site is located approximately

25 mi due south of the site. To be exposed to operations discharges, the animal would have to swim upstream through freshwater for over 25 miles to reach detectable concentrations of diluted wastewater constituents. Therefore, it is concluded that there will be no impacts resulting from operation of the plant.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the Kemp's Ridley sea turtle within 3 mi of the facility. This BA concludes there will be no impact on the Kemp's Ridley sea turtle or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

5.8 ATLANTIC HAWKSBILL SEA TURTLE

The results of the construction impact assessment documented there to be no habitat suitable to support the limited terrestrial activities of the Atlantic hawksbill sea turtle. No sandy beaches occur within 25 mi of the Construction Impact Action Area. Therefore, the construction of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not contain any habitat to support the limited terrestrial activities of this species. The nearest marine/beach habitat to the site is located approximately 25 mi due south of the site. To be exposed to operations discharges, the animal would have to swim upstream through freshwater for over 25 miles to reach detectable concentrations of diluted wastewater constituents. Therefore, it is concluded that there will be no impacts resulting from operation of the plant.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the Atlantic hawksbill sea turtle within 3 mi of the facility. This BA concludes there will be no impact on the Atlantic hawksbill sea turtle or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

5.9 LEATHERBACK SEA TURTLE

The results of the construction impact assessment documented there to be no habitat suitable to support the limited terrestrial activities of the leatherback sea turtle. No sandy beaches occur

within 25 mi of the Construction Impact Action Area. Therefore, the construction and operation of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not contain any habitat to support the limited terrestrial activities of this species. The nearest marine/beach habitat to the site is located approximately 25 mi due south of the site. To be exposed to operations discharges, the animal would have to swim upstream through freshwater for over 25 miles to reach detectable concentrations of diluted wastewater constituents. Therefore, it is concluded that there will be no impacts resulting from operation of the plant.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the leatherback sea turtle within 3 mi of the facility. This BA concludes there will be no impact on the leatherback sea turtle or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

5.10 SPRAGUE'S PIPIT

The construction impact assessment documented there to be no open grassland habitat to support this species within the Construction Impact Action Area. Therefore, the construction of the plant and its linear facilities will have no adverse impact on this species.

The Operations Impact Action Area does not contain any open grassland habitat to support this species. Therefore, it is concluded that there will be no impacts to the Sprague's pipit resulting from operation of the plant or its linear facilities.

Regarding the known sensitive resources assessment, there is no database entry for the observation of the Sprague's pipit within 3 mi of the facility. This BA concludes there will be no impact on this species or any other sensitive resource within 3 mi of the project due to construction or operation of the project or its linear facilities.

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