NPDES PERMIT NO. TX0134029
STATEMENT OF BASIS

FOR THE DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

APPLICANT:

TransCanada Keystone Pipeline, LP
Citgo Sour Lake Lateral Pipeline Project
700 Louisiana Street,
Houston, Texas 77002

ISSUING OFFICE:

U.S. Environmental Protection Agency
Region 6
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DATE PREPARED:

March 7, 2016

PERMIT ACTION

It is proposed that the facility be issued an NPDES permit for a 5-year term in accordance with regulations contained in 40 Code of Federal Regulations (CFR) 122.46(a).

40 CFR CITATIONS: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations, revised as of March 4, 2016.

RECEIVING WATER – BASIN

Pine Island Bayou/Unnamed Tributary to Pine Island Bayou/ Jackson Creek (tributary to Pine Island Bayou/ Unnamed Tributary to Pignut Gully (Tributary to Clemmons Gully, Tributary to Little Pine Island Bayou), all in TCEQ Waterbody 0607 and 0607B of the Neches River Basin.

DOCUMENT ABBREVIATIONS

For brevity, Region 6 used acronyms and abbreviated terminology in this Statement of Basis document whenever possible. The following acronyms were used frequently in this document:

BAT	Best Available Technology Economically Achievable)
BOD_5	Biochemical oxygen demand (five-day unless noted otherwise)
BPJ	Best professional judgment
CFR	Code of Federal Regulations
cfs	Cubic feet per second
COD	Chemical oxygen demand
COE	United States Corp of Engineers
CWA	Clean Water Act
DMR	Discharge monitoring report
ELG	Effluent limitation guidelines
EPA	United States Environmental Protection Agency
ESA	Endangered Species Act
F&WS	United States Fish and Wildlife Service
GPD	Gallon per day
HT	Hydrostatic Testing
IP	Procedures to Implement the Texas Surface Water Quality Standards
µg/l	Micrograms per liter (one part per billion)
mg/l	Milligrams per liter (one part per million)
MGD	Million gallons per day
MSGP	Multi-Sector General Permit
NPDES	National Pollutant Discharge Elimination System
MQL	Minimum quantification level
O&G	Oil and grease
RRC	Railroad Commission of Texas
RP	Reasonable potential
SIC	Standard industrial classification
s.u.	Standard units (for parameter pH)
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality
TDS	Total dissolved solids
TMDL	Total maximum daily load
TOC	Total Organic Carbon
TRC	Total residual chlorine
TSS	Total suspended solids
TSWQS	Texas Surface Water Quality Standards
WET	Whole effluent toxicity
WQMP	Water Quality Management Plan
WQS	Water Quality Standards

I. APPLICANT LOCATION and ACTIVITY

The proposed permit allows only the hydrostatic test discharge water from new steel pipelines. TransCanada is planning to construct the Citgo Sour Lake Lateral Pipeline Project originating from the existing Keystone Gulf Coast Pipeline LIBRT-01A Mainline Valve and traversing approximately 5.8 miles to the west to transport crude oil to an existing Citgo facility. The entire proposed project and all outfalls location are located within Hardin County, Texas.

Under the SIC code 4612, Crude Oil Pipeline Transportation, the applicant plans to operate a crude oil storage and transportation facility. The new pipelines will be filled with water and pressurized to ensure pipeline integrity prior to putting the equipment into operation. Test water will come into contact with only new pipe, as a result of the hydrostatic test. Water will be discharged through a dewatering structure (to reduce the concentration of TSS and control erosion) where needed. No additives or chemicals will be added to the test water.

II. DISCHARGE LOCATION

The discharge points showing Outfall number, discharge coordinates: latitude and longitude, county, average flow rate in millions gallons per day (MGD), receiving water, and the waterbody identification numbers are shown in the following table:

Table 1 – Discharge Location for Outfalls 001 - 005

Outfall Reference Number	Discharge Coordinates Latitude Deg° Min' Sec" Longitude Deg° Min' Sec"	County	Average Flow MGD	Receiving Water	Segment #
001	30° 7' 47" N 94° 29' 51" W	Hardin	2.88	Pine Island Bayou	Segment No. 0607
002	30° 7' 43" N 94° 29' 21" W	Hardin	2.88	Pine Island Bayou	Segment No. 0607
003	30° 7' 40" N 94° 28' 41" W	Hardin	2.88	Unnamed Tributary to Pine Island Bayou	Segment No. 0607
004	30° 8' 26" N 94° 25' 55" W	Hardin	2.88	Jackson Creek (Tributary to Pine Island Bayou)	Segment No. 0607
005	30° 8' 43" N 94° 24' 30" W	Hardin	2.88	Unnamed Tributary to Pignut Gully, (Tributary to Clemmons Gully, Tributary to Little Pine Island Bayou	Segment No. 0607B

III. DISCHARGE DESCRIPTION

This will be a new facility and no discharge has occurred. Therefore, no effluent data are available. However, the proposed discharges from each outfall are described as follows:

Discharges from Outfall 001 are to Pine Island Bayou, TCEQ Segment 0607. The designated uses of the receiving stream are primary contact recreation, high aquatic life and public water supply.

Discharges from Outfall 002 are also to Pine Island Bayou, TCEQ Segment 0607.

Discharges from Outfall 003 are to unnamed Tributary, then to Pine Island Bayou, TCEQ Segment 0607. The designated uses of the receiving stream are primary contact recreation, high aquatic life and public water supply.

Discharges from Outfall 004 are to Jackson Creek, then to Pine Island Bayou, TCEQ Segment 0607. The designated uses of the receiving stream are primary contact recreation, high aquatic life and public water supply.

Discharges from Outfall 005 are to unnamed Tributary to Pignut Gully, (Tributary to Clemmons Gully, Tributary to Little Pine Island Bayou, TCEQ Segment 0607B. The designated uses of the receiving stream are primary contact recreation, high aquatic life and public water supply.

IV. REGULATORY AUTHORITY/PERMIT ACTION

In November 1972, Congress passed the Federal Water Pollution Control Act establishing the NPDES permit program to control water pollution. These amendments established technology-based or end-of-pipe control mechanisms and an interim goal to achieve "water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water;" more commonly known as the "swimmable, fishable" goal. Further amendments in 1977 of the CWA gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry and established the basic structure for regulating pollutants discharges into the waters of the United States. In addition, it made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions. Regulations governing the EPA administered NPDES permit program are generally found at 40 CFR §122 (program requirements & permit conditions), §124 (procedures for decision making), §125 (technology-based standards) and §136 (analytical procedures). Other parts of 40 CFR provide guidance for specific activities and may be used in this document as required.

It is proposed that the permit be issued for a 5-year term following regulations promulgated at 40 CFR 122.46(a). This is a first- time permit issuance. An NPDES Application for a Permit to Discharge (Form 1 & 2D) dated December 9, 2015, was received on December 14, 2015, and was deemed administratively complete on February 25, 2016. Additional permit application information was sent via email on February 24, 2016.

V. DRAFT PERMIT RATIONALE AND PROPOSED PERMIT CONDITIONS

A. OVERVIEW of TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITION FOR PERMIT ISSUANCE

Regulations contained in 40 CFR §122.44 NPDES permit limits are developed that meet the more stringent of either technology-based effluent limitation guidelines, numerical and/or narrative water quality standard-based effluent limits, on best professional judgment (BPJ) in the absence of guidelines, and/or requirements pursuant to 40 CFR 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS/CONDITIONS

Regulations promulgated at 40 CFR §122.44 (a) require technology-based effluent limitations to be placed in NPDES permits based on ELGs where applicable, on BPJ in the absence of guidelines, or on a combination of the two. In the absence of promulgated guidelines for the discharge, permit conditions may be established using BPJ procedures. EPA establishes

limitations based on the following technology-based controls: BPT, BCT, and BAT. These levels of treatment are:

BPT - The first level of technology-based standards generally based on the average of the best existing performance facilities within an industrial category or subcategory.

BCT - Technology-based standard for the discharge from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and O&G.

BAT - The most appropriate means available on a national basis for controlling the direct discharge of toxic and non-conventional pollutants to navigable waters. BAT effluent limits represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

There are no published ELG's for this type of activity. Permit limits are proposed based on BPJ. Since hydrostatic test water discharges are batch discharges of short term duration, limits in this Permit will be expressed in terms of daily maximum concentrations rather than in terms of mass limitations, as allowed by 40 CFR 122.45(e) and (f). Limitations for Oil & Grease, TSS, and pH are proposed in the permit. The proposed limitations for TSS are 45 mg/l daily maximum, and Oil & Grease is 15 mg/l daily maximum. Narrative standards for oil, grease, or related residue have been placed in the proposed permit. A technology-based limit of 15 mg/l for Oil and Grease should assure that the narrative criterion is maintained. Concentration limits will be protective of the stream uses.

C. WATER QUALITY BASED LIMITATIONS

1. General Comments

Water quality based requirements are necessary where effluent limits more stringent than technology-based limits are necessary to maintain or achieve federal or state water quality limits. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on federal or state WQS. Effluent limitations and/or conditions established in the draft permit are in compliance with applicable State WQS and applicable State water quality management plans to assure that surface WQS of the receiving waters are protected and maintained, or attained.

2. Implementation

The NPDES permits contain technology-based effluent limitations reflecting the best controls available. Where these technology-based permit limits do not protect water quality or the designated uses, additional water quality-based effluent limitations and/or conditions are included in the NPDES permits. State narrative and numerical water quality standards are used in conjunction with EPA criteria and other available toxicity information to determine the adequacy of technology-based permit limits and the need for additional water quality-based controls.

3. State Water Quality Standards

The Clean Water Act in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR 122.44(d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criterion, the permit must contain an effluent limit for that

pollutant. If the discharge poses the reasonable potential to cause an in-stream violation of narrative standards, the permit must contain prohibitions to protect that standard. Additionally, the TWQS found at 30 TAC Chapter 307 states that "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the "Procedures to Implement the Texas Surface Water Quality Standards" (IP) is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater which: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation which threatens human health.

The IP document is not a state water quality standard, but rather, a non-binding, non-regulatory guidance document. See IP at page 2 stating that "this is a guidance document and should not be interpreted as a replacement to the rules. The TWQS may be found in 30 TAC Sections (§§) 307.1-.10."). EPA does not consider the IP to be a new or revised water quality standard and has never approved it as such. EPA did comment on and conditionally "approve" the IP as part of the Continuing Planning Process (CPP) required under 40 CFR §130.5(c) and the Memorandum of Agreement between TCEQ and EPA, but this does not constitute approval of the IP as a water quality standard under CWA Section 303(c). Therefore, EPA is not bound by the IP in establishing limits in this permit – but rather, must ensure that the limits are consistent with the EPA-approved state WQS. However, EPA has made an effort, where we believe the IP procedures are consistent with all applicable State and Federal regulations, to use those procedures.

The general criteria and numerical criteria which make up the stream standards are provided in the 2014 EPA-approved Texas Water Quality Standards, Texas Administrative Code (TAC), 30 TAC Sections 307.1 - 307.9, effective September 23, 2014.

4. Reasonable Potential- Procedures

EPA develops draft permits to comply with State WQS, and for consistency, attempts to follow the IP where appropriate. However, EPA is bound by the State's WQS, not State guidance, including the IP, in determining permit decisions. EPA performs its own technical and legal review for permit issuance, to assure compliance with all applicable State and Federal requirements, including State WQS, and makes its determination based on that review. Waste load allocations (WLA's) are calculated using estimated effluent dilutions, criteria outlined in the TWQS, and partitioning coefficients for metals (when appropriate and designated in the implementation procedures). The WLA is the end-of-pipe effluent concentrations that can be discharged and still meet instream criteria after mixing with the receiving stream. From the WLA, a long term average (LTA) is calculated, for both chronic and acute toxicity, using a log normal probability distribution, a given coefficient of variation (0.6), and either a 90th or a 99th percentile confidence level. The 90th percentile confidence level is for discharges to rivers, freshwater streams and narrow tidal rivers with upstream flow data, and the 99th percentile confidence level is for the remainder of cases. For facilities that discharge into receiving streams that have human health standards, a separate LTA will be calculated. The implementation procedures for determining the human health LTA use a 99th percentile confidence level, along with a given coefficient of variation (0.6). The lowest of the calculated LTA; acute, chronic and/or human health, is used to calculate the daily average and daily maximum permit limits.

Procedures found in the IP for determining significant potential are to compare the reported analytical data either from the DMR history and/or the application information, against percentages of the calculated daily average water quality-based effluent limitation. If the average of the effluent data equals or exceeds 70% but is less than 85% of the calculated daily average limit, monitoring for the toxic pollutant will usually be included as a condition in the permit. If the average of the effluent data is equal to or greater than 85% of the calculated daily average limit, the permit will generally contain effluent limits for the toxic pollutant. The permit may specify a compliance period to achieve this limit if necessary.

Procedures found in the IP require review of the immediate receiving stream and effected downstream receiving waters. Further, if the discharge reaches a perennial stream or an intermittent stream with perennial pools within three-miles, chronic toxicity criteria apply at that confluence.

For Outfalls 001 to 005, hydrostatic test water will be from a combination of municipal water and/or Pine Island Bayou water. The discharges from all the Outfalls will be to respective receiving stream as shown in Table 1 above. Intake credits are not allowed for all the Outfalls, since discharges will also be obtained from municipal water supply as well as from the Pine Island Bayou water and be discharged into its respective receiving stream.

5. Permit-Action - Water Quality-Based Limits

Regulations promulgated at 40 CFR §122.44(d) require limits in addition to, or more stringent than effluent limitation guidelines (technology based). State WQS that are more stringent than effluent limitation guidelines are as follows:

a. pH

Daily minimum and daily maximum permit limits of 6.0 standard units to 9.0 standard units are typically used on hydrostatic test general permits developed by other EPA Regions and States. TAC 307.10 states, "The pH criteria are listed as minimum and maximum values expressed in standard units at any site within the segment."

However, wastewater discharges from the facility will flow into unnamed ditch, which flows into Pine Island Bayou and unnamed Tributary of Pine Island Bayou. The Pine Island Bayou is Texas Segment 0607, which has Texas WQS of 6.0 – 8.5 s.u. pH shall be limited to 6.0 – 8.5 s.u., the criteria listed for Segment 0607.

b. Total Residual Chlorine

TRC shall be limited to 0.019 mg/l in all Outfalls because the source water is from municipal water supply. 19µg/L is EPA's acute chlorine criteria and 11µg/L is EPA's chronic chlorine criteria. Limits must be protective of WQS per 40 CFR 122.4(d) and 122.44(d). Since the acute conditions do not allow dilution; the limit must be met at end-of-pipe but chronic standards do allow dilution, the permit shall use the most stringent WQS for the permit limit.

The critical conditions for all the Outfalls are as follows: Outfall 001 – 7Q2 = 11.7 cfs (7.55 mg/L), harmonic mean = 26.1 cfs, Chronic Criteria – Mixing Zone (MZ) = 27.1%; Acute Criteria – Zone of Initial Dilution (ZID) = 59.8%; Human Health Criteria (HH) = 14.3%. Outfall 001 is

MENU 2, discharge is to an intermittent water body within three miles of a perennial freshwater ditch, stream or river. The outfall flows to a pipeline, which discharges to Pine Island Bayou a tributary of the Neches River. The Neches River is Texas Segment 0607. Human health criteria apply for public water supply and freshwater Fish Tissue or fresh water tissue alone.

Outfall 002 is MENU 3, discharge is directly to a perennial freshwater ditch, stream or river. The Outfall discharges directly to Pine Island Bayou a tributary of the Neches River. The Neches River is Texas Segment 0607. The critical conditions for Outfall 002 follows: 7Q2 = 11.7 cfs (7.55 mg/L), harmonic mean = 26.1 cfs, Chronic Criteria – Mixing Zone (MZ) = 27.1%; Acute Criteria – Zone of Initial Dilution (ZID) = 59.8%; Human Health Criteria (HH) = 14.3%. Human health criteria apply for public water supply and freshwater Fish Tissue or fresh water tissue alone.

Outfall 003 is MENU 2, discharge is to an intermittent water body within three miles of a perennial freshwater ditch, stream or river. The outfall discharges directly to an unnamed tributary then to Pine Island Bayou a tributary of the Neches River, 0.8 miles downstream. The Neches River is Texas Segment 0607. The critical conditions for Outfall 003 follows: 7Q2 = 12.4 cfs (8 mg/L), harmonic mean = 27.6 cfs, Chronic Criteria – Mixing Zone (MZ) = 26.0%; Acute Criteria – Zone of Initial Dilution (ZID) = 58.4%; Human Health Criteria (HH) = 13.6%. Human health criteria apply for public water supply and freshwater Fish Tissue or fresh water tissue alone.

Outfall 004 is MENU 2, discharge is to an intermittent water body within three miles of a perennial freshwater ditch, stream or river. The outfall discharges directly to Jackson Creek then to Pine Island Bayou a tributary of the Neches River, and Pine Island Bayou is 2.9 miles downstream. The Neches River is Texas Segment 0607. The critical conditions for Outfall 004 follows: 7Q2 = 16.1 cfs, harmonic mean = 35.9 cfs, Chronic Criteria – Mixing Zone (MZ) = 21.3%; Acute Criteria – Zone of Initial Dilution (ZID) = 52%; Human Health Criteria (HH) = 10.8%. Human health criteria apply for public water supply and freshwater Fish Tissue or fresh water tissue alone.

Outfall 005 is MENU 1, discharge is to an intermittent water body that does not enter any perennial water bodies within 3 miles. The outfall discharges to Unnamed Ditch then to Pignut Gully, 1.2 miles downstream. Pignut Gully flows into Clemmons Gully, which flows into Little Pine Island Bayou and then Pine Island Bayou, a tributary of the Neches River. Neches River is Texas Segment 0607B. Acute toxic criteria apply at the point of discharge (i.e. 100% effluent, no dilution). Human health criteria does not apply.

For Outfalls 001& 002, the effluent TRC concentration after allowing for dilution is: 11µg/L÷ 0.271 = 40.59 µg/L. Since this value is more than the19µg/L end-of-pipe acute standard, the 19 µg/L is more stringent and will be more protective. The draft permit shall establish 19 µg/L TRC limit for Outfalls 001 and 002.

Similarly, for Outfall 003, the effluent TRC concentration after allowing for dilution is: 11µg/L÷ 0.26= 42.31 µg/L. Since this value is more than the19µg/L end-of-pipe acute standard, the 19 µg/L is more stringent and will be more protective. The draft permit shall establish 19 µg/L TRC limit for Outfalls 003.

Also for Outfall 004, the effluent TRC concentration after allowing for dilution is: 11µg/L÷ 0.213= 51.54 µg/L. Since this value is more than the19µg/L end-of-pipe acute standard, the

19 µg/L is more stringent and will be more protective. The draft permit shall establish 19 µg/L TRC limit for Outfalls 004.

TRC limits of 19 µg/L is established for Outfalls 001 through 004. However TRC is toxic at measurable amounts, so in addition to the 19 µg/L chemical specific limitation, the narrative limit for TRC shall be "No Measurable." Hence, the effluent shall contain NO MEASURABLE TRC at any time. NO MEASURABLE will be defined as no quantifiable level of TRC as determined by any approved method established in 40 CFR 136 that is greater than the established MQL. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling. In addition, EPA has established a MQL for TRC at 33µg/l. Values less than 33µg/L can be reported as zero.

For Outfall 005, the effluent TRC concentration after allowing for dilution is: 11µg/L ÷ 1 = 11 µg/L. Since this value is less than the19µg/L end-of-pipe acute standard, the11µg/L is more stringent and will be more protective for Outfall 005. In addition, since discharge is to an intermittent water body that does not enter any perennial water bodies within 3 miles, acute criteria apply at the point of discharge. The draft permit shall establish the 11µg/L limit for Outfall 005. However TRC is toxic at measurable amounts, so in addition to the 11 µg/L chemical specific limitation, the narrative limit for TRC shall be "No Measurable." Hence, the effluent shall contain NO MEASURABLE TRC at any time. NO MEASURABLE will be defined as no quantifiable level of TRC as determined by any approved method established in 40 CFR 136 that is greater than the established MQL. The effluent limitation for TRC is the instantaneous maximum and cannot be averaged for reporting purposes. TRC shall be measured within fifteen (15) minutes of sampling. In addition, EPA has established a MQL for TRC at 33µg/l. Values less than 33µg/L can be reported as zero.

c. Narrative Limitations

Narrative protection for aesthetic standards will require that surface waters shall be maintained so that oil, grease, or related residue will not produce a visible film or globules of grease on the surface or coat the banks or bottoms of the watercourse; or cause toxicity to man, aquatic life, or terrestrial life.

The following narrative limitations in the proposed permit represent protection of water quality for all Outfalls.

"The effluent shall contain no visible film of oil or globules of grease on the surface or coat the banks or bottoms of the watercourse."

e. Toxics

The CWA in Section 301 (b) requires that effluent limitations for point sources include any limitations necessary to meet water quality standards. Federal regulations found at 40 CFR §122.44 (d) state that if a discharge poses the reasonable potential to cause an in-stream excursion above a water quality criteria, the permit must contain an effluent limit for that pollutant.

The applicant proposes to draw water from a municipal water supply, and/or from the Pine Island Bayou to conduct its hydrostatic testing. Hydrostatic test water will contact only new pipe, and

no chemicals or additives will be added. As a result, no contaminants are expected to be present in the hydrostatic test water discharge at amounts that would pose a reasonable potential to exceed State WQS.

Solids and Foam

The prohibition of the discharge of floating solids or visible foam in other than trace amounts is proposed in the draft permit. In addition, there shall be no discharge of visible films of oil, globules of oil, grease or solids in or on the water, or coatings on stream banks.

D. MONITORING FREQUENCY FOR LIMITED PARAMETERS

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity, 40 CFR §122.48(b), and to assure compliance with permit limitations, 40 CFR §122.44(i)(1). The monitoring frequencies are based on BPJ, taking into account the nature of the facility.

For all Outfalls, monitoring for flow, TSS, Oil & Grease, total residual chlorine and pH shall be daily by grab sample, when discharging.

E. WHOLE EFFLUENT TOXICITY LIMITATIONS

There are no chemical specific limitations in the draft permit and the applicant has stated that no chemical additives such as corrosion inhibitors are being added to the HT water. There does not appear that the discharge will have a potential for toxicity. The draft permit does not propose any biomonitoring of the HT water.

F. FINAL EFFLUENT LIMITATIONS

See the draft permit for limitations.

VI. FACILITY OPERATIONAL PRACTICES

A. WASTE WATER POLLUTION PREVENTION REQUIREMENTS

The permittee shall institute programs directed towards pollution prevention. The permittee will institute programs to improve the operating efficiency and extend the useful life of the treatment system.

B. OPERATION AND REPORTING

The permittee must submit Discharge Monitoring Report's (DMR's) quarterly, beginning on the effective date of the permit, lasting through the expiration date of the permit or termination of the permit, to report on all limitations and monitoring requirements in the permit.

VII. IMPAIRED WATER - 303(d) LIST AND TMDL

According to the 2014 State of Texas 303(d) List for Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs), the receiving streams for Outfalls 001 to 004, Pine Island Bayou, Texas Segment 0607 is listed as impaired for bacteria and depressed dissolved

Oxygen. This impairment is under TCEQ's category 5c and 5b respectively. Category 5c implies that additional data or information will be collected and/or evaluated for one or more parameters before a management strategy is selected. Category 5b implies that a review of the standards for one or more parameters will be conducted before a management strategy is selected, including the possible revision to the TSWQS. In addition, Outfall 005, which discharges to Texas Segment 0607B is listed as impaired for depressed dissolved oxygen, under Category 5b.

Oxygen is added to water by re-aeration i.e. Oxygen from air is dissolved in water at its surface, mostly through turbulence. The nature of the hydrostatic test and dewatering activity associated with the Project would simulate the natural turbulences or re-aeration that occurs instream by allowing surface water to come in contact with air. As stated within the permit application, the discharged water would pass through an energy dissipation device which would facilitate re-aeration. Next the water would pass through a hay bale filtration structure to remove suspended solids and minimize erosion. Each step in the proposed action would likely increase dissolved oxygen levels and would not contribute to the depressed DO levels.

In light of the nature of the system, the discharger is not likely to contribute depressed dissolved oxygen and bacteria. Therefore, no additional requirements beyond the previously described technology-based or water quality-based effluent limitations and monitoring requirements, are established in the proposed permit.

VIII. ANTIDEGRADATION

The Texas Commission on Environmental Quality, Texas Surface Water Quality Standards, Antidegradation, Title 30, Part 1, Chapter 307, Rule §307.5 sets forth the requirements to protect designated uses through implementation of the State WQS. The limitations and monitoring requirements set forth in the proposed permit are developed from the State WQS and are protective of those designated uses. Furthermore, the policy sets forth the intent to protect the existing quality of those waters, whose quality exceeds their designated use. The permit requirements are protective of the assimilative capacity of the receiving waters, which is protective of the designated uses of that water.

IX. ANTIBACKSLIDING

The proposed permit is consistent with the requirements and exemption to meet Antibacksliding provisions of the Clean Water Act, Section 402(o) and 40 CFR Part 122.44(i)(B), which state in part that interim or final effluent limitations must be as stringent as those in the previous permit, unless information is available which was not available at the time of permit issuance. Since this is a first time NPDES Permit for this discharge, antibacksliding does not apply.

X. ENDANGERED SPECIES

The effects of EPA's permitting action are considered in the context of the environmental baseline. The environmental baseline is established by the past and present impacts of all Federal, State, or private actions and other human activities in an action area; the anticipated impacts of all proposed Federal projects in an action area that have already undergone formal or early ESA §7 consultation; and the impact of State or private actions that are contemporaneous with the consultation in process (50 CFR §402.02). Hydrostatic test water discharges occur after a pipeline has already been put in place following earth disturbing activities that have had to have received appropriate federal, state, and local authorizations putting the construction of

pipeline itself into the environmental baseline. The scope of the evaluation of the effects of the discharge authorized by this permit was therefore limited to the effects related to the authorized discharge.

According to the most recent county listing available at US Fish and Wildlife Service (USFWS), Southwest Region 2 website, at http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action, five species are listed as endangered or threatened in Hardin County. These species include: Least Tern (Sterna antillarum), Piping Plover (Charadrius melodus), Red Knot (Calidris canutus), Red-Cockaded Woodpecker (Picoides borealis), and Texas Trailing Phlox (Phlox nivalis ssp.texensis). Available information from the U.S. Southwest Region Ecological Services web page presents the occurrence of the listed threatened and endangered species in Hardin County as follows:

LEAST TERN (Sterna Antillarum)

The Least tern populations have declined due to habitat destruction by permanent inundation, destruction by reservoir releases, channelization projects, alterations of Natural River or lake dynamics resulting in vegetational succession of potential nesting sites, and recreational use of potential nesting sites. Issuance of this permit is found to have no impact on the habitat of this species, as none of the aforementioned listed activities is authorized by this permitting action.

PIPING PLOVER (Charadrius melodus)

A small plover has wings approximately 117 mm; tail 51 mm; weight 46 64 g (average 55 g); length averages about 17 18 cm. Inland birds have more complete breast band than Atlantic coast birds. The nonbreeding plovers lose the dark bands. In Laguna Madre, Texas, non breeding home ranges were larger in winter than in fall or spring. The breeding season begins when the adults reach the breeding grounds in mid to late April or in mid-May in northern parts of the range. The adult males arrive earliest, select beach habitats, and defend established territories against other males. When adult females arrive at the breeding grounds several weeks later, the males conduct elaborate courtship rituals including aerial displays of circles and figure eights, whistling song, posturing with spread tail and wings, and rapid drumming of feet. The plovers defend territory during breeding season and at some winter sites. Nesting territory may or may not contain the foraging area. Home range during the breeding season generally is confined to the vicinity of the nest. Plovers are usually found in sandy beaches, especially where scattered grass tufts are present, and sparsely vegetated shores and islands of shallow lakes, ponds, rivers, and impoundments.

Food consists of worms, fly larvae, beetles, crustaceans, mollusks, and other invertebrates. The plovers prefer open shoreline areas, and vegetated beaches are avoided. It also eats various small invertebrates. It obtains food from surface of substrate, or occasionally probes into sand or mud.

Strong threats related primarily to human activity; disturbance by humans, predation, and development pressure are pervasive threats along the Atlantic coast.

RED KNOT (Calidris canutus)

Red Knot is a medium-sized shorebird and the largest of the "peeps" in North America, and one of the most colorful. It makes one of the longest yearly migrations of any bird, traveling 15,000

km (9,300 mile) from its Arctic breeding grounds to Tierra del Fuego in southern South America.

Their diet varies according to season; arthropods and larvae are the preferred food items at the breeding grounds, while various hard-shelled molluscs are consumed at other feeding sites at other times.

The Red Knot nests on the ground, near water, and usually inland. The nest is a shallow scrape lined with leaves, lichens and moss. Males construct three to five nest scrapes in their territories prior to the arrival of the females. The female lays three or more usually four eggs, apparently laid over the course of six days. Both parents incubate the eggs, sharing the duties equally. The incubation period last around 22 days.

The birds have become threatened as a result of commercial harvesting of horseshoe crabs in the Delaware Bay which began in the early 1990s. Delaware Bay is a critical stopover point during spring migration; the birds refuel by eating the eggs laid by these crabs (with little else to eat in the Delaware Bay).

RED-COCKADED WOODPECKER (Picoides borealis)

Red-cockaded woodpecker is about 8.5 inches long, with a wingspan of about 14 inches, and a weight of about 1.5 ounces. Its back is barred with black and white horizontal stripes. The Red-cockaded Woodpecker's most distinguishing feature is a black cap and nape that encircle large white cheek patches. The Red-cockaded Woodpecker feeds primarily on ants, beetles, cockroaches, caterpillars, wood-boring insects, and spiders, and occasionally fruit and berries. Red-cockaded Woodpeckers are a territorial, non-migratory, cooperative breeding species, frequently having the same mate for several years. The nesting season runs from April to June. The Red-cockaded Woodpecker makes its home in mature pine forests.

The Red-cockaded Woodpecker plays a vital role in the intricate web of life of the southern pine forests. A number of other birds and small mammals use the cavities excavated by Red-cockaded Woodpeckers, such as chickadees, bluebirds, titmice, and several other woodpecker species, including the Downy, Hairy, and Red-bellied Woodpeckers. Larger woodpeckers may take over a Red-cockaded Woodpecker cavity, sometimes enlarging the hole enough to allow Eastern Screech Owls, Wood Ducks, and even Raccoons to move in later. Its preference for longleaf pine and the destruction of that habitat have resulted in the woodpecker becoming an endangered species. The specificity of the bird’s breeding habitat makes it extremely vulnerable to habitat loss. Red heart fungus was once common in trees at least 70 years old, but most pines are cut before they reach that age, resulting in a shortage of nesting sites. Fire prevention and suppression policies have also negatively impacted the species, allowing underbrush to clog the open forests it prefers. Consequently, conservation efforts have focused on the installation of artificial cavities for nesting and controlled burns.

Issuance of this permit is found to have no impact on the habitat of this species, since the discharge is not expected to lead to the destruction of habitat.

TEXAS TRAILING PHLOX (Phlox nivalis ssp.texensis)

Texas trailing phlox is an evergreen perennial herb or shrub. Plants often form clumps, but not mats. The stems tend to spread along the ground, with only the upper one to six inches of the

stem erect. Leaves are about 5/8 inch long, needle-like, and densely packed on the stem. Young stems produce the flowers, are more or less erect, and have leaves that are longer and lighter-green in color. Older stems have smaller leaves, darker-green in color, and typically lie directly on the surface of the ground. The flowers are pink to magenta in color. Flowers have five petals, each about 3/8 inch in length. Texas trailing phlox grows on sandy soils in fire-maintained open pine woodlands. Texas trailing phlox occurs in fewer than 20 populations in Hardin, Polk, and Tyler counties.

Flowering occurs during March through May. Texas trailing phlox plants are evergreen, growing whenever temperature and moisture conditions are favorable. New growth is most often seen during periods of highest rainfall, in early spring and early fall. Butterflies are the most likely pollinators. Individual plants may produce 3 to 50 or more flowers, depending on the size of the plant. A plant may bloom over a period of one to 5 weeks.

Texas trailing phlox is well-adapted to fire. Although aboveground parts of the plant are destroyed by fire, underground parts are undamaged, and new growth appears within two weeks after a spring burn. If prescribed burning occurs in April, even plants that had flowered before the fire will resprout and flower again in May. Other plant species which grow in association with Texas trailing phlox include longleaf pine, loblolly pine, black hickory, southern red oak, bluejack oak, post oak, flameleaf sumac, yaupon, sassafras, dwarf pawpaw, St. Andrews cross, poison-oak, and American beautyberry.

The main factor in the decline of Texas trailing phlox has been the loss of open, fire-maintained forests, especially longleaf pine. Habitat loss and degradation due to site preparation for pine plantations, land clearing for pasture establishment, exposure to herbicides, and activities associated with development have also contributed to the decline of this species. Recent increases in the number of plants at some study sites indicate that periodic fire is essential to maintain the open pine woodland essential to the survival of this species.

Issuance of this permit is found to have no impact on the habitat of this species, since the discharge is not expected to lead to the destruction of habitat.

The Environmental Protection Agency has evaluated the potential effects of issuance of this permit modification upon listed endangered or threatened species. After review, EPA has determined that this permit issuance will have “no effect” on listed threatened and endangered species nor will adversely modify designated critical habitat. EPA makes this determination based on the following:

1. No pollutants are identified by the permittee-submitted application at levels which might affect species habitat or prey species. Issuance of this permit is found to have no impact on the habitats of these species.

2. Based on information described above, EPA Region 6 has determined that discharges proposed to be authorized by the proposed permit will have no effect on the listed species in Hardin County.

The standard reopener clause in the permit will allow EPA to reopen the permit and impose additional limitations if it is determined that changes in species or knowledge of the discharge would require different permit conditions.

Operators have an independent ESA obligation to ensure that any of their activities do not result in prohibited "take" of listed species. Section 9 of the ESA prohibits any person from "taking" a listed species, e.g., harassing or harming it, with limited exceptions. See ESA Sec 9; 16 U.S.C. §1538. This prohibition generally applies to "any person," including private individuals, businesses and government entities. Operators who intend to undertake construction activities in areas that harbor endangered and threatened species may seek protection from potential "take" liability under ESA section 9 either by obtaining an ESA section 10 permit or by requesting coverage under an individual permit and participating in the section 7 consultation process with the appropriate FWS or NMFS office. Operators unsure of what is needed for such liability protection should confer with the appropriate Services.

XI. HISTORICAL AND ARCHEOLOGICAL PRESERVATION CONSIDERATIONS

In a letter dated December 3, 2016, from Mr. Zachary Overfield, Principal Investigator, Perennial Environmental Services to Mr. Kerry Nichols, Texas historical Commission, Mr. Overfield stated that no significant archeological sites or cultural resources will be adversely impacted by the construction activities. The State Historic Preservation Officer, concurred that no historic properties are affected and the project may proceed.

XII. PERMIT REOPENER

The permit may be reopened and modified during the life of the permit if relevant portions of the Texas WQS are revised or remanded. In addition, the permit may be reopened and modified during the life of the permit if relevant procedures implementing the WQS are either revised or promulgated. Should the State adopt a new WQS, and/or develop a TMDL, this permit may be reopened to establish effluent limitations for the parameter(s) to be consistent with that approved State standard and/or water quality management plan, in accordance with 40 CFR §122.44(d). Modification of the permit is subject to the provisions of 40 CFR §124.5.

XIII. VARIANCE REQUESTS

No variance requests have been received.

XIV. COMPLIANCE HISTORY

This is a first-time permit issuance.

XV. CERTIFICATION

This permit is in the process of certification by the Texas Railroad Commission following regulations promulgated at 40 CFR 124.53. A draft permit and draft public notice will be sent to the District Engineer, Corps of Engineers; to the Regional Director of the U.S. Fish and Wildlife Service and to the National Marine Fisheries Service prior to the publication of that notice.

XVI. FINAL DETERMINATION

The public notice describes the procedures for the formulation of final determinations.

XVII. ADMINISTRATIVE RECORD

The following information was used to develop the proposed permit:

A. APPLICATION

NPDES Application for Permit to Discharge, Form 1 & 2D, received on December 14, 2015.

B. State of Texas References

The State of Texas Water Quality Inventory, 13th Edition, Publication No. SFR-50, Texas Commission on Environmental Quality, December 1996.

"Procedures to Implement the Texas Surface Water Quality Standards via Permitting," Texas Commission on Environmental Quality, June 2010.

Texas Surface Water Quality Standards, 30 TAC Sections 307.1 - 307.9, effective September 23, 2014.

C. Endangered Species References

http://www.fws.gov/southwest/es/ES_Lists_Main.cfm

http://ecos.fws.gov/ipac/wizard/chooseLocation!prepare.action

D. 40 CFR CITATIONS

Sections 122, 124, 125, 133, and 136

E. MISCELLANEOUS CORRESPONDENCE

Letter from Dorothy Brown, EPA, to Mr. Gayle Konik - Manager, US Environmental Planning & Permitting, dated February 25, 2016, informing applicant that its NPDES application received on December 14, 2015, was deemed administratively complete on February 25, 2016.

Email from Jonathan Freedland, Environmental Project Manager, Perennial Environmental Services, to Maria Okpala, EPA, dated February 24, 2016, & March 7, 2016, on additional permit application information.

Email from Robert Kirkland, EPA, to Maria Okpala, EPA, dated January 28, 2016, on critical condition information.

Letter, from Mr. Zachary Overfield, Principal Investigator, Perennial Environmental Services to Mr. Kerry Nichols, Texas historical Commission dated December 3, 2016.

Clean Water Team (CWT) 2004. Dissolved Oxygen Fact Sheet, FS-3.1.1.0(DO). in: The Clean Water Team Guidance Compendium for Watershed Monitoring and Assessment, Version 2.0. Division of Water Quality, California State Water Resources Control Board (SWRCB), Sacramento, CA.