TCEQ Interoffice Memorandum

TO: Office of the Chief Clerk
Texas Commission on Environmental Quality

THRU: Chris Kozlowski
Work Leader

FROM: Lillian E. Beerman, Ph.D., Project Manager
Water Rights Permitting Team

DATE: April 25, 2017

SUBJECT: Nacogdoches County
WRPERM 5585
CN601098536, RN103924049
Application No. 5585A to Amend Water Use Permit No. 5585
Texas Water Code § 11.122, Full Basin Mailed and Published Notice
Naconiche Creek, Neches River Basin
Nacogdoches County

The application and fees were received on January 20, 2016. Additional fees and information were received on November 15, 2016. The application was declared administratively complete and accepted for filing with the Office of the Chief Clerk on April 25, 2017. Full-basin mailed and published notice is required pursuant to Title 30 Texas Administrative Code § 295.158(b)(2).

Nacogdoches County seeks to amend Water Use Permit No. 5585 to authorize the diversion and use of not to exceed 4,750 acre-feet of water per year from the perimeter of Lake Naconiche, Neches River Basin for municipal, industrial, and agricultural purposes in Nacogdoches County. Applicant also seeks to amend Special Condition 4(D) of the Permit, replacing the existing instream flow requirement with SB3-based environmental flow criteria.

Required fees have been paid and the application is sufficient for filing.

Lillian E. Beerman

Lillian E. Beerman, PhD, Project Manager
Water Rights Permitting Team
Water Availability Division

OCC Mailed Notice Required ☑YES ☐NO

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 25, 2017

Mr. Brad B. Castleberry
Lloyd Gosselink
816 Congress Avenue, Suite 1900
Austin, TX 78701

RE: Nacogdoches County
WRPERM 5585
CN601098536, RN103924049
Application No. 5585A to Amend Water Use Permit No. 5585
Texas Water Code § 11.122, Full Basin Mailed and Published Notice
Naconiche Creek, Neches River Basin
Nacogdoches County

Dear Mr. Castleberry:

This acknowledges the receipt on November 15, 2016 of additional information and fees in the amount of $2,689.63 (Receipt Nos. M707545A and M707545B, copies enclosed). This application was declared administratively complete and filed with the Office of the Chief Clerk on April 25, 2017. Staff will continue processing the application for consideration by the Executive Director.

Please be advised that additional information may be requested during the technical review phase of the application process.

If you have any questions concerning this matter, please contact me via email at lillian.beerman@tceq.texas.gov or by phone at (512) 239-4019.

Sincerely,

Lillian E. Beerman

Lillian E. Beerman, Ph.D., Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

Enclosures

TCEQ 18-NOV-16 10:07 AM

TCEQ - A/R RECEIPT REPORT BY ACCOUNT NUMBER

Fee Description	Fee Code / Account# / Account Name	Ref#1 / Ref#2 / Paid In By	Check Number / Card Auth. / User Data	CC Type / Tran Code / Rec Code	Slip Key / Document#	Tran Date	Tran Amount
WTR USE PERMITS	WUP WUP WATER USE PERMITS	M707545A 5585 LLOYD GOSSELINK ROCHELLE & TOWNSEND PC	32186 111516 SPREDEAU	 N CK	BS00053525 D7801445	18-NOV-16	-$2,475.75
	WUP WUP WATER USE PERMITS	M707546 23420 MAYERS JR, PABLO/PATRICIA F	2332 111516 SPREDEAU	 N CK	BS00053525 D7801445	18-NOV-16	-$100.00
				Total (Fee Code):			-$2,575.75
				Grand Total:			-$42,848.56

RECEIVED
2016 NOV 21 A 11:23
WATER AVAILABILITY DIV.

TCEQ 18-NOV-16 10:07 AM

TCEQ - A/R RECEIPT REPORT BY ACCOUNT NUMBER

Fee Description	Fee Code / Account# / Account Name	Ref#1 / Ref#2 / Paid In By	Check Number / Card Auth. / User Data	CC Type / Tran Code / Rec Code	Slip Key / Document#	Tran Date	Tran Amount
NOTICE FEES-WUP-WATER USE PERM	PTGU PTGU NOTICE FEES WUP WATER USE PERMITS	M707545B 5585 LLOYD GOSSELINK ROCHELLE & TOWNSEND PC	32186 111516 SPREDEAU	 N CK	BS00053525 D7801445	18-NOV-16	-$213.88
				Total (Fee Code):			-$213.88

Lloyd Gosselink
ATTORNEYS AT LAW

816 Congress Avenue, Suite 1900
Austin, Texas 78701
Telephone: (512) 322-5800
Facsimile: (512) 472-0532
[redacted]

Mr. Castleberry's Direct Line: (512) 322-5856
Email: [redacted]

November 14, 2016

Ms. Olivia Ybarra
Project Manager
Water Rights Permitting Team (MC 160)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78753-3087

VIA ELECTRONIC TRANSMISSION AND FIRST-CLASS MAIL

Re: Response to Request for Information Dated October 13, 2016
Nacogdoches County; WRPERM 5585; CN601098536; RN103924049
Application No. 5585A to amend Water Use Permit No. 5585
Texas Water Code § 11.122, Full Basin Mailed and Published Notice
Naconiche Creek, Neches River Basin, Nacogdoches County (2733-2)

Dear Ms. Ybarra:

This letter is submitted on behalf of Nacogdoches County (the "Applicant") in response to a Request for Information ("RFI") received from the Texas Commission on Environmental Quality dated October 13, 2016 in connection with the above-referenced application (the "Application").

Response to Request No. 1:

Confirm that the application requests to change the instream flow requirement for the existing authorization in Water Use Permit 5855. Section XII on Page 4 of the supplement to the application indicates that the existing special conditions were replaced with "SB3 flow requirements," and the application modeling report discusses an analysis done with both the currently permitted flow restrictions and "SB3-Based Environmental Flow Criteria." However there is not a specific request to amend the existing instream flow requirement stated in the application.

The Applicant requests to amend the existing instream flow requirements to SB3 requirements. Please see Sections 1.2 and 2.2 of the Supplement to Application for Water Right Amendment for Diversion from Lake Naconiche ("Supplemental Report"), dated October 2015, reflecting the transition to SB3 flow requirements and attached hereto as **Attachment A.**

Response to Request No. 2:

Provide electronic copies of all modeling files used in the WAM analysis discussed in the application.

The WAM analysis discussed in the Supplemental Report is being provided electronically, attached hereto as **Attachment B**:

FNI Base Model – This model includes all the Base WAM changes shown in Appendix B of the Supplemental Report without the proposed diversion to compare the impact on water rights.

FY Current Environmental Flow Criteria – This is the model used to calculate the yield of 3,160 acre-feet per year in Table 2-4 of the Supplemental Report.

SB3-Based Environmental Flow – This model includes the SB3 criteria at Lake Naconiche with the proposed diversion. It is the model used to calculate the yield of 4,750 acre-feet per year in Table 2-4 of the Supplemental Report.

Response to Request No. 3:

Confirm the drainage area above the diversion point. Commission records indicate that the drainage area above the dam is 28.07 square miles.

The drainage area of 27.27 square miles as reported in the water right application is the drainage area cited in the Natural Resource Conservation Service structural data and the TCEQ Dam Database. The drainage area used in TCEQ WAM is 28.07 square miles. The Applicant acknowledges the drainage area for this Application is 28.07 square miles.

Response to Request No. 4:

Provide applicable water conservation plans and drought contingency plans for municipal, industrial, and agricultural uses that comply with Title 30 Texas Administrative Code (TAC) Chapter 288.

The Applicant is not currently using the water for municipal, industrial and agricultural purposes. However, 180 days prior to using the water for such purposes, the Applicant will provide the required water conservation plan or drought contingency plan in accordance with the requirements of Texas Water Code §11.002 and Title 30 of the Texas Administrative Code, Chapter 288.

Response to Request No. 5:

Remit fees in the amount of $4,963.38. Please make checks payable to the TCEQ or Texas Commission on Environmental Quality.

Filing Fees (amendment)	*$*	*100.00*
Recording Fees ($1.25 x 1 page)	*$*	*1.25*
Use Fees ($1.00 x 4,750 acre-feet)	*$*	*4,750.00*
Notice Fees (Neches Basin)	*$*	*213.88*
TOTAL FEES	*$*	*5,064.63*
FEES RECEIVED	*$*	*101.25*
TOTAL FEES DUE	***$***	***4,963.38***
Fees Due Prior to Administratively Complete	***$***	***2,689.63***
Fees Due 180 Days After Issuance	***$***	***2,375.00***

Enclosed please find our firm's check in the amount of $2,689.63 for fees due prior to the Application being declared administratively complete.

Should you have any questions, please do not hesitate to contact me or Ashleigh K. Acevedo (512) 322-5891 at your convenience. We look forward to working with you and your staff on this important matter.

Sincerely,

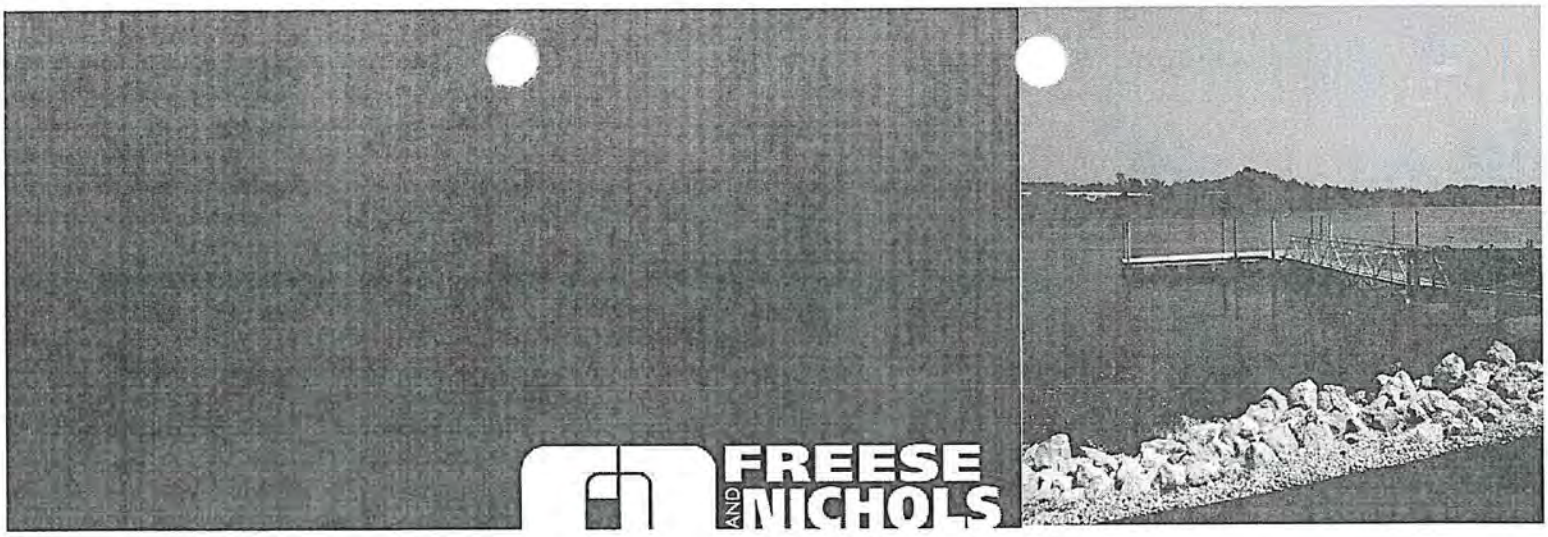
Brad Castleberry

Brad B. Castleberry u/p Ashleigh a

BBC\ldp
7210876.6
ENCLOSURES

cc: The Honorable Mike Perry
Mr. Keith Bradford
Ms. Simone Kiel
Ms. Ashleigh K. Acevedo

Attachment A
Supplemental Report



SUPPLEMENT TO APPLICATION FOR WATER RIGHT AMENDMENT FOR DIVERSION FROM LAKE NACONICHE

Prepared for:

County of Nacogdoches

October 2015

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

SUPPLEMENT TO APPLICATION FOR WATER RIGHT AMENDMENT FOR DIVERSION FROM LAKE NACONICHE

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

Jeremy Rice, Hydrologist

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

LGB14501

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APPENDICES

1.0 DESCRIPTION OF THE PROJECT

1.1 LAKE NACONICHE DESCRIPTION

Lake Naconiche is located in northeast Nacogdoches County and is authorized under Permit/Application 5585 to impound 9,072 acre-feet at elevation 348 feet msl for flood control and recreational purposes[1]. Lake Naconiche is impounded by Attoyac Bayou WS NRCS Site 23A Dam. The dam is an earth fill dam with a length of 1,605 feet and a maximum height of 59 feet[2]. The elevation at the top of dam is 365 feet with a total storage of 27,225 acre-feet[2]. The dam construction was completed in 2006. Table 1-1 shows the elevation, capacity, and area for Lake Naconiche. Figure 1-1 is a location map showing Lake Naconiche.

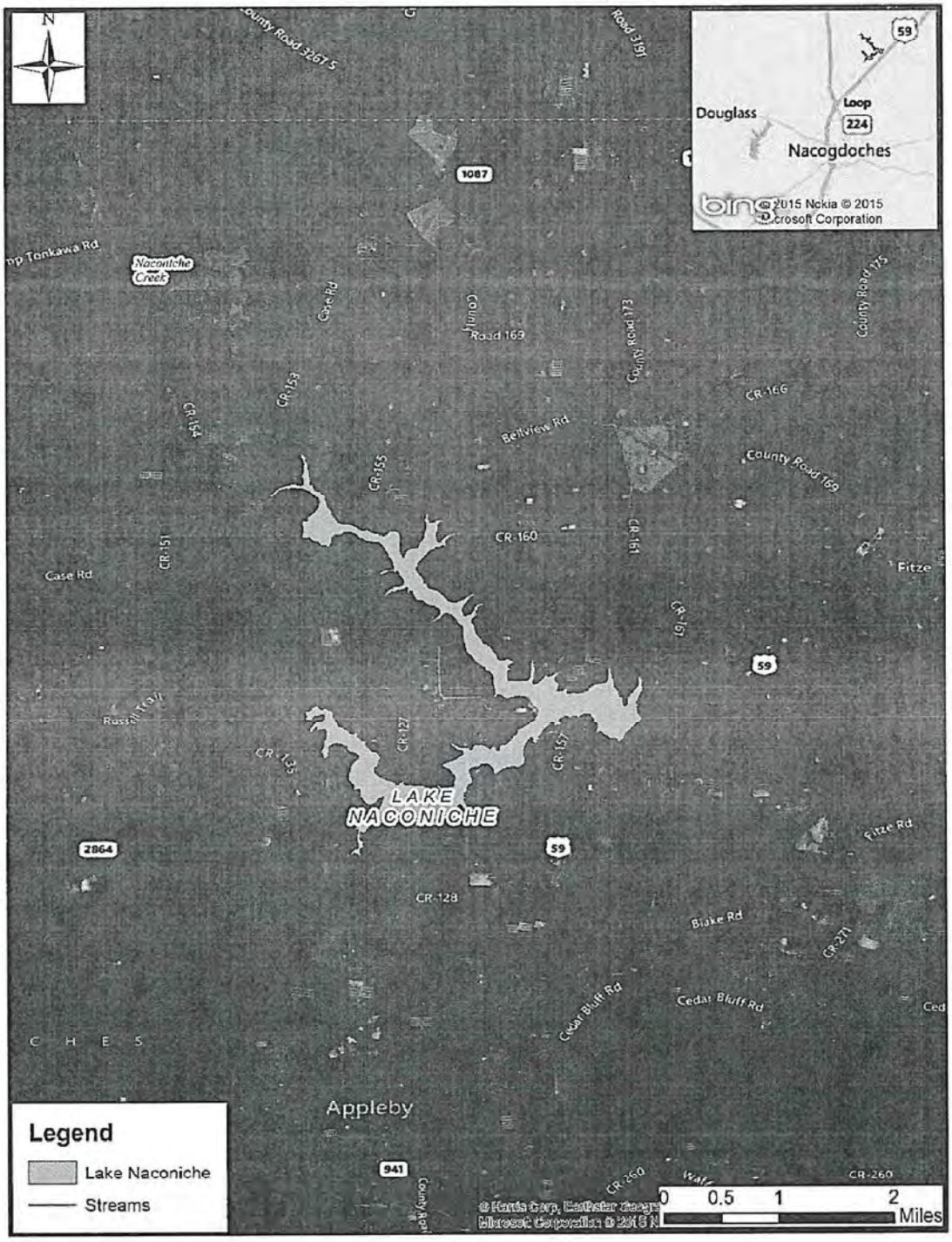
Table 1-1: Elevation, Storage and Area Relationships for Lake Naconiche

Elevation (feet-msl)	Capacity (acre-feet)	Area (acre)
312	0	0
316	24	12
320	118	35
324	346	79
324.2	361	83
328	812	154
332	1,644	262
338	2,884	358
340	4,510	455
344	6,554	567
*348	9,072	692
352	12,100	856
**355	15,031	1,003
356	15,966	1,055
360	20,544	1,236
364	25,842	1,453
***365	27,225	1,512

*Normal pool elevation
**Emergency spillway elevation
***Top of dam elevation

[1] Texas Natural Resource Conservation Commission. *Water Right Permit Number 5585*, July 3, 1998.
[2] Texas Commission on Environmental Quality, *State Inventory of Dams*, November 2007.

Figure 1-1: Lake Naconiche Location Map



1.2 PROPOSED AMENDMENT FOR DIVERSION

Lake Naconiche is currently being operated for flood control and recreational purposes. The proposed amendment would authorize diversion of 4,750 acre-feet per year for multi-purpose use from the perimeter of Lake Naconiche. The demand pattern used in the modeling was based on the municipal pattern (UMUN) in the Neches WAM identified in Appendix B. It is also proposed for the amendment that special condition 4 (b) be removed and replaced with SB3-based environmental flow criteria outlined in Section 2.2 of this report.

The proposed amendment is a recommended project in the 2011 Region I Water Plan and the 2012 State Water Plan. Based on the regional water plan the potential customers include Nacogdoches County-Other, Appleby WSC, Lily Grove WSC and Swift WSC in Nacogdoches County.

2.0 WATER AVAILABILITY ANALYSIS

2.1 FNI BASE MODEL

FNI obtained the Neches River Water Availability Model, Full Authorization Scenario (TCEQ WAM) from the Texas Commission on Environmental Quality (TCEQ) on September 8, 2014. The TCEQ Neches WAM contains SB3 environmental flows. Figure 2-1 shows the locations of the SB3 measurement points. Based upon an initial review of the TCEQ model, FNI identified three changes which are incorporated into the FNI Base Model used for all of the model runs:

1. The TCEQ WAM had an annual instream flow target of 57,196 acre-feet per year for Lake Naconiche. This is substantially higher than the amount in the permit, which corresponds to 4,744 acre-feet per year. The instream target along with the UC record were changed in the FNI Base Model to match the permit instream flow requirements as shown in Table 2-1.

Table 2-1: Instream Flow Requirements Authorized by Permit Number 5585

Month	cfs	Acre-feet
January	8	492
February	12	666
March	15	922
April	11	655
May	9	553
June	4	238
July	3	184
August	3	184
September	3	179
October	3	184
November	3	179
December	5	307
Annual		**4,744**

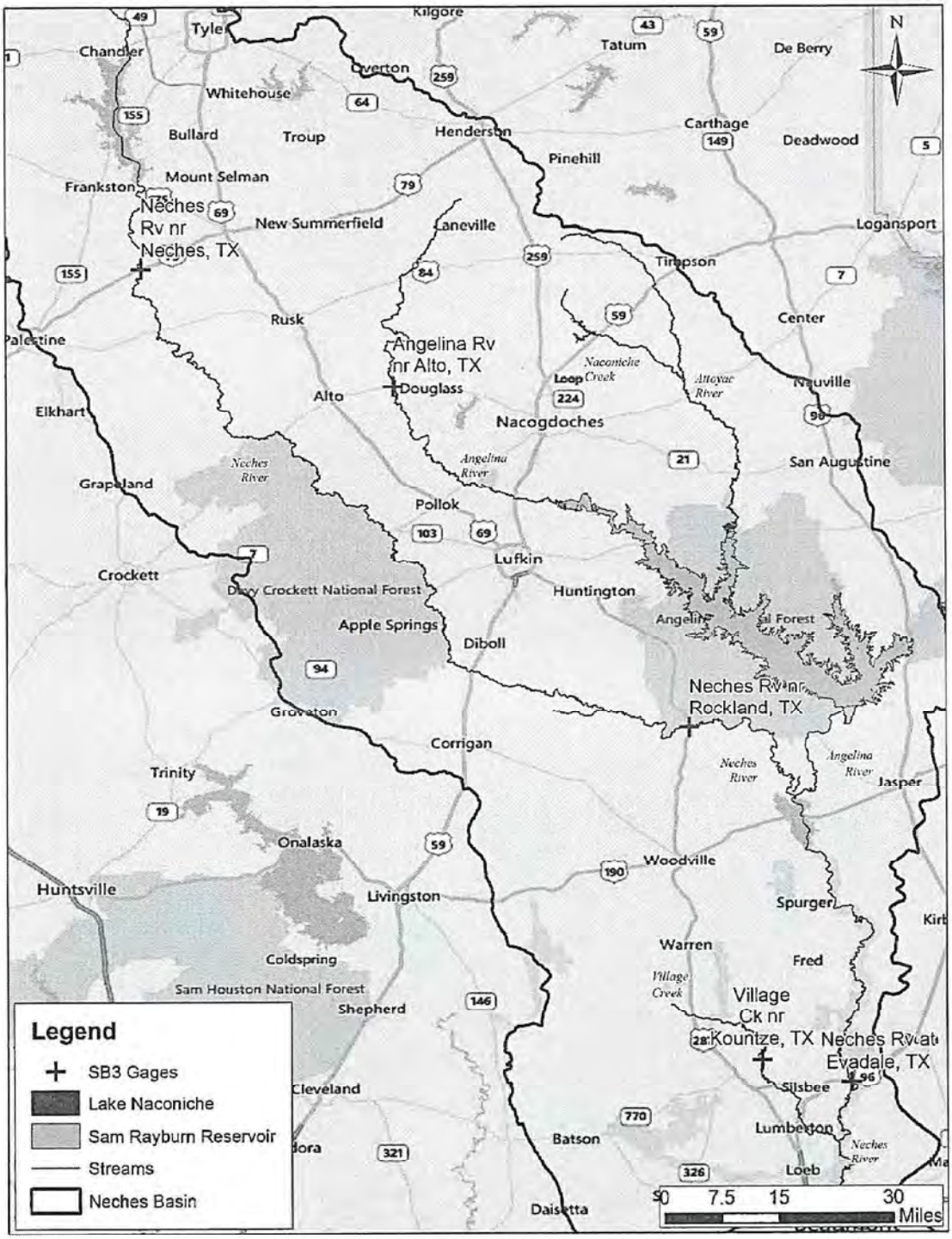
2. The TCEQ WAM includes subordination of Lake Sam Rayburn for all junior municipal water rights, and water rights upstream of the proposed Ponta Dam on the Angelina River and the proposed Weches Dam on the Neches River, including Lake Naconiche. The subordination method employed in the TCEQ WAM excludes not only Sam Rayburn from making priority calls from

upstream water rights, but also all water rights below Sam Rayburn do not make priority calls. For Lake Naconiche, the subordination method was changed in the FNI Base Model so that any streamflow made available through subordination was limited to the depletions made at the Lake Sam Rayburn control point. This method is slightly more conservative than the one used in the TCEQ WAM. The method still excludes consideration of flows below Lake Sam Rayburn.

3. In the TCEQ WAM, there were a few major reservoirs subject to the Lake Sam Rayburn subordination that were not being modeled in the first simulation. The code for these reservoirs were added so that they are present in the first simulation, but without applying subordination. A second set of WR/WS records were added to the second simulation that allow depletion of the additional flow made available through the subordination. These changes were applied to multiple water rights and are documented in Appendix B.

In addition to the above modifications, a new water right was added to the FNI Base Model to model the new diversion authorization at a priority date of 2016.

Figure 2-1: Neches River Basin and SB3 Gages



2.2 SB3-BASED ENVIRONMENTAL FLOWS

The only SB3 measurement point that is downstream of Lake Naconiche is the Neches River at Evadale, which is below Sam Rayburn. During the analysis FNI determined that the Lake Sam Rayburn subordination resulted in the SB3 environmental flows not being applied at Lake Naconiche. In order to apply SB3 environmental flows at Lake Naconiche, FNI developed SB3-Based Environmental Flow Criteria using the SB3 criteria at the Angelina River near Alto gage. Table 2-2 shows the base flow and subsistence environmental flow criteria for the Angelina River near Alto gage.

Table 2-2: Angelina River near Alto Base and Subsistence Flow Conditions

	Flow in cfs			
	Winter	Spring	Summer	Fall
Subsistence	55	18	11	16
Base	277	90	40	52

Lake Naconiche has a drainage area of 28 square miles in the WAM. The drainage area at the Angelina River near Alto gage according to USGS is 1,276 square miles. The ratio of the drainage areas is 0.022. The base and subsistence flows in Table 2-2 were multiplied by the drainage area ratio to determine the base and subsistence flows for the SB3-Based Environmental Flow Criteria at Lake Naconiche, shown in Table 2-3. These environmental flows were applied at the lake at the 1997 priority date of the original storage authorization.

Table 2-3: SB3-Based Environmental Flow Criteria for Base and Subsistence Flow Conditions

	Flow in cfs			
	Winter	Spring	Summer	Fall
Subsistence	1.2	0.4	0.2	0.4
Base	6.1	2.0	0.9	1.1

According to TAC 298.285 it is not necessary for water rights which store or divert less than 10,000 acre-feet per year to preserve or pass high flow pulses. Since Lake Naconiche stores less than 10,000 acre-feet and the new authorization will be less than 10,000 acre-feet per year only base and subsistence criteria were incorporated into the SB3-Based Environmental Flow Criteria.

2.3 RESULTS

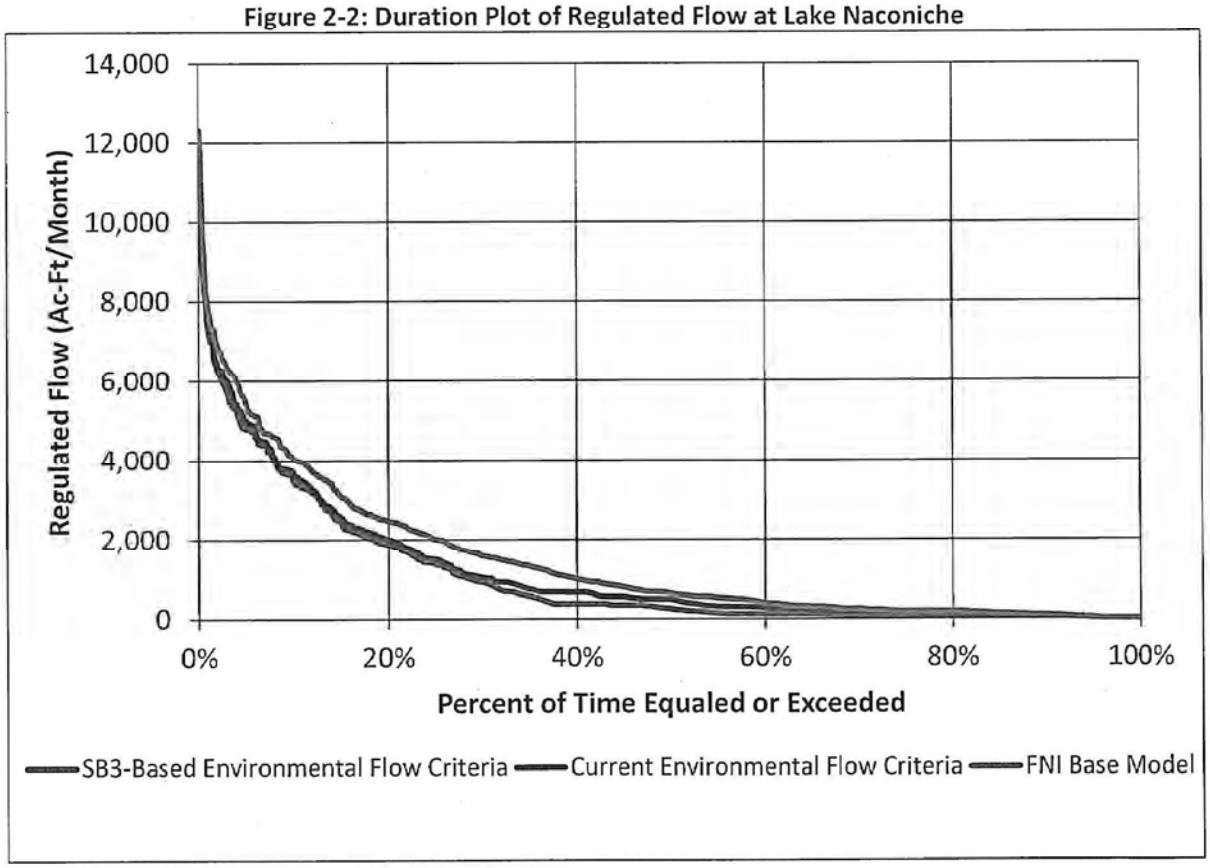
The yield using the FNI Base Model with the environmental flows in the current permit and with the SB3-Based Environmental Flow Criteria are shown in Table 2-4. The yields using the SB3-Based Environmental Flow Criteria are greater than the yield using the existing environmental flows because the SB3-based criteria are less than those found in the existing permit.

Table 2-4: Lake Naconiche Yield with Environmental Flow Criteria from Current Permit and SB3-Based Environmental Flow Criteria

Scenario	Yield (Acre-feet/Year)
Current Environmental Flow Criteria	3,160
SB3-Based Environmental Flow Criteria	4,750

Figure 2-2 compares the range of regulated flows just downstream of Lake Naconiche from the FNI Base Model without the new authorization to the flows with the new diversion using the two different approaches to environmental flows. As shown on this graph, there is little difference in the regulated flows between the two approaches.

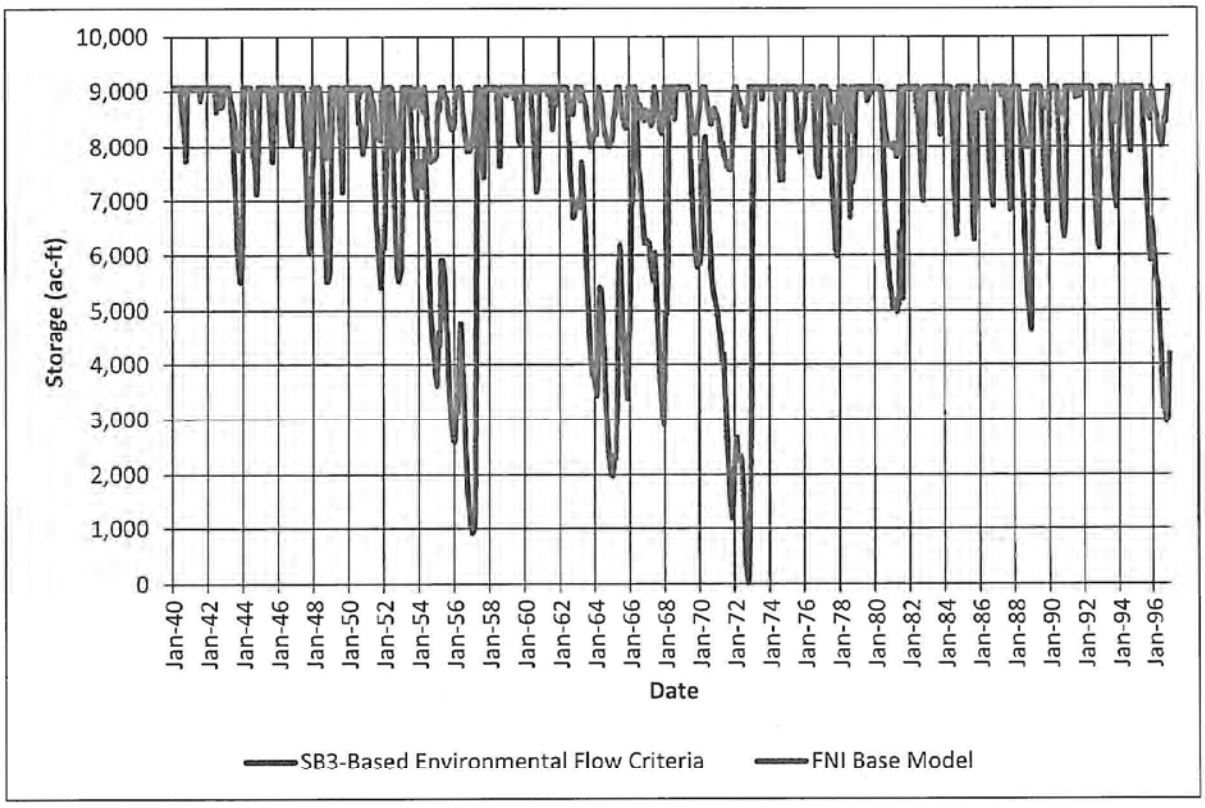
Figure 2-2: Duration Plot of Regulated Flow at Lake Naconiche



3.0 AFFECTED ENVIRONMENT

The use of Lake Naconiche as a water supply source as opposed to a recreational lake will have some impact on the aquatic habitat within the lake. This is shown in Figure 3-1 by comparing the storage trace from the FNI Base model and the proposed diversion of 4,750 acre-feet per year with the SB3-Based Environmental Flow Criteria. It is not anticipated that the proposed diversion will impact the downstream aquatic environment since those flows are protected by environmental flow criteria. The fluctuation in lake levels will have some impact on the use of Lake Naconiche for recreation.

Figure 3-1: Lake Naconiche Storage Trace with and without Proposed Amendment



It is not anticipated that diversion from the lake will have significant impact on the water quality of the lake or downstream water quality. An analysis of the water quality samples at the USGS Gage Attoyac Bayou near Chireno, downstream of Lake Naconiche, indicates good overall water quality as shown in Table 3-1. During periods of low lake levels water quality in the lake may be diminished but the overall quality should remain good.

Table 3-1: USGS Gage Attoyac Bayou near Chireno Water Quality Data

Parameter	Median of Samples
Discharge (cfs)	259
Specific conductance (µs/cm)	110
Dissolved Oxygen (mg/l)	7.0
Total Dissolved Solids (mg/l)	70
pH	7.1

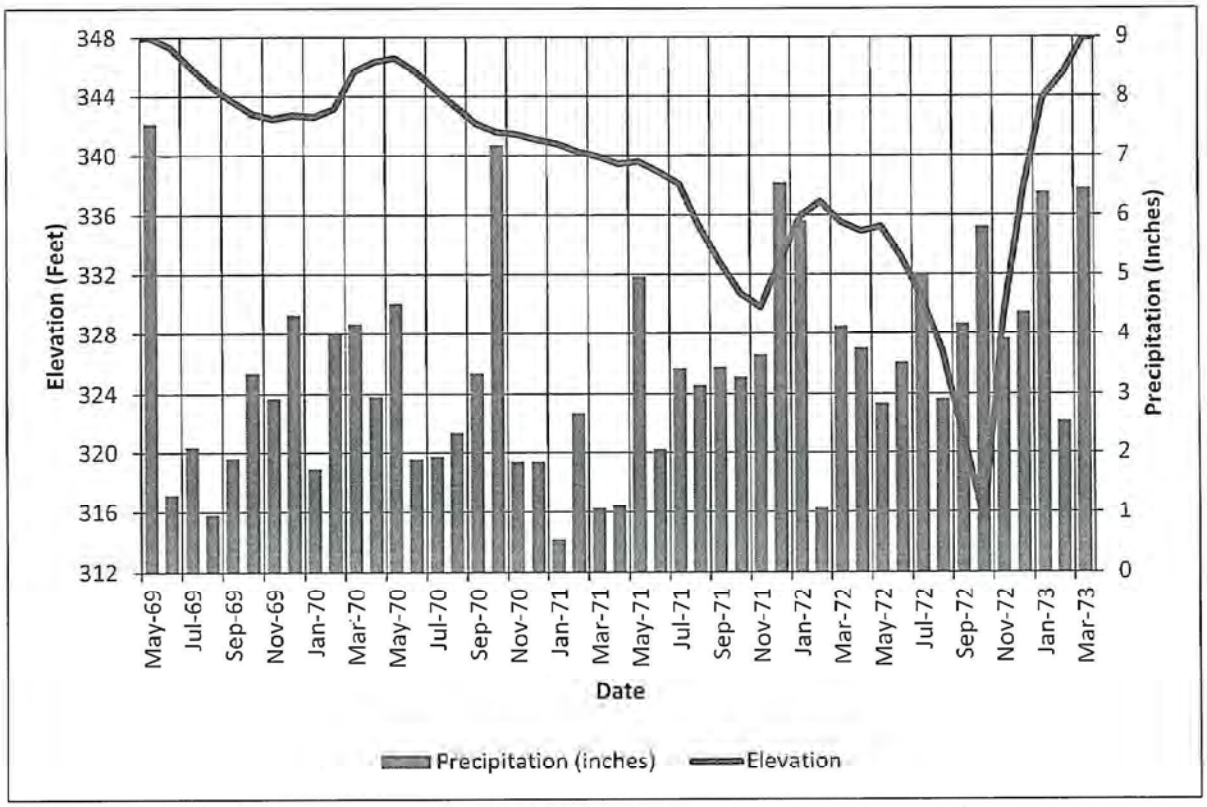
The special conditions of the May 1999 Final Supplemental Environmental Impact Statement (EIS) identified an 852 acre mitigation area to be located in Nacogdoches, Rusk, Shelby and San Augustine Counties. The EIS also identified a separate 176 acres of mitigation area on the perimeter of Lake Naconiche in the May 1998, "Final Monitoring Plan for the Lake Naconiche Created Wetlands" prepared by the Stephen F. Austin School of Forestry. The Final Monitoring Plan included the conversion of 176 acres to hydric soil thereby allowing the development of emergent wetlands along the shoreline of Lake Naconiche. The monitoring of those wetlands has continued since the lake began filling in 2006.

In the Stephen F. Austin School of Forestry 2015 preliminary report, groundwater monitoring results from all years were examined and it was determined that an elevation of 352 feet MSL was an appropriate estimation of where wetlands will be created around the entire perimeter of the lake. The surface area of projected wetlands based on the water table reaching 352 feet MSL around the lake was approximately 188 acres. Vegetation in areas predicted to become wetlands was generally healthy and that there was no difference in vegetation condition along an elevation gradient.

Many seasonal and temporary wetlands experience periods of drought at some point. These wetlands tend to fill during the wetter winter months, dry during the hotter summer months and then refill. This is a natural and common occurrence for wetlands in Texas. In fact, these periods of drying and filling can be beneficial for the development of certain species and promote wetland plant diversity. If low water levels at Lake Naconiche occur for an extended period of time due to the proposed diversion, some wetland plant species dependent on being submerged or inundated might go dormant, or potentially die. Other plant species not dependent on being submerged or inundated would likely survive these periods of low water levels. This is expected since the average annual rainfall in Nacogdoches County is approximately 49 inches (TWDB Quadrangle 613, 1940-2013) which would likely provide the moisture necessary for many wetland plant species to survive within the littoral zone/fringe wetlands of the reservoir once they become established. Figure 3-2 shows the elevation during the longest period where the reservoir is below

the conservation elevation of 348 feet and the corresponding monthly rainfall. This indicates that even during periods of extended drawdown the fringe wetlands will experience rainfall and wetting of soils sufficient to maintain wetland plant species that do not need to be submerged until Lake Naconiche can refill.

Figure 3-2: Comparison of Lake Levels and Precipitation during Drought of Record



4.0 IMPACTS OF PROPOSED WATER RIGHTS

4.1 NO INJURY ANALYSIS

Potential impacts of the proposed water right on existing water rights were evaluated using the FNI Base Model without the amendment and the project model using the SB3-Based Environmental Flow Criteria. No water rights were impacted by this amendment. Details of the no injury analysis can be found in Appendix B.

4.2 IMPACT ON INSTREAM USES

Because the flow criteria developed for Lake Naconiche are consistent with the SB3 process, the SB3-Based Environmental Flow Criteria should be protective of instream uses.

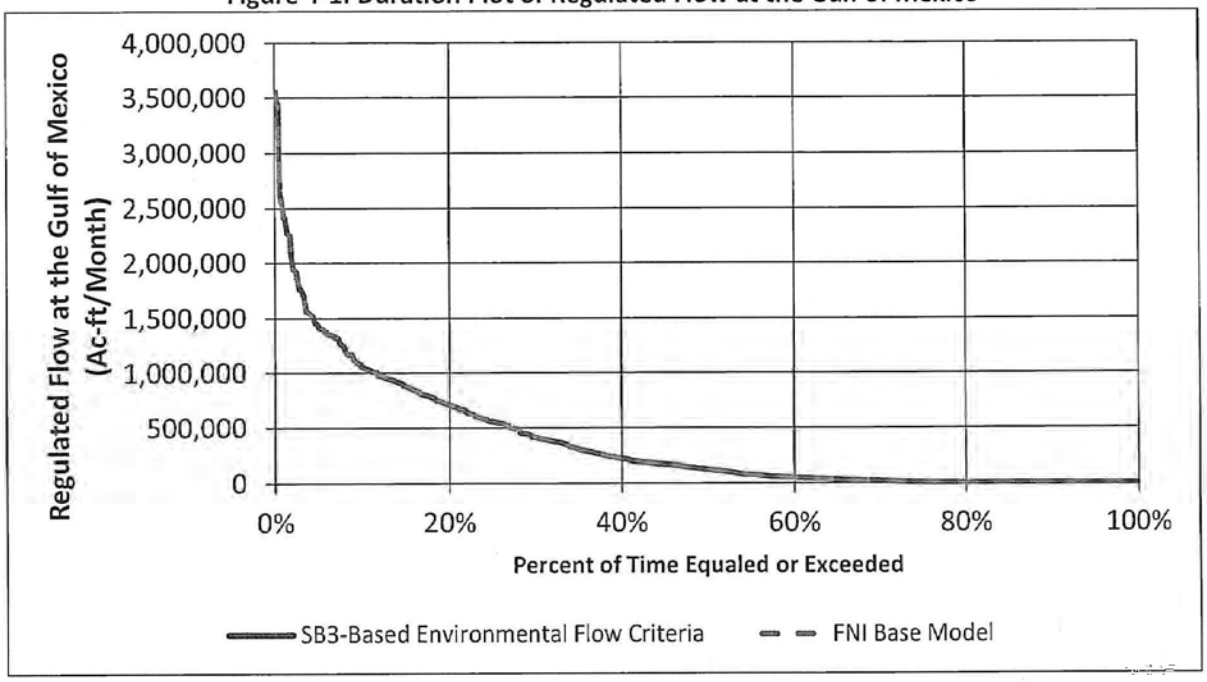
4.3 IMPACTS ON BAYS AND ESTUARIES

There will be minimal impact on bays and estuaries since diversions will be subject to SB3 instream flow requirements. The annual average regulated flow at the Gulf of Mexico is shown in Table 4-1. The percentage of time for regulated flows at the Gulf of Mexico are shown in Figure 4-1. The change in median annual regulated flows at the Gulf of Mexico is approximately 4,745 acre-feet, a difference of about 0.12%.

Table 4-1: Statistics of Annual Regulated Flows at the Gulf of Mexico

Scenario	Regulated Flow (Acre-feet/Year)			
	5%	10%	25%	50%
FNI Base WAM	591,881	689,575	1,735,190	4,112,056
SB3 Environmental Flow Criteria WAM	587,796	693,600	1,756,741	4,118,363
Difference from FNI Base WAM	4,085	-4,025	-21,551	-6,307
Percent Difference from FNI Base WAM	0.69%	-0.58%	-1.24%	-0.15%

Figure 4-1: Duration Plot of Regulated Flow at the Gulf of Mexico



4.4 IMPACTS ON WETLANDS

The proposed amendment to allow for diversion has slight potential to impact wetland areas along the perimeter of the lake since diversions will lead to increased water level fluctuations. The longest period below the conservation pool is nearly four years which occurs from June 1969 through February 1973 and corresponds with the critical drought. However, due to local precipitation the impacts are expected to be minimal. Further discussion of the potential impact to wetlands is included in Section 3.0.

4.5 WATER CONSERVATION

Nacogdoches County has not been required to submit a water conservation plan in the past since it is not a retail or wholesale water supplier, nor does the existing permit (5585) appropriate 1,000 acre-feet or more of surface water. Nacogdoches County will prepare a water conservation plan in accordance with Chapter 288 rules to be provided to the TCEQ at a later date in conjunction with the proposed amendment.

4.6 CONSISTENCY WITH REGIONAL WATER PLANS

Lake Naconiche is a recommended strategy in the 2011 Region I Water Plan (Lake Naconiche Regional Water Supply System) for Nacogdoches County-Other, Appleby WSC, Lily Grove WSC and Swift WSC[3].

4.7 OTHER POTENTIAL IMPACTS

Since Lake Naconiche is already constructed there will be minimal impacts to water quality, the environment or agricultural resources.

[3]Alan Plummer and Associates Inc., Freese and Nichols Inc., LBG Guyton and Walker Partners. *2011 Region I Plan*, September 2010, pgs. 4C-27-31

Appendix A
USGS 7.5 Minute Topographic Map

Full Scale 7.5 Minute USGS Garrison West Quadrangle Map
Included in supplementary sleeve

0 1,000 2,000 4,000
Feet

N
W E
S

Lake Naconiche

County of Nacogdoches
101 West Main Street
Nacogdoches, Texas 75961
Nacogdoches County, Texas
Sheet 1 of 1

Appendix B
WAM Modeling and No Injury Analysis

Modifications to the Neches River WAM

The analyses in this water right application are based on the October 2012 version of the Neches River WAM, full authorization scenario and including Senate Bill 3 instream flow requirements, using the August 2013 version of WRAP-SIM. (WRAP-SIM is the computer program used to run the WAM.).

Base WAM Changes

```
** FNI Change - Changed to match the pattern in the permit
UCUT5585     492     666     922     655     553     238
UC           184     184     179     184     179     307
**UCUT5585   0.101   0.152   0.190   0.139   0.114   0.051
**UC         0.038   0.038   0.038   0.038   0.038   0.063


**  Sub modeled right - Lake Palestine
**   FNI change - add non-subordination rights to first simulation
WR3254N1  196000    UMUN19560430   1   1                                    3254M1   A3254
WSPALEST  410000
PX     3
**
WR3254N1   16400    UMUN19690915   1                                        3254M3    3254  3254ls
WSPALEST  411840
PX     3
**PX     2              1  4411N2
**
WR3254N1     400    UMUN19700914   1                                        3254A3    3254  3254ls
WSPALEST  411840
PX     3
**PX     2              1  4411N2
**
IF3254N2       0   IFCON19670309                        IFUNRMWD
TO     2             ADD                 3254N2                          CONT
TO     2             SUB      0.    302.  3254N1
**
WR3254N2       0        19670309                                  FILLDIVDAM1    3254
WSUNRMDW     119  1.3676   0.615
PX     3
**PX     2              1  4411N2
WR3254N2   18000    UMUN19830425   1                                        3254M5    3254  3254dd
WSUNRMDW     119  1.3673   0.615       0
WSPALEST  411840
OR3254N1  411840       1       1
PX     3
**PX     2              1  4411N2
**
WR3254N2    7310    UMUN19841001   1                                        3254M7    3254  3254dd
WSUNRMDW     119  1.3673   0.615       0
WSPALEST  411840
OR3254N1  411840       1       1
PX     3
**PX     2              1  4411N2
**
**  FNI change - Putting in at same priority date as BU from Steinhagen.  This minimizes picking up
extra available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR3254N2       0        20091129                                 3254divDamSub    3254
WSUNRMDW     119  1.3676   0.615
BU                            3254dd
PX     2              2  4411N2
**
WR3254N1               20091129   1                               3254PalSub    3254
WSPALEST  411840
BU                            3254ls
PX     2              2  4411N2
```

```
**  Lake Columbia
**   FNI change -  Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4537A   53307    UMUN19851122   1                                        4537M1    4537   4537s
WSCOLUMB  195500
PX     3
**PX     2              1  4411A1
**
WR 4537A    2200    UMUN19851122   1                                        4537M2    4537   4537s
WSCOLUMB  195500
PX     3
**PX     2              1  4411A1
**
WR 4537A   30000    UIND19851122   1                                        4537I1    4537   4537s
WSCOLUMB  195500
PX     3
**PX     2              1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4537A               20091129   1                                      4537sub    4537
WSCOLUMB  195500
BU                                4537s
PX     2              2  4411A1


**  Lake Striker
**   FNI change -  Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4847A    5000    UIND19551205   1                                        4847I1    4847
WSSTRIKR   26500
PX     3
**
WR 4847A       0    UIND19560430   1                                        4847I2    4847
WSSTRIKR   26960
PX     3
**
WR 4847A    5600    UIND19680205   1                                        4847I3    4847
**WR 4847A    5600    UIND19680205   2                                        4847I3    4847
WSSTRIKR   26960
PX     3
**PX     2              1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4847A               20091129   1                                      4847sub    4847
WSSTRIKR   26960
BU                       4847I3
PX     2              2  4411A1
**


**  Lk Nacogdoches
**   FNI change -  Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4864A   22000    UMUN19700105   1                                        4864M1    4864
WS  NACH   41000
PX     3
**PX     2              1  4411A1
**
WR 4864A       0     REC19770627   1                                        4864R1    4864
WS  NACH   42318
PX     3
**PX     2              1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4864A       0        20091129   1                                      4864sub    4864
```

```
WS  NACH    42318
BU                          4864M1
PX     2                2  4411A1
**


**   TPWD wetlands
**  FNI change - added group identifier
**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
WR555541        0  WTFILL19960709   1                                          5555O1     5555
WSWETLAN      168
SO            168      168  5555A1
**
IF5555A1     6460  TPWDIF20041103       1                IF5555A2
**
WR5555A1    10000         20041103   1                                          555502     5555
PX     3
**PX     2                1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR5555A1                 20091129   1                                          5555sub    5555
BU                          555502
PX     2                2  4411A1
**


** FNI Change - Changed to match IF requirment in the permit
**IF 5585A    57196  UT558519970430       1                   5585N1
IF 5585A     4744  UT558519970430       1                   5585N1
**
**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 5585A        0     REC19970430   1                                          5585R1     5585
WSNACKNK     9072
**PX     2                1  4411A1
PX     3
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 5585A        0     REC20091129   1                                          5585R2     5585
WSNACKNK     9072
PX     2                2  4411A1
**


**  Lake Pinkston
**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4404A     3800     UMUN19720702   1                                          4404M1     4404
WSPINKST     7380
PX     3
**PX     2                1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4404A                 20091129   1                                          4404sub    4404
WSPINKST     7380
BU                          4404M1
PX     2                2  4411A1
**


**  FNI change - added group identifier
WR 4409A      500     LMUN19571101   1                                          4409M1     4409


**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
```

```
WR 4409A      785    LMUN20000222   1                                        4409M2     4409
WSCARRIZ     2750  1.7193  0.6199       0
PX      3
**PX      2               1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**    using option 2 to limit to depletions at subordinated reservoir.
WR 4409A                20091129   1                                        4409sub    4409
WSCARRIZ     2750  1.7193  0.6199       0
PX      2               2  4411A1
**

**  FNI change - made this group of rights type 2 - no refill until after all subordination done
**    since we combined several to use group identifiers several no longer needed
**    Lake Columbia
**WR4411A1                20091129                                        BURAYBURN1     4411
WR4411A1                20091129   2                                    BURAYBURN1     4411
WSRAYBRN 2898200
BU      0        0         4537sub
**BU      0        0          4537M1
PX      2
**
**WR4411A1                20091129                                        BURAYBURN2     4411
**WSRAYBRN 2898200
**BU      0        0          4537M2
**PX      2
**
**WR4411A1                20091129                                        BURAYBURN3     4411
**WSRAYBRN 2898200
**BU      0        0          4537I1
**PX      2
**    TPWD wetlands
**WR4411A1                20091129                                        BURAYBURN4     4411
WR4411A1                20091129   2                                    BURAYBURN4     4411
WSRAYBRN 2898200
BU      0        0         5555sub
**BU      0        0          555502


**  FNI change - made this group of rights type 2 - no refill until after all subordination done
**    since we combined several to use group identifiers several no longer needed
**    Lake Columbia
**WR4411A1                20091129                                        BURAYBURN1     4411
WR4411A1                20091129   2                                    BURAYBURN1     4411
WSRAYBRN 2898200
BU      0        0         4537sub
**BU      0        0          4537M1
PX      2
**
**WR4411A1                20091129                                        BURAYBURN2     4411
**WSRAYBRN 2898200
**BU      0        0          4537M2
**PX      2
**
**WR4411A1                20091129                                        BURAYBURN3     4411
**WSRAYBRN 2898200
**BU      0        0          4537I1
**PX      2
**    TPWD wetlands
**WR4411A1                20091129                                        BURAYBURN4     4411
WR4411A1                20091129   2                                    BURAYBURN4     4411
WSRAYBRN 2898200
BU      0        0         5555sub
**BU      0        0          555502
PX      2
****STRIKER
**WR4411A1                20091129                                        BURAYBURN5     4411
WR4411A1                20091129   2                                    BURAYBURN5     4411
WSRAYBRN 2898200
```

```
BU     0       0         4847sub
**BU     0       0           4847I3
PX     2
**   Lake Palestine at diversion dam
**WR4411N2                20091129                                    BUSTEINHA6    4411
WR4411N2                 20091129   2                                BUSTEINHA6    4411
WSSTEINH   94250
BU     0       0   3254divDamSub
**BU     0       0           3254M3
PX     2
**   Lake Palestine lakeside
**WR4411N2                20091129                                    BUSTEINHA6    4411
WR4411N2                 20091129   2                                BUSTEINHA7    4411
WSSTEINH   94250
BU     0       0      3254PalSub
**BU     0       0           3254A3
PX     2
**
**WR4411N2                20091129                                    BUSTEINHA8    4411
**WSSTEINH   94250
**BU     0       0           3254M5
**PX     2
**WR4411N2                20091129                                    BUSTEINHA9    4411
**WSSTEINH   94250
**BU     0       0           3254M7
**PX     2
** add municipal beneficiaries of Condition C
**  Lake Nacogdoches
**WR4411A1                20091129                                    BURAYBUR10    4411
WR4411A1                 20091129   2                                BURAYBUR10    4411
WSRAYBRN 2898200
BU     0       0         4864sub
**BU     0       0           4864M1
PX     2
**
**WR4411A1                20091129                                    BURAYBUR11    4411
**WSRAYBRN 2898200
**BU     0       0           4864R1
**PX     2
**  Lake Pinkston
**WR4411A1                20091129                                    BURAYBUR12    4411
WR4411A1                 20091129   2                                BURAYBUR12    4411
WSRAYBRN 2898200
BU     0       0         4404sub
**BU     0       0           4404M1
PX     2
**  San Augustine Carrizo Crk
**WR4411A1                20091129                                    BURAYBUR13    4411
WR4411A1                 20091129   2                                BURAYBUR13    4411
WSRAYBRN 2898200
BU     0       0         4409sub
**BU     0       0           4409M2
PX     2
**  Lake Naconiche
**WR4411A1                20091129                                    BURAYBUR14    4411
WR4411A1                 20091129   2                                BURAYBUR14    4411
WSRAYBRN 2898200
**BU     0       0           5585R1
BU     0       0           5585R2
PX     2
**
WR4411A1                 20091129                                    REFILLRB    4411
WSRAYBRN 2898200
PX     2
**
WR4411N2                 20091129                                    REFILLST    4411
WSSTEINH   94250
PX     2
```

The following records were added to the neches3.dat file to model the proposed diversion from Lake Naconiche.

```
**  FNI change - pattern for new base eflow at lake Naconiche
UC nksub      74      68      74      24      24      24     =      397
UC            15      15      14      22      21      22
UC nkbas     375     341     375     118     122     118     =     1817
UC            54      54      52      70      68      70
**

**  FNI change - add control point for subsistence calculations for Lake Naconiche
**CP 5585A    ATCH                      7
CP 5585A  nksubs                      7
CPnksubs    ATCH                      7           5585A
**

**FNI change dummy CPs for Lake Naconiche
CPfknk02     OUT                      2    NONE    NONE
CPfknk03     OUT                      2    NONE    NONE

** FNI change - fake CPs associated with Lake Naconiche SB3 instream flows
CIfknk02 9999999 9999999 9999999 9999999 9999999 9999999
CI       9999999 9999999 9999999 9999999 9999999 9999999
CIfknk03 9999999 9999999 9999999 9999999 9999999 9999999
CI       9999999 9999999 9999999 9999999 9999999 9999999

** FNI Change - Changed to match IF requirement in the permit
****IF 5585A   57196  UT558519970430       1                  5585N1
**IF 5585A    4744  UT558519970430       1                  5585N1
**  FNI change - add instream flow based on Alto multiplied by DA ratio.  Giving everything a priority
junior to SB3
**    only base flows apply since diversion or storage is less than 10,000
**  Subsistence flow at CP just downstream of reservoir
**   giving it priority date of original certificate.
IFnksubs     397   nksub19970430                        nksubsis
**   Regulated flow - for checking
WRfknk02               19970430                                          nklook    5585
TO     2              ADD                   5585A
**  Holds the monthly target
WRfknk02    1817   nkbas19970430                                    holdnkbase    5585
**  Ratio of target to regulated flow
WRfknk03           nkbas19970430                                       nkOnOff    5585
TO     2             ADD                   5585A                        CONT
TO     6             DIV                                      holdnkbase
**  Flow switch based on ratio calculated above.  Applied if > 1
IF 5585A    1817   nkbas19970430                        nkbase
FS     5  fknk03       1       0       1 9999999   1
**   Original authorization.
WR 5585A       0     REC19970430   1                                   5585R1    5585
WSNACKNK    9072
**PX     2              1  4411A1
**PX     3              2  4411A1
**
** FNI Change - New WR to calculate yield. With subordination, but at a 2016 priority date
WR 5585A    4750    UMUN20160000   1                                   5585FY    5585
WSNACKNK    9072
PX     2              2  4411A1
**  end FNI change

**  FNI change - Lake Naconiche, change to priority date of new right, allow to fill at that date.
**WR4411A1              20091129                                      BURAYBUR14    4411
**WR4411A1              20091129   2                                  BURAYBUR14    4411
WR4411A1              20160000   1                                 BURAYBUR14    4411
WSRAYBRN 2898200
**BU     0       0          5585R1
**BU     0       0          5585R2
```

```
BU      0       0           5585FY
PX      2
```

The following records were added to the neches3.dis file.

```
**  FNI change
FDnksubs     ATCH        0
**
**  FNI change
WPnksubs    28.07       42       46
**
```

No changes were made to the other input files.

The impact analysis for the diversion from Lake Naconiche, modeled as described above, has no impact on water rights in the Neches WAM (Table B-1). Table B-1 shows the *difference* between the FNI Base WAM model run and the modified WAM for all water rights in the October 2012 version of the Neches River WAM. All the values for water rights in the Neches WAM are zero which indicates that there is no change in reliability.

Table B-1: Difference between FNI Base WAM and Lake Naconiche Model

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3306R1				
4411A2	0	0	0	0
4411A3	0	0	0	0
4411A4	0	0	0	0
4411A5	0	0	0	0
4434I1				
4434I1				
4415M1	0	0	0	0
3237M1	0	0	0	0
3274M4	0	0	0	0
4411M5	0	0	0	0
4411M6	0	0	0	0
4411I3	0	0	0	0
4411I4	0	0	0	0
4415M2	0	0	0	0
4415I1	0	0	0	0
4867A1	0	0	0	0
4410I1	0	0	0	0
3233A1	0	0	0	0
4856R1				
4861A1	0	0	0	0
4412I1	0	0	0	0
4866A1	0	0	0	0
3286A1	0	0	0	0
3221A1	0	0	0	0
3221A2	0	0	0	0
3221A3	0	0	0	0
4388R1				
4402M1	0	0	0	0
3274M5	0	0	0	0
4437I1				
4437I1				
4401A1	0	0	0	0
4396A1	0	0	0	0
4857A1	0	0	0	0
4853M1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4853I1	0	0	0	0
3222G1	0	0	0	0
4387A1	0	0	0	0
4843R1				
4427R1				
4433I1				
4433I1				
3277A1	0	0	0	0
4848R1				
4400R1				
4406A1	0	0	0	0
3275A1	0	0	0	0
3222G2	0	0	0	0
3302R1				
3289A1	0	0	0	0
4853E	0	0	0	0
4839A1	0	0	0	0
4841A1	0	0	0	0
3222G3	0	0	0	0
4871R1				
3256M1	0	0	0	0
3256I1	0	0	0	0
4399M1	0	0	0	0
3253A1	0	0	0	0
3274M3	0	0	0	0
3274R1				
3244A1	0	0	0	0
3297A1	0	0	0	0
3296A1	0	0	0	0
3266A1	0	0	0	0
3283A1	0	0	0	0
3284A1	0	0	0	0
3280A1	0	0	0	0
3298A1	0	0	0	0
4858A1	0	0	0	0
4858A2	0	0	0	0
3290A1	0	0	0	0
4847I1	0	0	0	0
4393D2	0	0	0	0
3254M1	0	0	0	0
4847I2				
3285A1	0	0	0	0
4386A1	0	0	0	0
3295A1	0	0	0	0
4382A1	0	0	0	0
4853J				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3299A1	0	0	0	0
4414A1	0	0	0	0
4408R1				
3291A1	0	0	0	0
4393I1	0	0	0	0
3249R1				
4409M1	0	0	0	0
3247A1	0	0	0	0
3236A1	0	0	0	0
3287A1	0	0	0	0
3276A1	0	0	0	0
4438I1				
4438I1				
3226A1	0	0	0	0
3260R1				
3252A1	0	0	0	0
3299A2	0	0	0	0
4859A1	0	0	0	0
4839I1	0	0	0	0
4419R1				
3293A1	0	0	0	0
4860A1	0	0	0	0
4395A1	0	0	0	0
FILL STEINHA				
FILLRAY				
4411M4	0	0	0	0
4411I1	0	0	0	0
4411I2	0	0	0	0
4411A1	0	0	0	0
4411M1	0	0	0	0
4425R1				
4840A1	0	0	0	0
4397A1	0	0	0	0
3292A1	0	0	0	0
3294A1	0	0	0	0
3294A2	0	0	0	0
4869A1	0	0	0	0
4865A1	0	0	0	0
4846A1	0	0	0	0
3251A1	0	0	0	0
4431A1	0	0	0	0
3245A1	0	0	0	0
3235A1	0	0	0	0
4380R1				
4380O1	0	0	0	0
4385R1				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3278A1	0	0	0	0
3288A1	0	0	0	0
4850A1	0	0	0	0
4872A1	0	0	0	0
4873A1	0	0	0	0
4381R1				
4384I1	0	0	0	0
FILLDIVDAM1				
4403A1	0	0	0	0
3223N2	0	0	0	0
3223N1	0	0	0	0
3269A1	0	0	0	0
3279A1	0	0	0	0
3222R1				
4401I1	0	0	0	0
4847I3	0	0	0	0
3282A1	0	0	0	0
4862A1	0	0	0	0
3238O1				
3303A1	0	0	0	0
3300R1				
4418R1				
3254M3	0	0	0	0
4864M1	0	0	0	0
4870R1				
3254A3	0	0	0	0
4392A1	0	0	0	0
4392O1				
4429A1	0	0	0	0
3263R1				
4426A1	0	0	0	0
4851R1				
4424R1				
3257R1				
4855R1				
3242R1				
3232R1				
3227R1				
3243R1				
3228R1				
3272R1				
4404M1	0	0	0	0
3264R1				
3261A1	0	0	0	0
4405R1				
3224A2	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3273R1				
3255R1				
4413D1	0	0	0	0
4413B3	0	0	0	-0.05
4868R1				
4379R1				
3281R1				
3246R1				
4423R1				
3267R1				
3234R1				
3231G1	0	0	0	0
4417R1				
4430R1				
3230G1	0	0	0	0
3271R1				
4416R1				
3248A1	0	0	0	0
4854R1				
4391R1				
4428R1				
3304R1				
4420R1				
3262R1				
4389R1				
4849I1				
4421R1				
4845R1				
4398R1				
3240R1				
4394R1				
4844R1				
4386R1				
4407R1				
3229R1				
3305R1				
3239R1				
3241R1				
4390R1				
4842R1				
4852R1				
326831				
3258R1				
3265R1				
3270R1				
4425R2				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4436I1				
4436I1				
3259G1				
4864R1				
3238I1	0	0	0	0
4432A1	0	0	0	0
4383A1	0	0	0	0
3224A1	0	0	0	0
3301A1	0	0	0	0
3237I1	0	0	0	0
3237A1	0	0	0	0
3237A2	0	0	0	0
3250A1	0	0	0	0
4863A1				
4863A2				
4435I1				
4435I1				
4030A1	0	0	0	0
4422R1				
4413A3	0	0	0	0
4118R1				
4115A1	0	0	0	0
4167R1				
4186I1				
4186I1				
3878A1	0	0	0	0
4196I1				
4196I1				
4199R1				
4219M1	0	0	0	0
4219F1	0	0	0	0
4219A1	0	0	0	0
4430A1	0	0	0	0
4269A1	0	0	0	0
4279A1	0	0	0	0
4384I2	0	0	0	0
4384BU	0	0	0	0
4356A1	0	0	0	0
4410I2	0	0	0	0
4410F1	0	0	0	0
3254M5	0	0	0	0
4370R1				
4094I1	0	0	0	0
4094I2				
4448A1	0	0	0	0
3254M7	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4501R1				
4540R1				
4543A1	0	0	0	0
4596A1	0	0	0	0
4595R1				
4609R1				
5013R1				
5015R1				
5027I1	0	0	0	0
4537M1	0	0	0	0
4537M2	0	0	0	0
4537I1	0	0	0	0
5041I1				
5091I1				
5091I1				
5087R1				
5134A1	0	0	0	0
5175M1				
5181R1				
5184O1				
5185M1				
5206I1				
5206I1				
5213I1				
5213I1				
5222R1				
5228A2	0	0	0	0
5232I1	0	0	0	0
5314I1	0	0	0	0
5351R1				
3224A3	0	0	0	0
5389A1	0	0	0	0
5415M1				
5484A1	0	0	0	0
5486A1	0	0	0	0
5508A1	0	0	0	0
5508A2	0	0	0	0
5508O1	0	0	0	0
5555O1				
5583R1				
5585R1				
561331				
5629A1	0	0	0	0
5669N1				
4409M2	0	0	0	0
5228D1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
P_5757				
4413B3				
472436				
472435				
555502	0	0	0	0

Appendix C
Water Right Permit 5585

THE STATE OF TEXAS
COUNTY OF TRAVIS
I hereby certify that this is a true and correct copy of a Texas Natural Resource Conservation Commission document, which is filed in the permanent records of the Commission.
Given under my hand and the seal of office on JUL 03 1998
Eugenia K. Brumm, Chief Clerk
Texas Natural Resource Conservation Commission

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

COPY

PERMIT TO APPROPRIATE AND USE STATE WATER

APPLICATION NO. 5585		*PERMIT NO. 5585*	*TYPE: Section 11.121*
Name:	*County of Nacogdoches*	*Address:*	*101 West Main Street Nacogdoches, Texas 75961*
Filed:	*April 30, 1997*	*County:*	*Nacogdoches*
Purposes:	*Flood Control and Recreation*	*Watershed:*	*Neches River Basin*
Watercourse:	*Naconiche Creek, tributary of Attoyac Bayou, tributary of the Angelina River, tributary of the Neches River*		

WHEREAS, the County of Nacogdoches has requested authorization to construct and maintain a dam on Naconiche Creek creating a reservoir to be used for flood control and in-place recreation purposes in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas; and

WHEREAS, the dam will be constructed by the Natural Resource Conservation Service (NRCS) and is referred to as Multi-Purpose Structure No. 23-A; and

WHEREAS, the Texas Natural Resource Conservation Commission finds that it has jurisdiction over the application; and

WHEREAS, the Executive Director has determined that although there may be some anticipated temperature differences in Naconiche Creek resulting from the construction of the proposed reservoir, these differences will probably be dissipated downstream due to springflow, seepage and vegetative cover; and

WHEREAS, the Executive Director has determined and recommended that in order to protect habitat and water quality at the reservoir site and downstream of the dam, certain special conditions be included in the permit; and

WHEREAS, the Stephen F. Austin School of Forestry has agreed to manage and monitor a wetland area around the perimeter of the reservoir in accordance with a "Final Monitoring Plan" dated May 14, 1998 that states it is intended and predicted to result in the conversion of 176 acres of land owned by the permittee to hydric soil condition due to increased saturation, thereby allowing more than 50% of the dominant vegetation of the area to propagate into obligate wetland, facultative wetland or facultative plants; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Natural Resource Conservation Commission in issuing this permit.

NOW, THEREFORE, this permit to appropriate and use State water is issued to the County of Nacogdoches, subject to the following terms and conditions:

1. *IMPOUNDMENT*

Permittee is authorized to construct and maintain a dam creating a reservoir in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas, on Naconiche Creek and to impound therein not to exceed 9072 acre-feet of water at a normal maximum operating elevation of 348.0 feet above mean sea level. The dam will be in the William C. Walker Survey, Abstract No. 596 and the Maria D. Castro Survey, Abstract No. 133 and Station 0+00 on the centerline of the dam at Latitude 31.7708° N and Longitude 94.5694° W, which is also N 27° W, 2650 feet from the southwest corner of the aforesaid Castro survey.

2. *USE*

Permittee is authorized to use the lake only for flood control and in-place recreational purposes with no diversion right.

3. *TIME LIMITATIONS*

a. *Construction of the dam herein authorized shall be commenced within two years and completed within five years from date of issuance of this permit. For the purposes of this permit, commencement of construction includes site preparation.*

b. *Failure to commence and/or complete construction of the dam within the period stated above shall cause this permit to expire and become null and void, unless permittee applies for an extension of time to commence and/or complete construction prior to the respective deadlines for commencement and completion, and the application is subsequently granted.*

4. *SPECIAL CONDITIONS*

a. *Permittee is responsible for the continuing maintenance and repair of the dam authorized herein.*

b. *Permittee shall pass inflows of State water past the reservoir in such quantities as are necessary to satisfy the rights of downstream domestic and livestock users and the senior and superior rights of other authorized water users.*

c. *In order to compensate for impacts to wetlands due to the construction of the aforesaid reservoir, permittee shall:*

i. *implement the mitigation plan developed and described in NRCS' draft and final "Supplemental Environmental Impact Statement for Attoyac Bayou Watershed in Nacogdoches, Rusk, Shelby and San Augustine Counties, Texas", which includes the purchase and preservation of an 852-acre tract of land (bottomland hardwoods) in the Angelina River Bottom;*

ii. *implement the May 14, 1998 "Final Monitoring Plan" for the "Lake Naconiche Created Wetlands" prepared by the permittee and the Stephen F. Austin School of Forestry, which includes monitoring and annual reporting to the Executive Director of the vegetation, soils and hydrology of approximately 176 acres of land owned by permittee around the perimeter of the proposed reservoir;*

iii. *achieve the Minimum Success Criteria" included on Page 4 of the referenced "Final Monitoring Plan" for the 176 acres of land around the perimeter of the reservoir within ten years after initial filling of the proposed reservoir and provide a report to the Executive Director documenting this achievement; and*

iv. *manage the lands included in the mitigation plan and in the monitoring plan in perpetuity, either by permittee or by its designee, so as to insure that these lands have no use inconsistent with the preservation of wetlands and wildlife habitat.*

d. *To provide for instream habitats and to retain some natural hydrologic patterns of Naconiche Creek during the months of July through November all inflows into the reservoir up to 3 cubic feet per second (cfs) must be passed through the reservoir. During all other months, all inflows into the reservoir up to the following amounts must be passed through the reservoir:*

December.....5 cfs	*March.....15 cfs*	*June....4 cfs*
January.....8 cfs	*April.....11 cfs*	
February.....12 cfs	*May.....9 cfs*	

This permit is issued subject to all superior and senior water rights in the Neches River Basin.

Permittee agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This permit is issued subject to the Rules of the Texas Natural Resource Conservation Commission and to the right of continuing supervision of State water resources exercised by the Commission.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Issue Date: JUL 03 1998

For the Commission

Attachment B

Modeling Files WAM Analysis

Nacogdoches County
Application to Amend Permit 5585
Response to RFI dated 10/13/2016

Attachment B
November 14, 2016

Lloyd Gosselink
ATTORNEYS AT LAW

816 Congress Avenue, Suite 1900
Austin, Texas 78701
Telephone: (512) 322-5800
Facsimile: (512) 472-0532
[redacted]

Mr. Castleberry's Direct Line: (512) 322-5856
Email: [redacted]

November 14, 2016

Ms. Olivia Ybarra
Project Manager
Water Rights Permitting Team (MC 160)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78753-3087

VIA ELECTRONIC TRANSMISSION AND FIRST-CLASS MAIL

Re: Response to Request for Information Dated October 13, 2016
Nacogdoches County; WRPERM 5585; CN601098536; RN103924049
Application No. 5585A to amend Water Use Permit No. 5585
Texas Water Code § 11.122, Full Basin Mailed and Published Notice
Naconiche Creek, Neches River Basin, Nacogdoches County (2733-2)

Dear Ms. Ybarra:

This letter is submitted on behalf of Nacogdoches County (the "Applicant") in response to a Request for Information ("RFI") received from the Texas Commission on Environmental Quality dated October 13, 2016 in connection with the above-referenced application (the "Application").

Response to Request No. 1:

Confirm that the application requests to change the instream flow requirement for the existing authorization in Water Use Permit 5855. Section XII on Page 4 of the supplement to the application indicates that the existing special conditions were replaced with "SB3 flow requirements," and the application modeling report discusses an analysis done with both the currently permitted flow restrictions and "SB3-Based Environmental Flow Criteria." However there is not a specific request to amend the existing instream flow requirement stated in the application.

The Applicant requests to amend the existing instream flow requirements to SB3 requirements. Please see Sections 1.2 and 2.2 of the Supplement to Application for Water Right Amendment for Diversion from Lake Naconiche ("Supplemental Report"), dated October 2015, reflecting the transition to SB3 flow requirements and attached hereto as **Attachment A.**

Response to Request No. 2:

Provide electronic copies of all modeling files used in the WAM analysis discussed in the application.

The WAM analysis discussed in the Supplemental Report is being provided electronically, attached hereto as **Attachment B**:

FNI Base Model – This model includes all the Base WAM changes shown in Appendix B of the Supplemental Report without the proposed diversion to compare the impact on water rights.

FY Current Environmental Flow Criteria – This is the model used to calculate the yield of 3,160 acre-feet per year in Table 2-4 of the Supplemental Report.

SB3-Based Environmental Flow – This model includes the SB3 criteria at Lake Naconiche with the proposed diversion. It is the model used to calculate the yield of 4,750 acre-feet per year in Table 2-4 of the Supplemental Report.

Response to Request No. 3:

Confirm the drainage area above the diversion point. Commission records indicate that the drainage area above the dam is 28.07 square miles.

The drainage area of 27.27 square miles as reported in the water right application is the drainage area cited in the Natural Resource Conservation Service structural data and the TCEQ Dam Database. The drainage area used in TCEQ WAM is 28.07 square miles. The Applicant acknowledges the drainage area for this Application is 28.07 square miles.

Response to Request No. 4:

Provide applicable water conservation plans and drought contingency plans for municipal, industrial, and agricultural uses that comply with Title 30 Texas Administrative Code (TAC) Chapter 288.

The Applicant is not currently using the water for municipal, industrial and agricultural purposes. However, 180 days prior to using the water for such purposes, the Applicant will provide the required water conservation plan or drought contingency plan in accordance with the requirements of Texas Water Code §11.002 and Title 30 of the Texas Administrative Code, Chapter 288.

Response to Request No. 5:

Remit fees in the amount of $4,963.38. Please make checks payable to the TCEQ or Texas Commission on Environmental Quality.

Filing Fees (amendment)	*$*	*100.00*
Recording Fees ($1.25 x 1 page)	*$*	*1.25*
Use Fees ($1.00 x 4,750 acre-feet)	*$*	*4,750.00*
Notice Fees (Neches Basin)	*$*	*213.88*
TOTAL FEES	*$*	*5,064.63*
FEES RECEIVED	*$*	*101.25*
TOTAL FEES DUE	***$***	***4,963.38***
Fees Due Prior to Administratively Complete	***$***	***2,689.63***
Fees Due 180 Days After Issuance	***$***	***2,375.00***

Enclosed please find our firm's check in the amount of $2,689.63 for fees due prior to the Application being declared administratively complete.

Should you have any questions, please do not hesitate to contact me or Ashleigh K. Acevedo (512) 322-5891 at your convenience. We look forward to working with you and your staff on this important matter.

Sincerely,

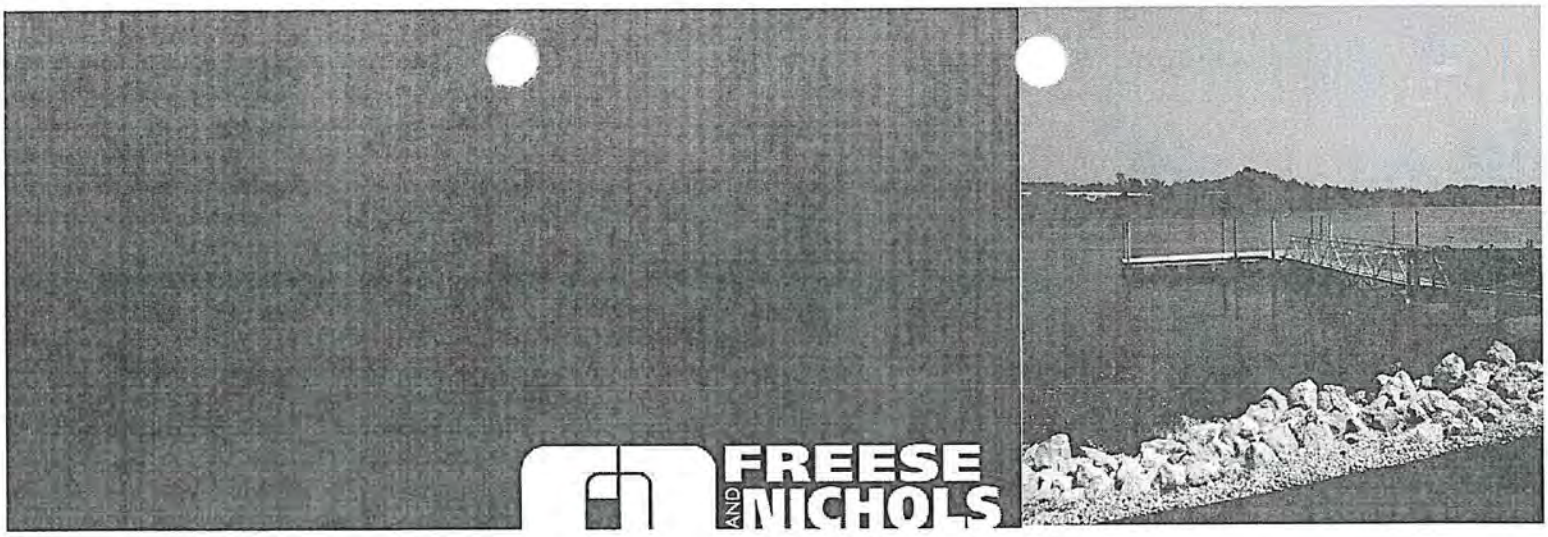
Brad Castleberry

Brad B. Castleberry u/p Ashleigh a

BBC\ldp
7210876.6
ENCLOSURES

cc: The Honorable Mike Perry
Mr. Keith Bradford
Ms. Simone Kiel
Ms. Ashleigh K. Acevedo

Attachment A
Supplemental Report



SUPPLEMENT TO APPLICATION FOR WATER RIGHT AMENDMENT FOR DIVERSION FROM LAKE NACONICHE

Prepared for:

County of Nacogdoches

October 2015

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

SUPPLEMENT TO APPLICATION FOR WATER RIGHT AMENDMENT FOR DIVERSION FROM LAKE NACONICHE

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

Jeremy Rice, Hydrologist

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

LGB14501

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APPENDICES

1.0 DESCRIPTION OF THE PROJECT

1.1 LAKE NACONICHE DESCRIPTION

Lake Naconiche is located in northeast Nacogdoches County and is authorized under Permit/Application 5585 to impound 9,072 acre-feet at elevation 348 feet msl for flood control and recreational purposes[1]. Lake Naconiche is impounded by Attoyac Bayou WS NRCS Site 23A Dam. The dam is an earth fill dam with a length of 1,605 feet and a maximum height of 59 feet[2]. The elevation at the top of dam is 365 feet with a total storage of 27,225 acre-feet[2]. The dam construction was completed in 2006. Table 1-1 shows the elevation, capacity, and area for Lake Naconiche. Figure 1-1 is a location map showing Lake Naconiche.

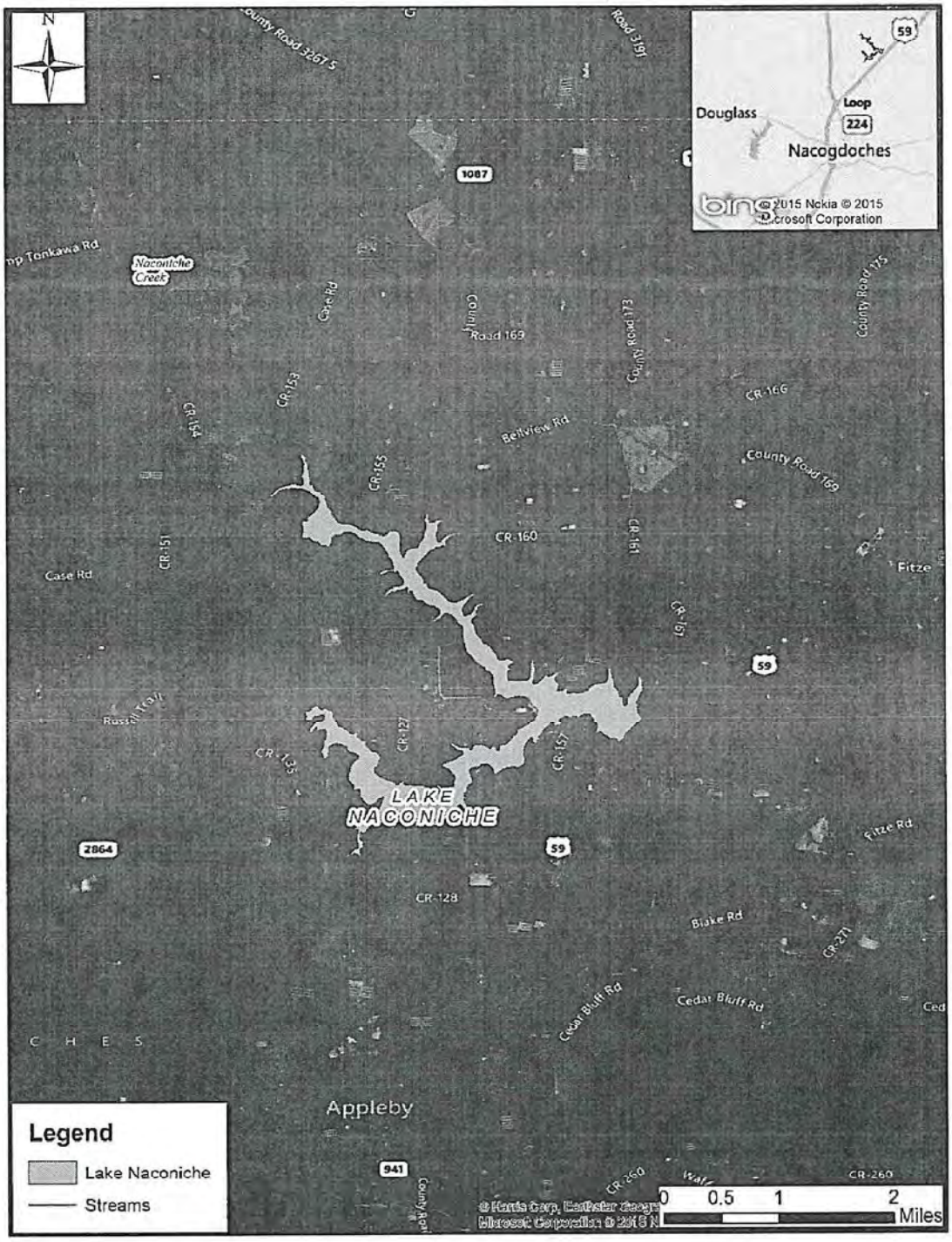
Table 1-1: Elevation, Storage and Area Relationships for Lake Naconiche

Elevation (feet-msl)	Capacity (acre-feet)	Area (acre)
312	0	0
316	24	12
320	118	35
324	346	79
324.2	361	83
328	812	154
332	1,644	262
338	2,884	358
340	4,510	455
344	6,554	567
*348	9,072	692
352	12,100	856
**355	15,031	1,003
356	15,966	1,055
360	20,544	1,236
364	25,842	1,453
***365	27,225	1,512

*Normal pool elevation
**Emergency spillway elevation
***Top of dam elevation

[1] Texas Natural Resource Conservation Commission. *Water Right Permit Number 5585*, July 3, 1998.
[2] Texas Commission on Environmental Quality, *State Inventory of Dams*, November 2007.

Figure 1-1: Lake Naconiche Location Map



1.2 PROPOSED AMENDMENT FOR DIVERSION

Lake Naconiche is currently being operated for flood control and recreational purposes. The proposed amendment would authorize diversion of 4,750 acre-feet per year for multi-purpose use from the perimeter of Lake Naconiche. The demand pattern used in the modeling was based on the municipal pattern (UMUN) in the Neches WAM identified in Appendix B. It is also proposed for the amendment that special condition 4 (b) be removed and replaced with SB3-based environmental flow criteria outlined in Section 2.2 of this report.

The proposed amendment is a recommended project in the 2011 Region I Water Plan and the 2012 State Water Plan. Based on the regional water plan the potential customers include Nacogdoches County-Other, Appleby WSC, Lily Grove WSC and Swift WSC in Nacogdoches County.

2.0 WATER AVAILABILITY ANALYSIS

2.1 FNI BASE MODEL

FNI obtained the Neches River Water Availability Model, Full Authorization Scenario (TCEQ WAM) from the Texas Commission on Environmental Quality (TCEQ) on September 8, 2014. The TCEQ Neches WAM contains SB3 environmental flows. Figure 2-1 shows the locations of the SB3 measurement points. Based upon an initial review of the TCEQ model, FNI identified three changes which are incorporated into the FNI Base Model used for all of the model runs:

1. The TCEQ WAM had an annual instream flow target of 57,196 acre-feet per year for Lake Naconiche. This is substantially higher than the amount in the permit, which corresponds to 4,744 acre-feet per year. The instream target along with the UC record were changed in the FNI Base Model to match the permit instream flow requirements as shown in Table 2-1.

Table 2-1: Instream Flow Requirements Authorized by Permit Number 5585

Month	cfs	Acre-feet
January	8	492
February	12	666
March	15	922
April	11	655
May	9	553
June	4	238
July	3	184
August	3	184
September	3	179
October	3	184
November	3	179
December	5	307
Annual		**4,744**

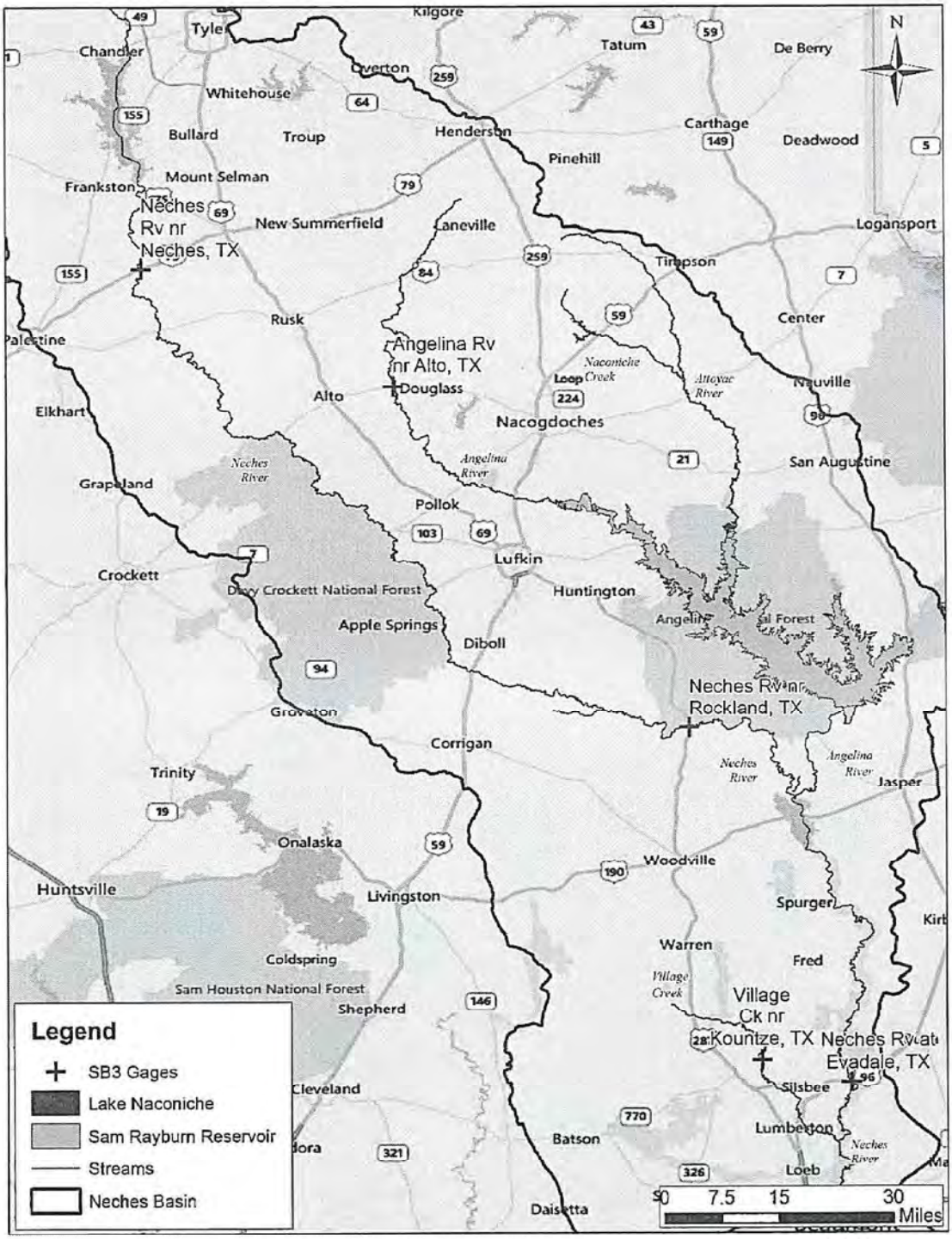
2. The TCEQ WAM includes subordination of Lake Sam Rayburn for all junior municipal water rights, and water rights upstream of the proposed Ponta Dam on the Angelina River and the proposed Weches Dam on the Neches River, including Lake Naconiche. The subordination method employed in the TCEQ WAM excludes not only Sam Rayburn from making priority calls from

upstream water rights, but also all water rights below Sam Rayburn do not make priority calls. For Lake Naconiche, the subordination method was changed in the FNI Base Model so that any streamflow made available through subordination was limited to the depletions made at the Lake Sam Rayburn control point. This method is slightly more conservative than the one used in the TCEQ WAM. The method still excludes consideration of flows below Lake Sam Rayburn.

3. In the TCEQ WAM, there were a few major reservoirs subject to the Lake Sam Rayburn subordination that were not being modeled in the first simulation. The code for these reservoirs were added so that they are present in the first simulation, but without applying subordination. A second set of WR/WS records were added to the second simulation that allow depletion of the additional flow made available through the subordination. These changes were applied to multiple water rights and are documented in Appendix B.

In addition to the above modifications, a new water right was added to the FNI Base Model to model the new diversion authorization at a priority date of 2016.

Figure 2-1: Neches River Basin and SB3 Gages



2.2 SB3-BASED ENVIRONMENTAL FLOWS

The only SB3 measurement point that is downstream of Lake Naconiche is the Neches River at Evadale, which is below Sam Rayburn. During the analysis FNI determined that the Lake Sam Rayburn subordination resulted in the SB3 environmental flows not being applied at Lake Naconiche. In order to apply SB3 environmental flows at Lake Naconiche, FNI developed SB3-Based Environmental Flow Criteria using the SB3 criteria at the Angelina River near Alto gage. Table 2-2 shows the base flow and subsistence environmental flow criteria for the Angelina River near Alto gage.

Table 2-2: Angelina River near Alto Base and Subsistence Flow Conditions

	Flow in cfs			
	Winter	Spring	Summer	Fall
Subsistence	55	18	11	16
Base	277	90	40	52

Lake Naconiche has a drainage area of 28 square miles in the WAM. The drainage area at the Angelina River near Alto gage according to USGS is 1,276 square miles. The ratio of the drainage areas is 0.022. The base and subsistence flows in Table 2-2 were multiplied by the drainage area ratio to determine the base and subsistence flows for the SB3-Based Environmental Flow Criteria at Lake Naconiche, shown in Table 2-3. These environmental flows were applied at the lake at the 1997 priority date of the original storage authorization.

Table 2-3: SB3-Based Environmental Flow Criteria for Base and Subsistence Flow Conditions

	Flow in cfs			
	Winter	Spring	Summer	Fall
Subsistence	1.2	0.4	0.2	0.4
Base	6.1	2.0	0.9	1.1

According to TAC 298.285 it is not necessary for water rights which store or divert less than 10,000 acre-feet per year to preserve or pass high flow pulses. Since Lake Naconiche stores less than 10,000 acre-feet and the new authorization will be less than 10,000 acre-feet per year only base and subsistence criteria were incorporated into the SB3-Based Environmental Flow Criteria.

2.3 RESULTS

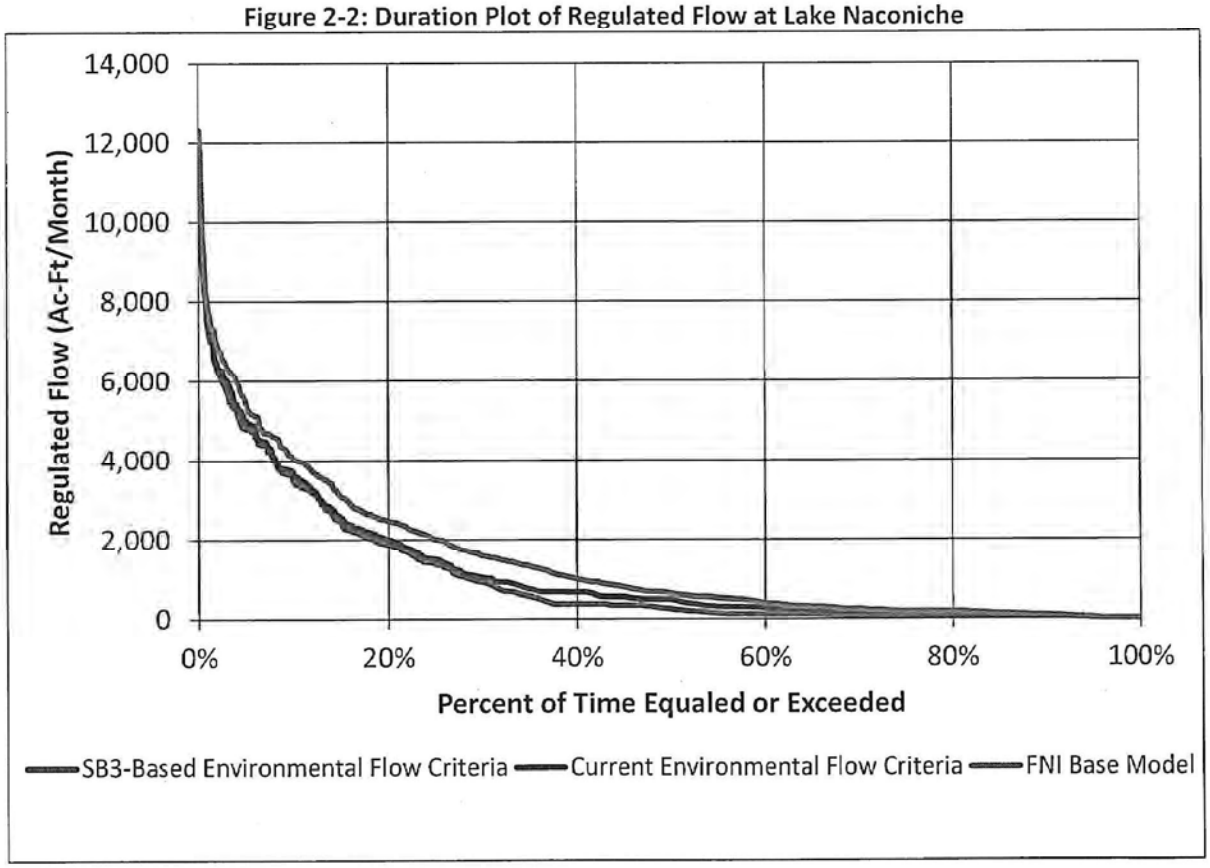
The yield using the FNI Base Model with the environmental flows in the current permit and with the SB3-Based Environmental Flow Criteria are shown in Table 2-4. The yields using the SB3-Based Environmental Flow Criteria are greater than the yield using the existing environmental flows because the SB3-based criteria are less than those found in the existing permit.

Table 2-4: Lake Naconiche Yield with Environmental Flow Criteria from Current Permit and SB3-Based Environmental Flow Criteria

Scenario	Yield (Acre-feet/Year)
Current Environmental Flow Criteria	3,160
SB3-Based Environmental Flow Criteria	4,750

Figure 2-2 compares the range of regulated flows just downstream of Lake Naconiche from the FNI Base Model without the new authorization to the flows with the new diversion using the two different approaches to environmental flows. As shown on this graph, there is little difference in the regulated flows between the two approaches.

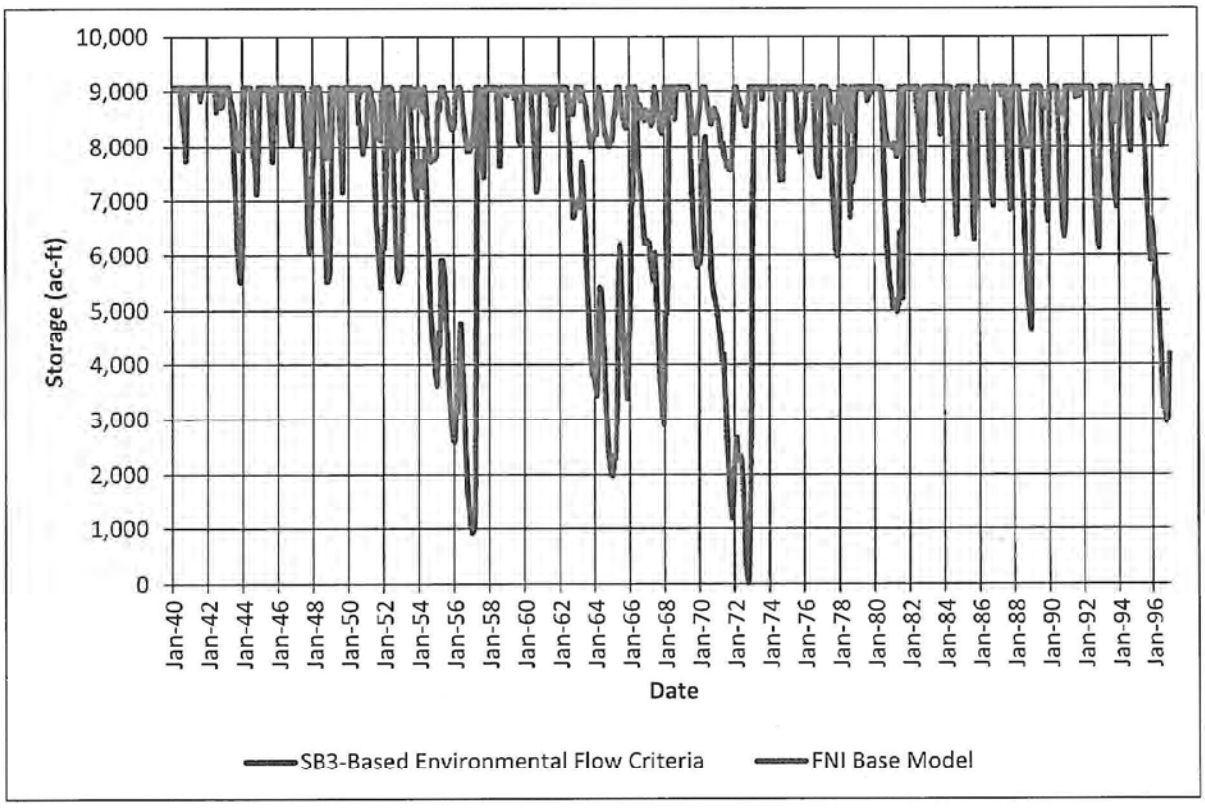
Figure 2-2: Duration Plot of Regulated Flow at Lake Naconiche



3.0 AFFECTED ENVIRONMENT

The use of Lake Naconiche as a water supply source as opposed to a recreational lake will have some impact on the aquatic habitat within the lake. This is shown in Figure 3-1 by comparing the storage trace from the FNI Base model and the proposed diversion of 4,750 acre-feet per year with the SB3-Based Environmental Flow Criteria. It is not anticipated that the proposed diversion will impact the downstream aquatic environment since those flows are protected by environmental flow criteria. The fluctuation in lake levels will have some impact on the use of Lake Naconiche for recreation.

Figure 3-1: Lake Naconiche Storage Trace with and without Proposed Amendment



It is not anticipated that diversion from the lake will have significant impact on the water quality of the lake or downstream water quality. An analysis of the water quality samples at the USGS Gage Attoyac Bayou near Chireno, downstream of Lake Naconiche, indicates good overall water quality as shown in Table 3-1. During periods of low lake levels water quality in the lake may be diminished but the overall quality should remain good.

Table 3-1: USGS Gage Attoyac Bayou near Chireno Water Quality Data

Parameter	Median of Samples
Discharge (cfs)	259
Specific conductance (µs/cm)	110
Dissolved Oxygen (mg/l)	7.0
Total Dissolved Solids (mg/l)	70
pH	7.1

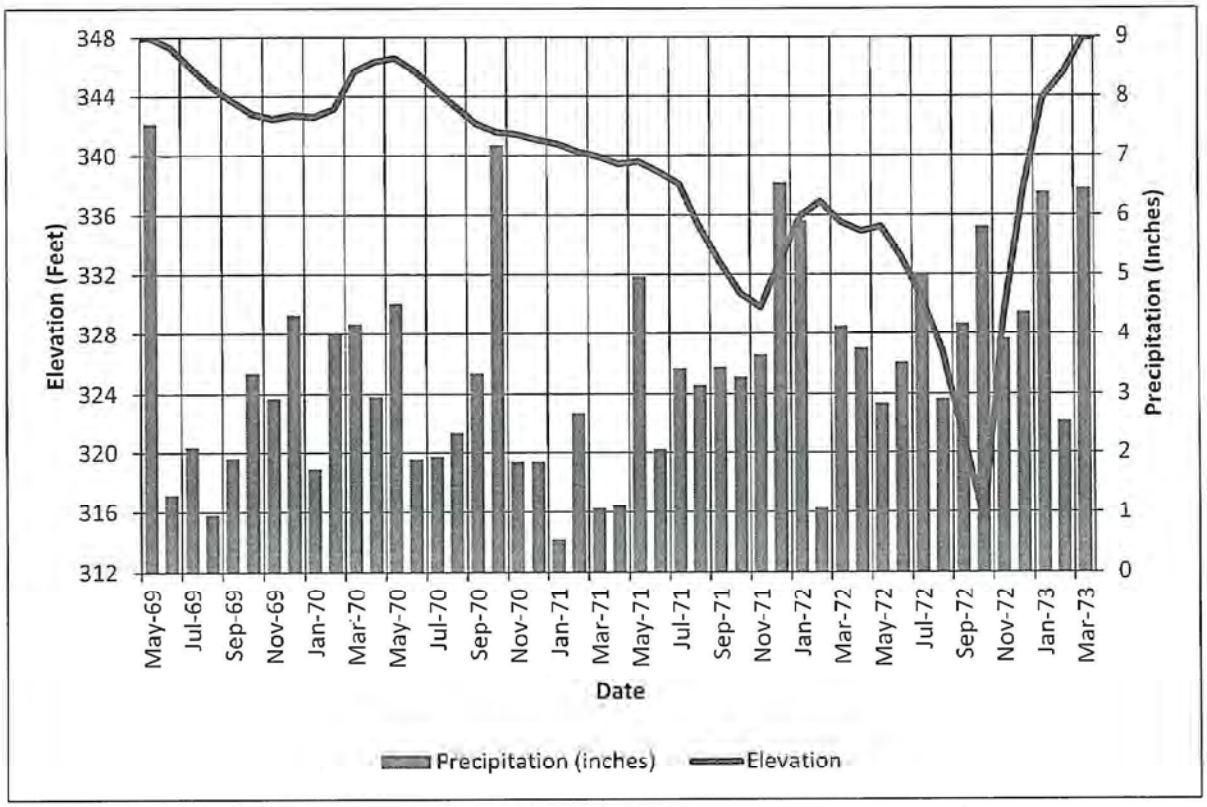
The special conditions of the May 1999 Final Supplemental Environmental Impact Statement (EIS) identified an 852 acre mitigation area to be located in Nacogdoches, Rusk, Shelby and San Augustine Counties. The EIS also identified a separate 176 acres of mitigation area on the perimeter of Lake Naconiche in the May 1998, "Final Monitoring Plan for the Lake Naconiche Created Wetlands" prepared by the Stephen F. Austin School of Forestry. The Final Monitoring Plan included the conversion of 176 acres to hydric soil thereby allowing the development of emergent wetlands along the shoreline of Lake Naconiche. The monitoring of those wetlands has continued since the lake began filling in 2006.

In the Stephen F. Austin School of Forestry 2015 preliminary report, groundwater monitoring results from all years were examined and it was determined that an elevation of 352 feet MSL was an appropriate estimation of where wetlands will be created around the entire perimeter of the lake. The surface area of projected wetlands based on the water table reaching 352 feet MSL around the lake was approximately 188 acres. Vegetation in areas predicted to become wetlands was generally healthy and that there was no difference in vegetation condition along an elevation gradient.

Many seasonal and temporary wetlands experience periods of drought at some point. These wetlands tend to fill during the wetter winter months, dry during the hotter summer months and then refill. This is a natural and common occurrence for wetlands in Texas. In fact, these periods of drying and filling can be beneficial for the development of certain species and promote wetland plant diversity. If low water levels at Lake Naconiche occur for an extended period of time due to the proposed diversion, some wetland plant species dependent on being submerged or inundated might go dormant, or potentially die. Other plant species not dependent on being submerged or inundated would likely survive these periods of low water levels. This is expected since the average annual rainfall in Nacogdoches County is approximately 49 inches (TWDB Quadrangle 613, 1940-2013) which would likely provide the moisture necessary for many wetland plant species to survive within the littoral zone/fringe wetlands of the reservoir once they become established. Figure 3-2 shows the elevation during the longest period where the reservoir is below

the conservation elevation of 348 feet and the corresponding monthly rainfall. This indicates that even during periods of extended drawdown the fringe wetlands will experience rainfall and wetting of soils sufficient to maintain wetland plant species that do not need to be submerged until Lake Naconiche can refill.

Figure 3-2: Comparison of Lake Levels and Precipitation during Drought of Record



4.0 IMPACTS OF PROPOSED WATER RIGHTS

4.1 NO INJURY ANALYSIS

Potential impacts of the proposed water right on existing water rights were evaluated using the FNI Base Model without the amendment and the project model using the SB3-Based Environmental Flow Criteria. No water rights were impacted by this amendment. Details of the no injury analysis can be found in Appendix B.

4.2 IMPACT ON INSTREAM USES

Because the flow criteria developed for Lake Naconiche are consistent with the SB3 process, the SB3-Based Environmental Flow Criteria should be protective of instream uses.

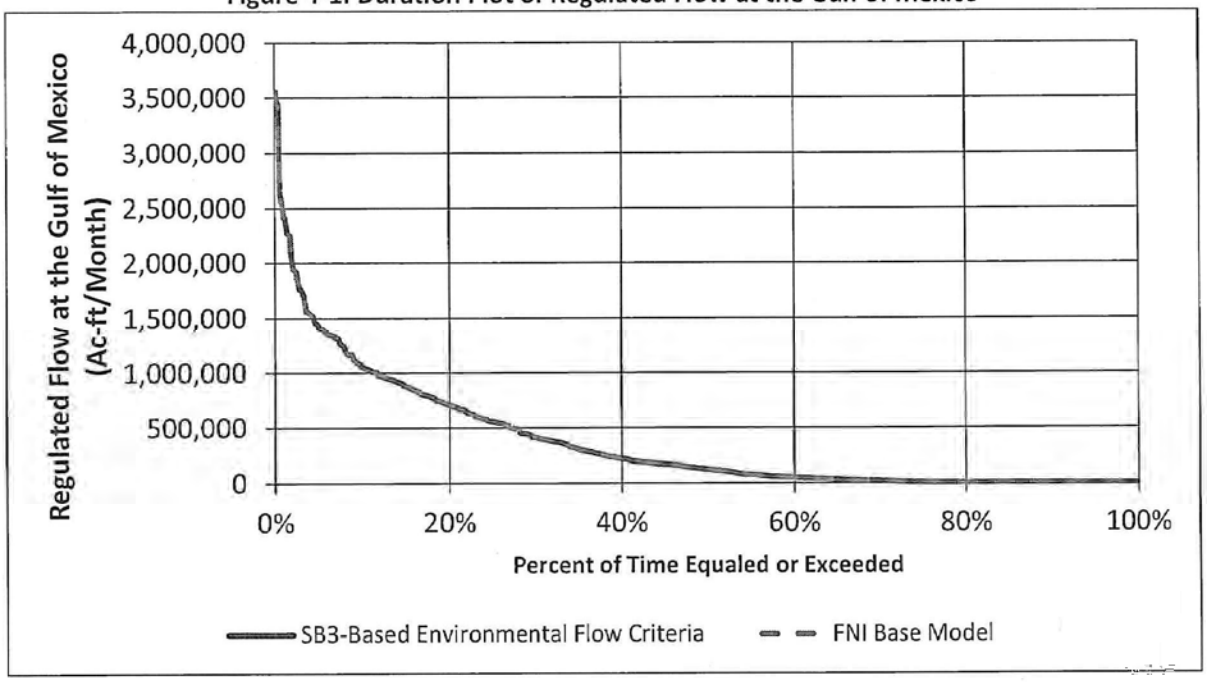
4.3 IMPACTS ON BAYS AND ESTUARIES

There will be minimal impact on bays and estuaries since diversions will be subject to SB3 instream flow requirements. The annual average regulated flow at the Gulf of Mexico is shown in Table 4-1. The percentage of time for regulated flows at the Gulf of Mexico are shown in Figure 4-1. The change in median annual regulated flows at the Gulf of Mexico is approximately 4,745 acre-feet, a difference of about 0.12%.

Table 4-1: Statistics of Annual Regulated Flows at the Gulf of Mexico

Scenario	Regulated Flow (Acre-feet/Year)			
	5%	10%	25%	50%
FNI Base WAM	591,881	689,575	1,735,190	4,112,056
SB3 Environmental Flow Criteria WAM	587,796	693,600	1,756,741	4,118,363
Difference from FNI Base WAM	4,085	-4,025	-21,551	-6,307
Percent Difference from FNI Base WAM	0.69%	-0.58%	-1.24%	-0.15%

Figure 4-1: Duration Plot of Regulated Flow at the Gulf of Mexico



4.4 IMPACTS ON WETLANDS

The proposed amendment to allow for diversion has slight potential to impact wetland areas along the perimeter of the lake since diversions will lead to increased water level fluctuations. The longest period below the conservation pool is nearly four years which occurs from June 1969 through February 1973 and corresponds with the critical drought. However, due to local precipitation the impacts are expected to be minimal. Further discussion of the potential impact to wetlands is included in Section 3.0.

4.5 WATER CONSERVATION

Nacogdoches County has not been required to submit a water conservation plan in the past since it is not a retail or wholesale water supplier, nor does the existing permit (5585) appropriate 1,000 acre-feet or more of surface water. Nacogdoches County will prepare a water conservation plan in accordance with Chapter 288 rules to be provided to the TCEQ at a later date in conjunction with the proposed amendment.

4.6 CONSISTENCY WITH REGIONAL WATER PLANS

Lake Naconiche is a recommended strategy in the 2011 Region I Water Plan (Lake Naconiche Regional Water Supply System) for Nacogdoches County-Other, Appleby WSC, Lily Grove WSC and Swift WSC[3].

4.7 OTHER POTENTIAL IMPACTS

Since Lake Naconiche is already constructed there will be minimal impacts to water quality, the environment or agricultural resources.

[3]Alan Plummer and Associates Inc., Freese and Nichols Inc., LBG Guyton and Walker Partners. *2011 Region I Plan*, September 2010, pgs. 4C-27-31

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

October 13, 2016

Mr. Brad B. Castleberry
Lloyd Gosselink
816 Congress Avenue, Suite 1900
Austin, Texas 78701

CERTIFIED MAIL
91 7199 9991 7033 2841 8297

RE: Nacogdoches County
WRPERM 5585
CN601098536, RN103924049
Application No. 5585A to Amend Water Use Permit No. 5585
Texas Water Code § 11.122, Full Basin Mailed and Published Notice
Naconiche Creek, Neches River Basin
Nacogdoches County

Dear Mr. Castleberry:

This acknowledges receipt, on January 21, 2016, of the referenced application and fees in the amount of $101.25 (Receipt No. M615306, enclosed).

This area is considered to have limited to no water available for appropriation for either a term or perpetual right. TCEQ would probably be unable to recommend granting the application without an alternate source of water.

If an alternate source will be included in the application, please provide documentation for the alternate source such as a signed water supply contract, a contract for reuse of effluent, or groundwater. If groundwater will be used, provide the following information on any well or wells to be used including, but not limited to: the depth of well, the name of the aquifer and formation from which the water is withdrawn, a 24-hour pump test, and water quality information. Water quality information should include, but not be limited to, the following: chloride, sulfate, total dissolved solids (TDS), pH, and temperature. Temperature must be measured on site at the time the groundwater sample is collected.

If data for on-site wells are unavailable, historical data collected from similar-sized wells drawing water from the same aquifer may be provided. However, note that the on-site data may still be required when it becomes available.

Additional information and fees are required before the application can be declared administratively complete.

1. Confirm that the application requests to change the instream flow requirement for the existing authorization in Water Use Permit 5855. Section XII on Page 4 of the supplement to the application indicates that the existing special conditions were replaced with "SB3 flow requirements", and the application modeling report discusses an analysis done with both the currently permitted flow restrictions and "SB3-Based Environmental Flow Criteria". However, there is not a specific request to amend the existing instream flow requirement stated in the application.

2. Provide electronic copies of all modeling files used in the WAM analysis discussed in the application.

3. Confirm the drainage area above the diversion point. Commission records indicate that the drainage area above the dam is 28.07 square miles.

4. Provide applicable water conservation plans and drought contingency plans for municipal, industrial, and agricultural uses that comply with Title 30 Texas Administrative Code (TAC) Chapter 288.

5. Remit fees in the amount of **$4,963.38,** as described below. Please make the check payable to the TCEQ or Texas Commission on Environmental Quality.

Filing Fees (amendment)	$	100.00
Recording Fees ($1.25 x 1 page)	$	1.25
Use Fees ($1.00 x 4,750 acre-feet)	$	4,750.00
Notice Fees (Neches Basin)	$	213.38
TOTAL FEES	$	5,064.63
FEES RECEIVED	$	101.25
TOTAL FEES DUE	**$**	**4,963.38**
Fee Due Prior to Administrative Complete	**$**	**2,689.63***
Fees Due 180 Days After Issuance	**$**	**2,375.00***

*Pursuant to 30 TAC § 295.133, if the total fee for a permit exceeds $1,000, the applicant shall pay at least one-half of the use fees when the application is filed, and one-half within 180 days after notice is mailed to the applicant that the permit is granted. If the applicant does not pay the entire amount owed before beginning to use state water under the permit, the permit is annulled and reverts to the status of a pending, filed application requiring notice, the payment of notice fees, and the balance of the use fees.

Please submit the requested information and fees by **November 14, 2016** or the application may be returned pursuant to Title 30 TAC § 281.18.

Please be aware that the amendment request to add uses to Water Use Permit No. 5585 may result in annual Water Use Assessment Fees (WUF). For more detailed information on these fees, see the enclosed *Frequently Asked Questions* fact sheet or contact the Water Quality Monitoring & Assessment Section at (512) 239-3838.

If you have questions concerning this application, please contact **Olivia Ybarra** at olivia.ybarra@tceq.texas.gov or by phone at (512) 239-5896.

Sincerely,

Olivia Ybarra, Project Manager
Water Rights Permitting Team
Water Rights Permitting and Availability Section

Enclosures

Water Use Assessment Fee (WUF): The Annual Fee Associated with Water Rights Permits

How can this affect me?

You are receiving this notice if you are the owner of a water right permit and you have recently changed your permit. Any change to your permit, including adding an authorized use, changing a diversion point, or a change of ownership, would cause the Water Use Fee assessor to review your permit for billable uses and may (depending on the change) result in you receiving a bill when you previously did not.

What is this fee?

The Water Use Assessment Fee is a fee that is assessed annually on applicable water rights permits. Texas Water Code, Sections 26.0135 & 26.0291 authorizes the TCEQ to establish fees to recover the reasonable costs of water quality assessment programs from wastewater and water right permit holders. TCEQ rules, 30 Texas Administrative Code (TAC), Sections 21.1-21.4, set out the methodology for assessing water use fees, described below.

Why are you billed?

If you hold a water right and do not fall under an exemption, then you are subject to the Water Use Assessment Fee. Unless the water right is amended to fall under an exemption, you will be billed for this water right on an annual basis.

Amendments can make a water right that was not previously billed now billable. For example, if you amend your water right to add an authorized use you could receive a bill in the year following your amendment.

What are reasons for exemption?

Exemptions are listed in 30 TAC, Section 21.3(c). Exemptions from the Water Use Assessment Fee include: municipal/domestic or industrial water rights directly associated with a facility that is assessed a Consolidated Water Quality Fee; agriculture (irrigation) water rights; non-priority hydroelectric water rights for a facility with a capacity of less than 2 megawatts; consumptive authorization less than 250 acre-feet; and non-consumptive authorization less than 2,500 acre-feet. If you can provide proof of these exemptions, please contact us using the information at the end of this document.

How is the fee assessed?

Fees are based on the annual authorization in the water right, not actual use. The total fee is the sum of the separate fees for each authorized use in each of the following categories for each permit.

The fee rate of **$0.385** per acre-foot per year applies to authorized consumptive use (municipal/domestic, industrial, or mining purposes) if the specified limit is more than 250 acre-feet per year.

The fee rate of **$0.021** per acre-foot per year applies to authorized non-consumptive use (including hydroelectric and some recreation) if the specified limit is more than 2,500 acre-feet per year.

The maximum water use fee for a single permit is $115,000, which may be adjusted annually using the latest Consumer Price Index.

How are diversion amounts distributed amongst uses?

For permits with multiple uses that do not specify the amount per use, the total authorized amount is divided equally among all uses.

Example: 10,000 ac-ft for irrigation, municipal, industrial, and mining
10,000/4 = 2,500 ac-ft per use
Irrigation is exempt; municipal/domestic not billed because wastewater treatment plant that uses the water already pays the Consolidated Water Quality Fee; industrial is billed $962.50 at the consumptive rate for 2,500 ac-ft; mining billed $962.50 at the consumptive rate for 2,500 ac-ft.

Where Do I Get More Information?

For copies of the fee rules (30 TAC, Sections 21.1-21.4), refer to the TCEQ rules from the Texas Administrative Code on the Secretary of State's web site at www.sos.state.tx.us. To learn more about the fee, please visit:
http://www.tceq.state.tx.us/agency/drought/waterfees.html

For billing and account balance information, call the TCEQ's Financial Administration Division, Revenue Section at (512) 239-0344.

If you have any questions about the Water Use Assessment Fee or the rates for your water right, contact the Water Quality Monitoring & Assessment Section at (512) 239-3838, or via email at wateruse@tceq.texas.gov, or write to:

Texas Commission on Environmental Quality
Water Quality Planning Division, MC 234
Water Use Fees
P.O. Box 13087
Austin, TX 78711-3087

TCEQ - A/R RECEIPT REPORT BY ACCOUNT NUMBER

TCEQ 27-JAN-16 10:54 AM

Fee Description	Fee Code / Account# / Account Name	Ref#1 / Ref#2 / Paid In By	Check Number / Card Auth. / User Data	CC Type / Tran Code / Rec Code	Slip Key / Document#	Tran Date	Tran Amount
WTR USE PERMITS	WUP WUP WATER USE PERMITS	M615304A ADJ3634 RODNEY STEPHENS LP	1137 012616 SPREDEAU	 N CK	BS00047256 D6803031	27-JAN-16	-$109.71
	WUP WUP WATER USE PERMITS	M615306 5585 LLOYD GOSSELINK ROCHELLE & TOWNSEND PC	29171 012616 SPREDEAU	 N CK	BS00047256 D6803031	27-JAN-16	-$101.25
	WUP WUP WATER USE PERMITS	M615307 SPHERE 3 ENVIRONMENT AL INC	16536 012616 SPREDEAU	 N CK	BS00047256 D6803031	27-JAN-16	-$230.26
	WUP WUP WATER USE PERMITS	M615308 SPHERE 3 ENVIRONMENT AL INC	16537 012616 SPREDEAU	 N CK	BS00047256 D6803031	27-JAN-16	

SECTION 1

TCEQ Water Right Application

Texas Commission on Environmental Quality

PO Box 13087, MC-160, Austin, Texas 78711-3087
Telephone (512) 239-4691, FAX (512) 239-4770

APPLICATION FOR AMENDMENT TO A WATER RIGHT

Notice: This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and Penalty Protocol.

Customer Reference Number (if issued): CN601098536

Note: If you do not have a Customer Reference Number, complete Section II of the Core Data Form (TCEQ-10400) and submit it with this application.

1. Name: Nacogdoches County

   Address: 101 West Main Street

   Nacogdoches, Texas 75961

   Phone Number: (936) 560-7755 Fax Number: (936) 560-7841

   Email Address: [redacted]

2. Applicant owes fees or penalties?

   ☐ Yes ☑ No

   If yes, provide the amount and the nature of the fee or penalty as well as any identifying number.

   _____

3. ☑ Permit No. 5585 ☐ Certificate of Adjudication No. _____

   Stream: Naconiche Creek Watershed: Neches

   Reservoir (present condition, if one exists): Lake Naconiche (Good)

   County: Nacogdoches

4. Proposed Changes To Water Right Authorizations:

   Amend water right to add municipal, agricultural, and industrial purposes of use. Also, amend water right to add a diversion point on the permiter of Lake Naconiche for diversion of up to 4,750 acre-feet on an annual basis.

   (Attach additional page as necessary, attach map/plat depicting project location, diversion point, place of use, and other pertinent data).

5. I understand the Agency may require additional information in regard to the requested amendment before considering this application.

Name (sign) _____ Name (sign) _____

Mike Perry
Nacogdoches County Judge

Name (print) _____ Name (print) _____

Subscribed and sworn to me as being true and correct before me this 10th day of

May, 2015

BILLIE TILLIS
Notary Public, State of Texas
My Commission Expires
April 30, 2016

Notary Public, State of Texas

RECEIVED
TCEQ
2015 JUN 10 PM 3:18
WATER SUPPLY DIV.

SECTION 2

Supplement to Water Right Application

SUPPLEMENT TO APPLICATION TO AMEND
WATER USE PERMIT NO. 5585
NACOGDOCHES COUNTY, TEXAS

PURSUANT TO
TEXAS WATER CODE §§ 11.122

In addition to the TCEQ Application Form (Form 10201) (the "Application"), a narrative description of the amendment sought by this Application is provided below. The following documents are also attached as Exhibits to this Application:

1. Application fee
2. Supplement to Application Prepared by Freese & Nichols, which includes a Vicinity Map, USGS Topographic Map, and Water Use Permit No. 5585
3. Resolution Authorizing Filing of Application
4. Diversion Point Information Sheet
5. Supplemental Dam/Reservoir Information Sheet

I. Background Information

Nacogdoches County (the "County") owns Water Use Permit No. 5585 (the "Permit"), which authorizes storage of up to 9,072 acre-feet of water for flood control and recreational purposes. A copy of the Permit is attached hereto in Exhibit 2, Appendix C.

Pursuant to Section 11.122 of the Texas Water Code, the County hereby seeks to amend the Permit to add municipal, agricultural, and industrial purposes of use. The County also seeks to amend the Permit to add a diversion point anywhere along the perimeter of Lake Naconiche for diversion of up to 4,750 acre-feet of water on an annual basis.

On April 14, 2015, the County adopted a resolution authorizing the filing of this Application. A copy of the County's resolution is attached hereto as Exhibit 3.

II. Applicant Information

Name of Applicant:	Nacogdoches County
Address:	101 W. Main Street, Suite 101, Nacogdoches, TX 75961
Principal Contact:	Honorable Mike Perry
Telephone:	(936) 560-7755
Fax:	(936) 560-7841

III. Source of Supply

The source of water associated with the Application is Naconiche Creek.

IV. Amount and Purpose of Diversion and Use

The County seeks to amend the Permit to add municipal, industrial, and agricultural purposes of use. The City also seeks to add a diversion point on the perimeter of Lake Naconiche for diversion of up to 4,750 acre-feet of water annually. A vicinity map and USGS topographic map are attached as Exhibit 2, Figure 1-1 and Appendix A, respectively.

V. Diversion Information

The County seeks to add a diversion point anywhere along the perimeter of Lake Naconiche. Exhibit 4 contains the Supplemental Diversion Point Information Sheet for the diversion sought by this Application. A vicinity map and USGS topographic map are attached as Exhibit 2, Figure 1-1 and Appendix A, respectively.

VI. Water Conservation and Drought Contingency and Avoidance of Waste

As defined in both 30 TAC §295.9 and Texas Water Code §11.002(8), "conservation" means those practices that will "reduce the consumption of water, reduce the loss or waste of water, *improve the efficiency in the use of water*, or increase the recycling and reuse of water so that a water supply is made available for future or alternative uses." (emphasis added). The County has an acute awareness of the need to conserve its water supplies. By amending the Permit to allow the County to utilize the full 9,067 acre-feet impoundment for the additional municipal, agricultural, and industrial purposes of use, the County will have the flexibility to more efficiently utilize its water supplies. Such efficiency will allow the County to address its water supply needs in a manner that will allow it to avoid waste, maximize its beneficial use of water, and achieve water conservation.

VII. Administrative Requirements and Fees

The Application provides relevant information to address the administrative requirements of 30 TAC §295, Subchapter A and the requirements of Texas Water Code Chapter 11. In accordance with 30 TAC §295.131 and other TCEQ rules relating to fees, the County is submitting payment of $101.25 with this Application attached hereto as Exhibit 1. With the filing of this Application, the County requests a determination of any additional fees that may be required. Upon receipt of such determination, the County will forward such fees to the TCEQ.

VIII. Beneficial Use

Texas Water Code §11.134(b)(3)(A) requires that proposed appropriations of water be intended for a beneficial use. The "beneficial use" of water is defined in Texas Water Code §11.002(4) and 30 TAC §297.1(8) as the use of water "which is economically necessary for a purpose authorized by [Chapter 11 of the Texas Water Code]."

A "municipal" purpose of use is identified in Texas Water Code § 11.023 as a purpose for which water may be diverted and beneficially used and is defined in 30 TAC § 297.1(32) to include "the use of potable water within a community or municipality and its environs for domestic, recreation, commercial, or industrial purposes or for the water of golf courses, parks and parkways, or the use of reclaimed water in lieu of potable water for the preceding purposes."

An "agricultural" purpose of use is identified in Texas Water Code § 11.023 as a purpose for which water may be diverted and beneficially used and is defined in TAC § 297.1(2) as "any use or activity involving agriculture, including irrigation," with "agriculture" being further defined under 30 TAC § 297.1(1).

An "industrial" purpose of use is also identified in Texas Water Code § 11.023 as a purpose for which water may be diverted and beneficially used and is defined in 30 TAC § 297.1(24) to include "the use of water in processes designed to convert materials of a lower order of value into forms having greater usability and commercial value, including the development of power by means other than hydroelectric, but does not include agricultural use."

IX. Public Welfare

The proposed amendment will allow the County to provide water for beneficial use, as defined by the Texas Water Code. Such action is not detrimental to the public welfare. Indeed, the proposed amendment will benefit the public welfare as it will improve the County's abilities to more efficiently utilize existing water supplies to address multiple demands for water, specifically municipal, agricultural, and industrial demands for water.

The proposed amendment will not result in environmental impacts or impacts on environmental flow standards. The proposed addition of municipal, agricultural, and industrial purposes of use will not result in the diversion or consumption of any additional water supplies, but will allow the County to make the most efficient use of existing water supplies. As such, the proposed amendment is not detrimental to the public welfare.

X. Consistency with State and Regional Water Plans

The County is located within the Region I Water Planning Group.[1] According to the State Water Plan, *Water for Texas 2012,* the population in Region I is expected to increase by thirty six percent (36%) from 2010 to 2060.[2] The State Water Plan indicates a current and future demand for Region I for municipal, agricultural and industrial uses.[3] Additionally, the Region I Water Plan includes a recommendation for development of Lake Naconiche as a source of water supply for the region and rural communities.[4] Therefore, adding these purposes of use to the 9,072 acre-feet currently authorized for flood control and recreational purposes is consistent with the State and Regional water plans because it will provide the County flexibility to meet regional demands.

---

[1] Texas Water Development Board, *Water for Texas 2012: Summary of Region I*, pg. 81 (January 2012), available at http://www.twdb.texas.gov/publications/state_water_plan/2012/2012_SWP.pdf.

[2] *Id.* at pg. 82.

[3] *Id.* at pg. 82-83.

[4] Region I Water Planning Group, *Regional Water Plan for Region I, Chapter 4C: Water Management Strategies for Entities with an Identified Need*, pg. 4C-27 available at https://www.twdb.texas.gov/waterplanning/rwp/plans/2011/I/Region_I_2011_RWP.pdf

XI. Groundwater Assessment

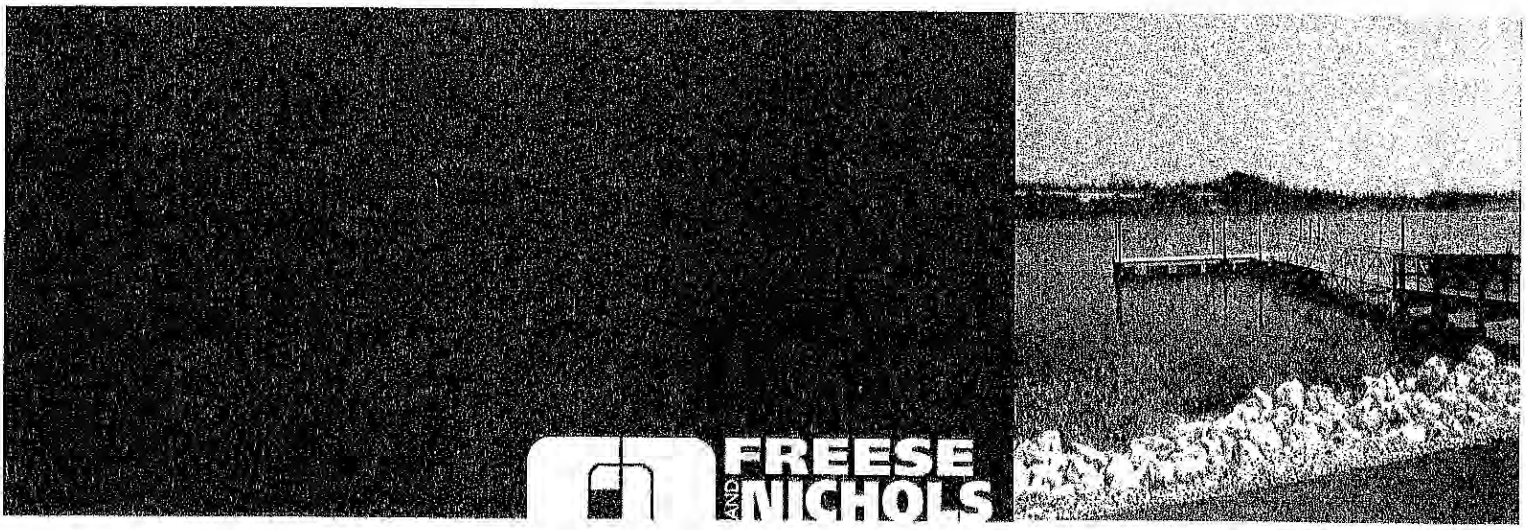
No adverse impact to groundwater resources will result from the Application. The County is seeking to add municipal, agricultural, and industrial purposes of use to the Permit. The County is also seeking to add a diversion point on the perimeter of Lake Naconiche to divert up to 4,750 acre-feet of water on an annual basis. Because the Application seeks to use only surface water, there is no impact to groundwater resources.

XII. Impacts on Other Water Rights Holders or the Environment

The diversion point sought by this Application will have a minimal impact on other water rights users because the diversion impacts the period and volume reliability by only seven percent (7%). Additionally, only one water right holder, Permit 5629, will be impacted by the diversion point. The Application will also have minimal impact on the environment. For a full discussion of impacts to other water rights holders please see Exhibit 2, Section 4. See also Exhibit 2, Section 4.2 as well as Exhibit 6 to support the County's request to remove Special Condition Nos. 4(c) and 4(d) of the Permit and replace them with the SB3 flow requirements adopted in 30 TAC §298, Subchapter C.

EXHIBIT 2

Supplement to Application Prepared by Freese & Nichols, which includes a Vicinity Map, USGS Topographic Map, and Water Use Permit No. 5585



SUPPLEMENT TO APPLICATION FOR WATER RIGHT AMENDMENT FOR DIVERSION FROM LAKE NACONICHE

Prepared for:

County of Nacogdoches

June 2015

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

SUPPLEMENT TO APPLICATION FOR WATER RIGHT AMENDMENT FOR DIVERSION FROM LAKE NACONICHE

Simone Kiel 6-8-15

FREESE AND NICHOLS, INC.
TEXAS REGISTERED
ENGINEERING FIRM
F-2144

Jeremy Rice, Hydrologist

Prepared by:

FREESE AND NICHOLS, INC.
4055 International Plaza, Suite 200
Fort Worth, Texas 76109
817-735-7300

LGB14501

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APPENDICES

1.0 DESCRIPTION OF THE PROJECT

1.1 LAKE NACONICHE DESCRIPTION

Lake Naconiche is located in northeast Nacogdoches County and is authorized under Permit/Application 5585 to impound 9,072 acre-feet at elevation 348 feet msl for flood control and recreational purposes[1]. Lake Naconiche is impounded by Attoyac Bayou WS NRCS Site 23A Dam. The dam is an earth fill dam with a length of 1,605 feet and a maximum height of 59 feet[2]. The elevation at the top of dam is 365 feet with a total storage of 27,225 acre-feet[2]. The dam construction was completed in 2006. Table 1-1 shows the elevation, capacity, and area for Lake Naconiche. Figure 1-1 is a location map showing Lake Naconiche.

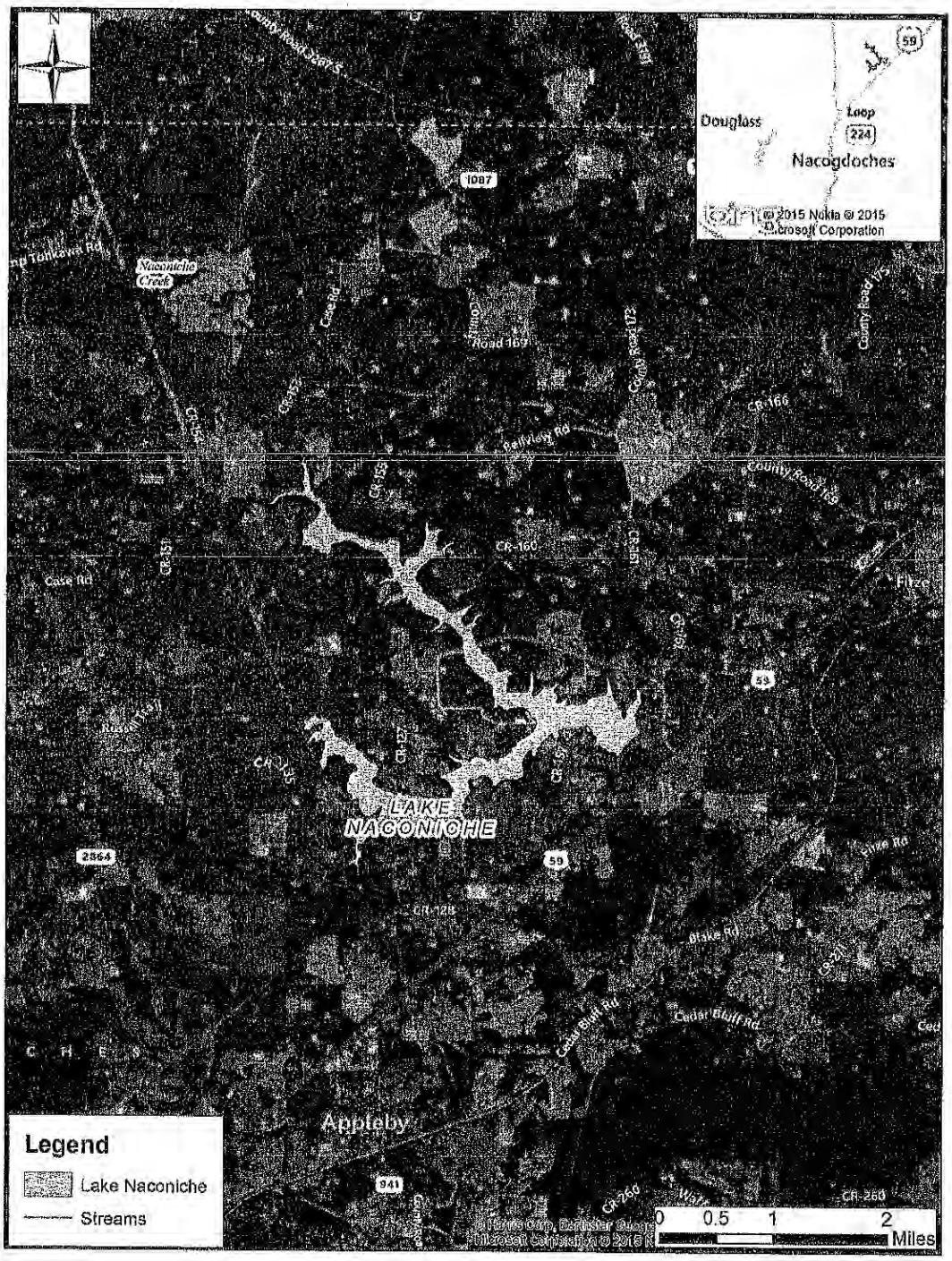
Table 1-1: Elevation, Storage and Area Relationships for Lake Naconiche

Elevation (feet-msl)	Capacity (acre-feet)	Area (acre)
312	0	0
316	24	12
320	118	35
324	346	79
324.2	361	83
328	812	154
332	1,644	262
338	2,884	358
340	4,510	455
344	6,554	567
*348	9,072	692
352	12,100	856
**355	15,031	1,003
356	15,966	1,055
360	20,544	1,236
364	25,842	1,453
***365	27,225	1,512

*Normal pool elevation
**Emergency spillway elevation
***Top of dam elevation

[1] Texas Natural Resource Conservation Commission. *Water Right Permit Number 5585*, July 3, 1998.
[2] Texas Commission on Environmental Quality, *State Inventory of Dams*, November 2007.

Figure 1-1: Lake Naconiche Location Map



1.2 PROPOSED AMENDMENT FOR DIVERSION

Lake Naconiche is currently being operated for flood control and recreational purposes. The proposed amendment would authorize diversion of 4,750 acre-feet per year for multi-purpose use from the perimeter of Lake Naconiche. The demand pattern used in the modeling was based on the municipal pattern (UMUN) in the Neches WAM identified in Appendix B.

The proposed amendment is a recommended project in the 2011 Region I Water Plan and the 2012 State Water Plan. Based on the regional water plan the potential customers include Nacogdoches County-Other, Appleby WSC, Lily Grove WSC and Swift WSC in Nacogdoches County.

2.0 WATER AVAILABILITY ANALYSIS

2.1 FNI BASE MODEL

FNI obtained the Neches River Water Availability Model, Full Authorization Scenario (TCEQ WAM) from the Texas Commission on Environmental Quality (TCEQ) on September 8, 2014. The TCEQ Neches WAM contains SB3 environmental flows. Figure 2-1 shows the locations of the SB3 measurement points. Based upon an initial review of the TCEQ model, FNI identified two changes which are incorporated into the FNI Base Model used for all of the model runs:

1. The TCEQ WAM had an annual instream flow target of 57,196 acre-feet per year for Lake Naconiche. This is substantially higher than the amount in the permit, which corresponds to 4,744 acre-feet per year. The instream target along with the UC record were changed in the FNI Base Model to match the permit instream flow requirements as shown in Table 2-1.

Table 2-1: Instream Flow Requirements Authorized by Permit Number 5585

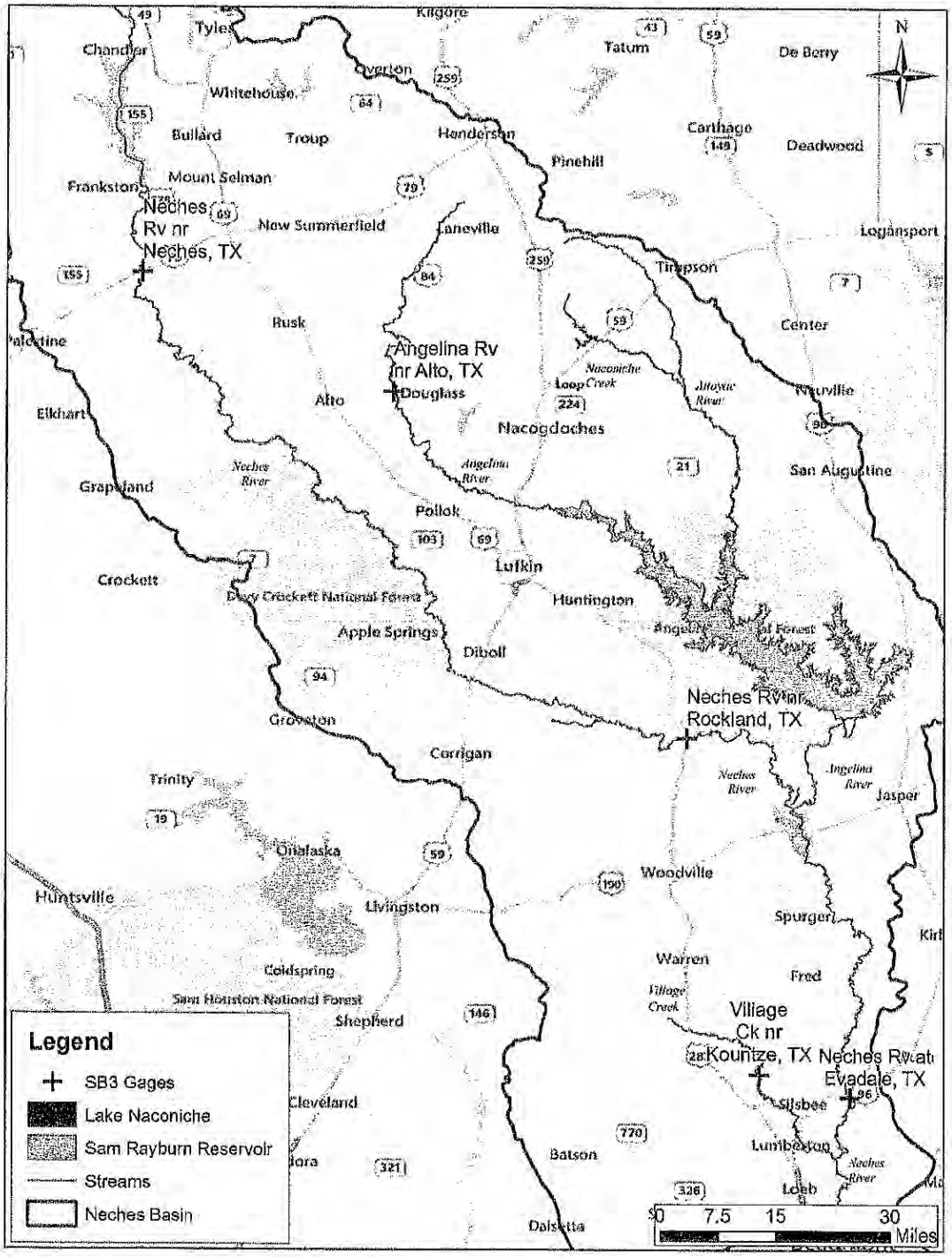
Month	cfs	Acre-feet
January	8	492
February	12	666
March	15	922
April	11	655
May	9	553
June	4	238
July	3	184
August	3	184
September	3	179
October	3	184
November	3	179
December	5	307
Annual		**4,744**

2. The TCEQ WAM includes subordination of Lake Sam Rayburn for all junior municipal water rights, and water rights upstream of the proposed Ponta Dam on the Angelina River and the proposed Weches Dam on the Neches River, including Lake Naconiche. The subordination method employed in the model excludes not only Sam Rayburn from making priority calls from upstream

water rights, but also all water rights below Sam Rayburn do not make priority calls. For Lake Naconiche, the subordination method was changed so that any streamflow made available through subordination was limited to the depletions made at the Lake Sam Rayburn control point. This method is slightly more conservative than the one used in the TCEQ WAM. The method still excludes consideration of flows below Lake Sam Rayburn.

In addition to the above modifications, a new water right was added to model the new diversion authorization at a priority date of 2016.

Figure 2-1: Neches River Basin and SB3 Gages



2.2 SB3-BASED ENVIRONMENTAL FLOWS

The only SB3 measurement point that is downstream of Lake Naconiche is the Neches River at Evadale, which is below Sam Rayburn. During the analysis FNI determined that the Lake Sam Rayburn subordination resulted in the SB3 environmental flows not being applied at Lake Naconiche. In order to apply SB3 environmental flows at Lake Naconiche, FNI developed SB3-Based Environmental Flow Criteria using the SB3 criteria at the Angelina River near Alto gage. Table 2-2 shows the base flow and subsistence environmental flow criteria for the Angelina River near Alto gage.

Table 2-2: Angelina River near Alto Base and Subsistence Flow Conditions

	Flow in cfs			
	Winter	Spring	Summer	Fall
Subsistence	55	18	11	16
Base	277	90	40	52

Lake Naconiche has a drainage area of 28 square miles in the WAM. The drainage area at the Angelina River near Alto gage according to USGS is 1,276 square miles. The ratio of the drainage areas is 0.022. The base and subsistence flows in Table 2-2 were multiplied by the drainage area ratio to determine the base and subsistence flows for the SB3-Based Environmental Flow Criteria at Lake Naconiche, shown in Table 2-3. These environmental flows were applied at the lake at the 1997 priority date of the original storage authorization.

Table 2-3: SB3-Based Environmental Flow Criteria for Base and Subsistence Flow Conditions

	Flow in cfs			
	Winter	Spring	Summer	Fall
Subsistence	1.2	0.4	0.2	0.4
Base	6.1	2.0	0.9	1.1

According to TAC 298.285 it is not necessary for water rights which store or divert less than 10,000 acre-feet per year to preserve or pass high flow pulses. Since Lake Naconiche stores less than 10,000 acre-feet and the new authorization will be less than 10,000 acre-feet per year only base and subsistence criteria were incorporated into the SB3-Based Environmental Flow Criteria.

2.3 RESULTS

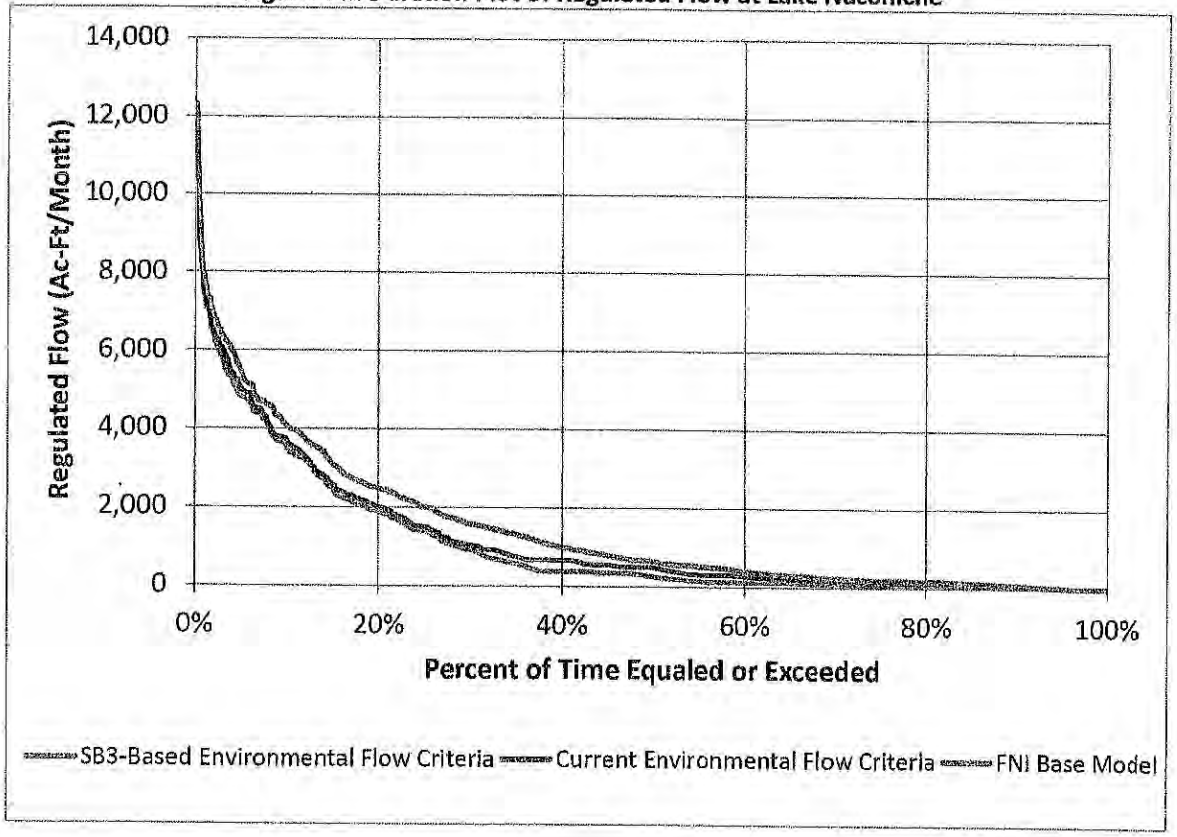
The yield using the FNI Base Model with the environmental flows in the current permit and with the SB3-Based Environmental Flow Criteria are shown in Table 2-4. The yields using the SB3-Based Environmental Flow Criteria are greater than the yield using the existing environmental flows because the SB3-based criteria are less than those found in the existing permit.

Table 2-4: Lake Naconiche Yield with Environmental Flow Criteria from Current Permit and SB3-Based Environmental Flow Criteria

Scenario	Yield (Acre-feet/Year)
Current Environmental Flow Criteria	3,160
SB3-Based Environmental Flow Criteria	4,750

Figure 2-2 compares the range of regulated flows just downstream of Lake Naconiche from the FNI Base Model without the new authorization to the flows with the new diversion using the two different approaches to environmental flows. As shown on this graph, there is little difference in the regulated flows between the two approaches.

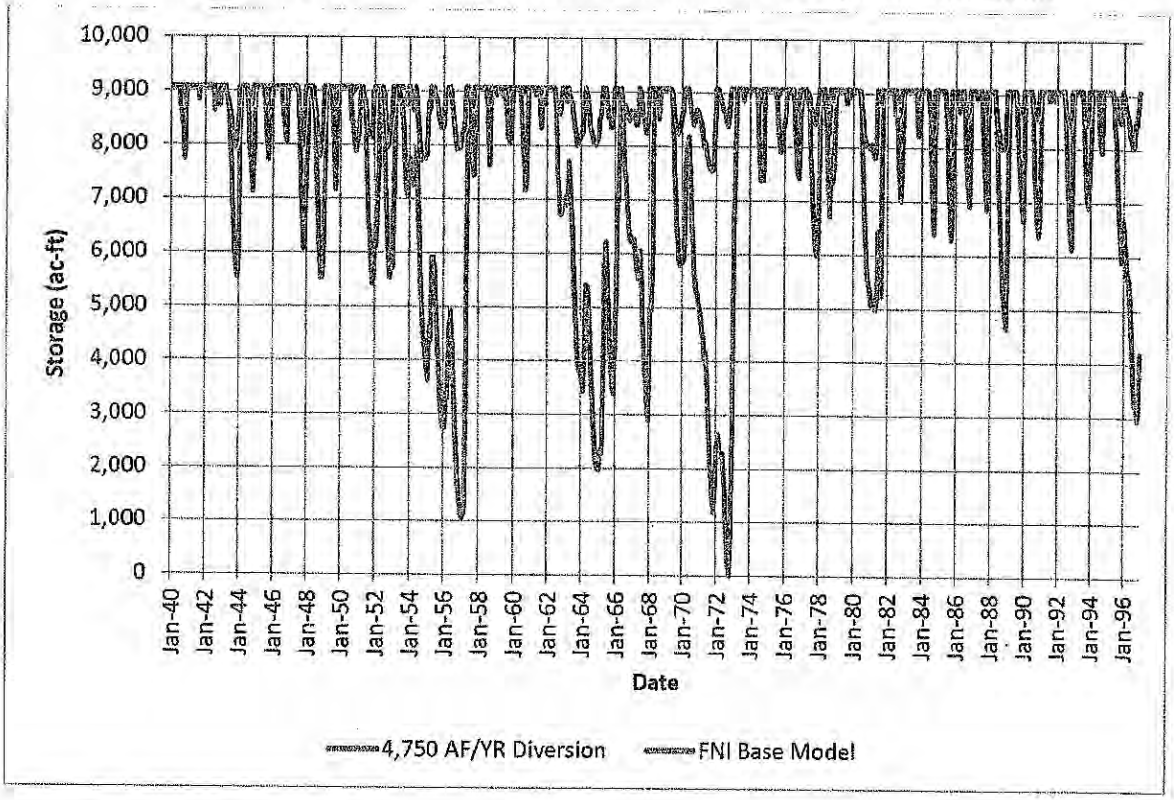
Figure 2-2: Duration Plot of Regulated Flow at Lake Naconiche



3.0 AFFECTED ENVIRONMENT

The use of Lake Naconiche as a water supply source as opposed to a recreational lake will have some impact on the aquatic habitat within the lake. This is shown in Figure 3-1 by comparing the storage trace from the FNI Base model and the proposed diversion of 4,750 acre-feet per year with the SB3-Based Environmental Flow Criteria. It is not anticipated that the proposed diversion will impact the downstream aquatic environment since those flows are protected by environmental flow criteria. The fluctuation in lake levels will have some impact on the use of Lake Naconiche for recreation.

Figure 3-1: Lake Naconiche Storage Trace with and without Proposed Amendment



It is not anticipated that diversion from the lake will have significant impact on the water quality of the lake or downstream water quality. An analysis of the water quality samples at the USGS Gage Attoyac Bayou near Chireno, downstream of Lake Naconiche, indicates good overall water quality as shown in Table 3-1. During periods of low lake levels water quality in the lake may be diminished but the overall quality should remain good.

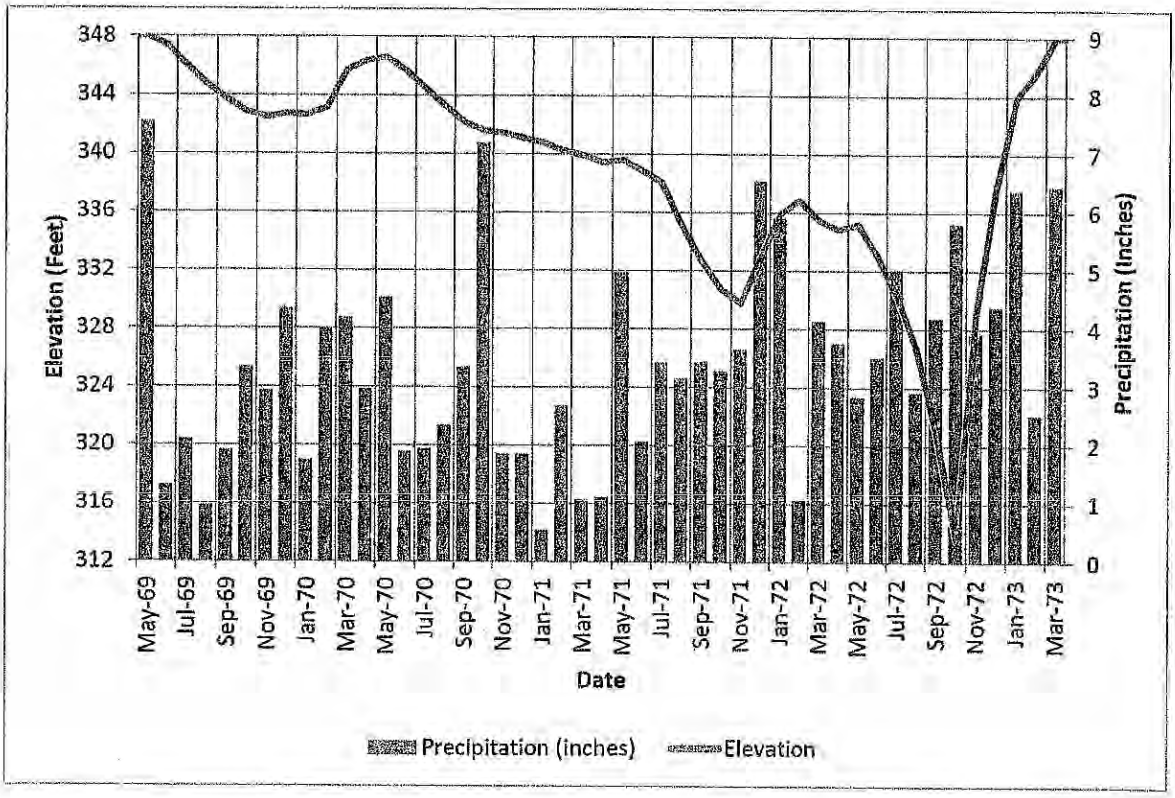
Table 3-1: USGS Gage Attoyac Bayou near Chireno Water Quality Data

Parameter	Median of Samples
Discharge (cfs)	259
Specific conductance (µs/cm)	110
Dissolved Oxygen (mg/l)	7.0
Total Dissolved Solids (mg/l)	70
pH	7.1

The special conditions of the May 1999 Final Supplemental Environmental Impact Statement (EIS) identified an 852 acre mitigation area to be located in Nacogdoches, Rusk, Shelby and San Augustine Counties. The EIS also identified a separate 176 acres of mitigation area on the perimeter of Lake Naconiche in the May 1998, "Final Monitoring Plan for the Lake Naconiche Created Wetlands" prepared by the Stephen F. Austin School of Forestry. The Final Monitoring Plan included the conversion of 176 acres to hydric soil thereby allowing the development of emergent wetlands along the shoreline of Lake Naconiche. The monitoring of those wetlands has continued since the lake began filling in 2006.

Many seasonal and temporary wetlands experience periods of drought at some point. These wetlands tend to fill during the wetter winter months, dry during the hotter summer months and then refill. This is a natural and common occurrence for wetlands in Texas. In fact, these periods of drying and filling can be beneficial for the development of certain species and promote wetland plant diversity. If low water levels at Lake Naconiche occur for an extended period of time due to the proposed diversion, some wetland plant species dependent on being submerged or inundated might go dormant, or potentially die. Other plant species not dependent on being submerged or inundated would likely survive these periods of low water levels. This is expected since the average annual rainfall in Nacogdoches County is approximately 49 inches (TWDB Quadrangle 613, 1940-2013) which would likely provide the moisture necessary for many wetland plant species to survive within the littoral zone/fringe wetlands of the reservoir once they become established. Figure 3-2 shows the elevation during the longest period where the reservoir is below the conservation elevation of 348 feet and the corresponding monthly rainfall. This indicates that even during periods of extended drawdown the fringe wetlands will experience rainfall and wetting of soils sufficient to maintain wetland plant species that do not need to be submerged until Lake Naconiche can refill.

Figure 3-2: Comparison of Lake Levels and Precipitation during Drought of Record



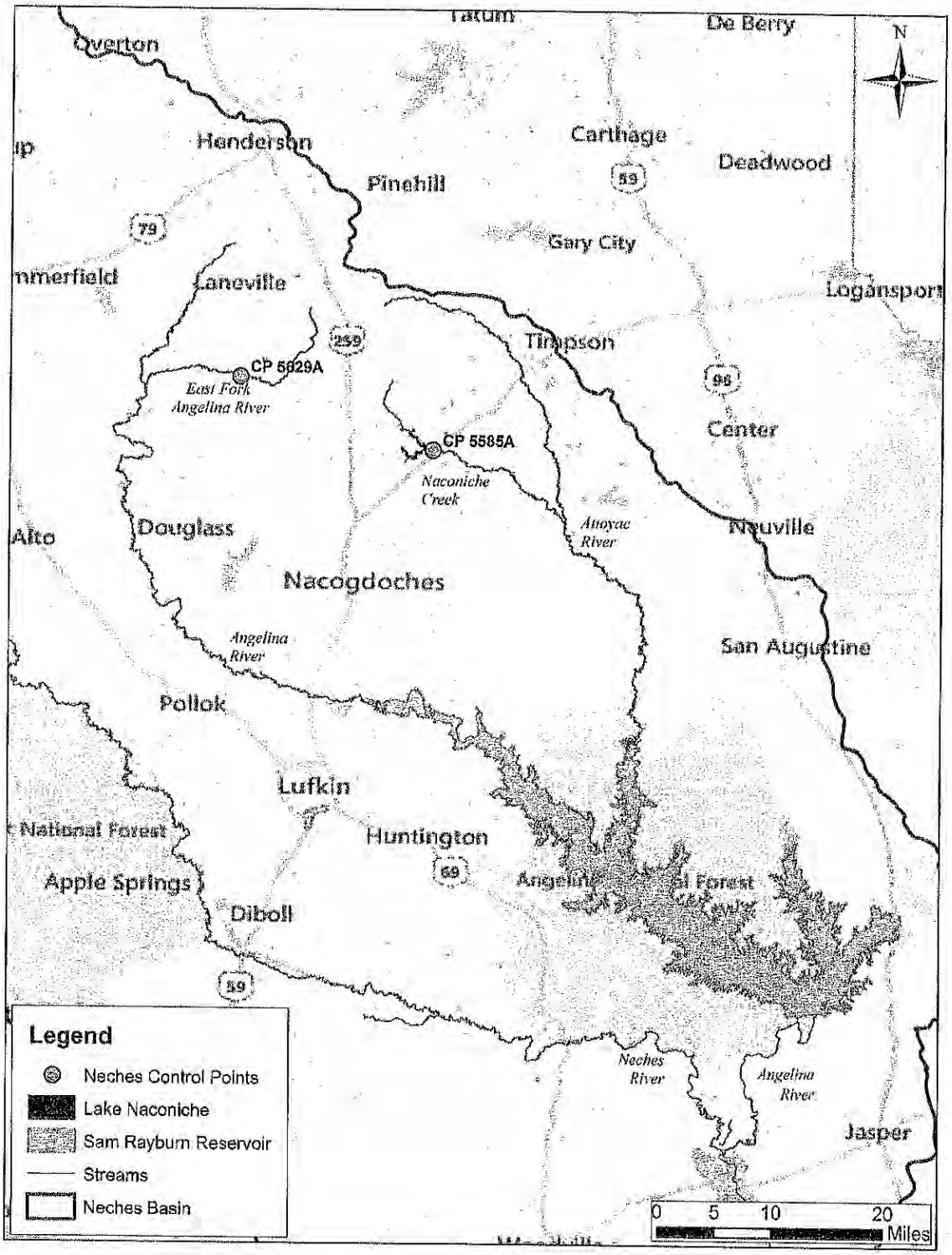
4.0 IMPACTS OF PROPOSED WATER RIGHTS

4.1 NO INJURY ANALYSIS

Potential impacts of the proposed water right on existing water rights were evaluated using the FNI Base Model without the amendment and the model using the SB3-Based Environmental Flow Criteria. Permit 5629 is the only water right shown by the model to be impacted by the amendment with an increase in the mean shortage of less than 2 acre-feet per year (increases from 9.8 acre-feet per year to 11.5 acre-feet per year). The amendment also is shown to impact the period and volume reliability of this right by approximately two percent. The impacted water right is an irrigation water right for diversion of 105 acre-feet per year from the East Fork of the Angelina River with an off-channel reservoir. The priority date of Permit 5629 is October 2, 1999, which is junior to the existing Lake Naconiche authorization.

Based on our review of the modeling results, the apparent impact on Permit 5629 is a function of the operation of the model under dual simulation with subordination of Lake Sam Rayburn rather than a true impact to the water right. The regulated flows at CP5629A, which is the diversion location for Permit 5629, are impacted by the subordination modeling for Lake Sam Rayburn. Due to the special conditions in Permit 5629, the minor change in regulated flows (two months during the simulation, a total of 110 acre-feet) causes the increased shortages (11 months during the simulation, a total of 96 acre-feet). This appears to be a modeling artefact caused by a combination of small changes in available flow and the monthly and annual limits associated with filling the storage associated with Permit 5629, and exacerbated by the second simulation limitations imposed in the dual simulation modeling. Authorizations for Permit 5629 are upstream of Lake Sam Rayburn as shown in Figure 4-1 within the Angelina River watershed. Lake Naconiche is in the Attoyac River watershed and is not hydrologically connected to the Angelina River watershed. As a result, Permit 5629 should not be impacted by the proposed amendment.

Figure 4-1: Location of Permit 5629 in Relation to Lake Naconiche



4.2 IMPACT ON INSTREAM USES

Because the flow criteria developed for Lake Naconiche are consistent with the SB3 process, the SB3-Based Environmental Flow Criteria should be protective of instream uses.

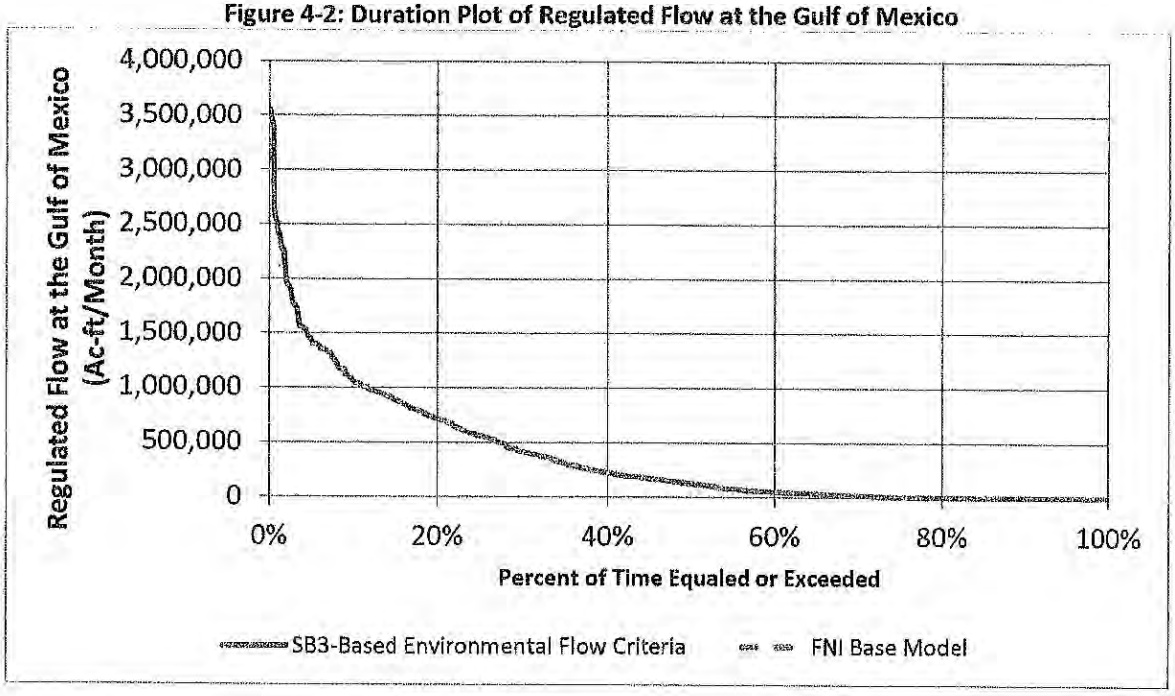
4.3 IMPACTS ON BAYS AND ESTUARIES

There will be minimal impact on bays and estuaries since diversions will be subject to SB3 instream flow requirements. The annual average regulated flow at the Gulf of Mexico is shown in Table 4-1. The percentage of time for regulated flows at the Gulf of Mexico are shown in Figure 4-1. The change in median annual regulated flows at the Gulf of Mexico is approximately 4,745 acre-feet, a difference of about 0.12%.

Table 4-1: Statistics of Annual Regulated Flows at the Gulf of Mexico

Scenario	Regulated Flow (Acre-feet/Year)			
	5%	10%	25%	50%
FNI Base WAM	591,881	689,575	1,735,190	4,112,056
SB3 Environmental Flow Criteria WAM	591,241	689,575	1,729,977	4,107,311
Difference from FNI Base WAM	640	0	5,213	4,745
Percent Difference from FNI Base WAM	0.11%	0.00%	0.30%	0.12%

Figure 4-2: Duration Plot of Regulated Flow at the Gulf of Mexico



4.4 IMPACTS ON WETLANDS

The proposed amendment to allow for diversion has slight potential to impact wetland areas along the perimeter of the lake since diversions will lead to increased water level fluctuations. The longest period below the conservation pool is nearly four years which occurs from June 1969 through February 1973 and corresponds with the critical drought. However, due to local precipitation the impacts are expected to be minimal. Further discussion of the potential impact to wetlands is included in Section 3.0.

4.5 WATER CONSERVATION

Nacogdoches County has not been required to submit a water conservation plan in the past since it is not a retail or wholesale water supplier, nor does the existing permit (5585) appropriate 1,000 acre-feet or more of surface water. Nacogdoches County will prepare a water conservation plan in accordance with Chapter 288 rules to be provided to the TCEQ at a later date in conjunction with the proposed amendment.

4.6 CONSISTENCY WITH REGIONAL WATER PLANS

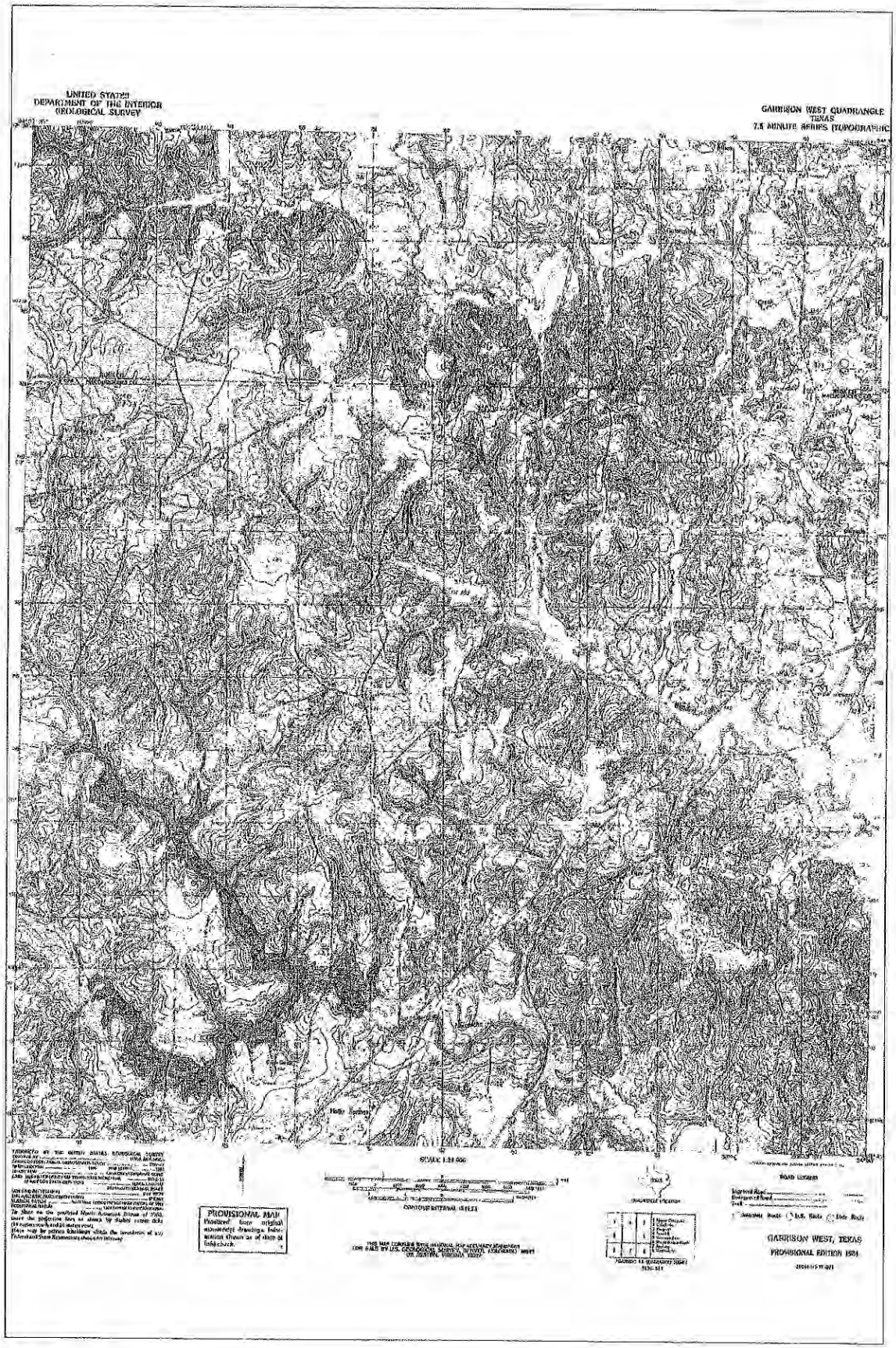
Lake Naconiche is a recommended strategy in the 2011 Region I Water Plan (Lake Naconiche Regional Water Supply System) for Nacogdoches County-Other, Appleby WSC, Lily Grove WSC and Swift WSC[3].

4.7 OTHER POTENTIAL IMPACTS

Since Lake Naconiche is already constructed there will be minimal impacts to water quality, the environment or agricultural resources.

[3]Alan Plummer and Associates Inc., Freese and Nichols Inc., LBG Guyton and Walker Partners. *2011 Region I Plan*, September 2010, pgs. 4C-27-31

Appendix A
USGS 7.5 Minute Topographic Map



0 1,000 2,000 4,000 Feet

N
W E
S

Lake Naconiche

County of Nacogdoches
101 West Main Street
Nacogdoches, Texas 75961
Nacogdoches County, Texas
Sheet 1 of 1

Appendix B
WAM Modeling and No Injury Analysis

Modifications to the Neches River WAM

The analyses in this water right application are based on the October 2012 version of the Neches River WAM, full authorization scenario and including Senate Bill 3 instream flow requirements, using the August 2013 version of WRAP-SIM. (WRAP-SIM is the computer program used to run the WAM.).

Base WAM Changes

```
** FNI Change - Changed to match the pattern in the permit
UCUT5585      492      666      922      655      553      238
UC            184      184      179      184      179      307
**UCUT5585    0.101    0.152    0.190    0.139    0.114    0.051
**UC          0.038    0.038    0.038    0.038    0.038    0.063

** FNI Change - Changed to match IF requirement in the permit
**IF 5585A    57196  UT558519970430        1                    5585N1
IF 5585A      4744   UT558519970430        1                    5585N1
**  changing from type 1 to type 2 subordination (limit to depletions)
WR 5585A        0      REC19970430   1                                        5585R1     5585
WSNACKNK     9072
**PX      2                1  4411A1
PX      2                2  4411A1
```

The following records were added to the neches3.dat file.

```
**  FNI change - pattern for new base eflow at lake Naconiche
UC nksub       74       68       74       24       24       24      =       397
UC             15       15       14       22       21       22
UC nkbas      375      341      375      118      122      118      =      1817
UC             54       54       52       70       68       70
**

**  FNI change - add control point for subsistence calculations for Lake Naconiche
**CP 5585A     ATCH                          7
CP 5585A   nksubs                          7
CPnksubs     ATCH                          7            5585A
**

**FNI change dummy CPs for Lake Naconiche
CPfknk02       OUT                           2     NONE     NONE
CPfknk03       OUT                           2     NONE     NONE

** FNI change - fake CPs associated with Lake Naconiche SB3 instream flows
CIfknk02 9999999 9999999 9999999 9999999 9999999 9999999
CI       9999999 9999999 9999999 9999999 9999999 9999999
CIfknk03 9999999 9999999 9999999 9999999 9999999 9999999
CI       9999999 9999999 9999999 9999999 9999999 9999999

** FNI Change - Changed to match IF requirement in the permit
****IF 5585A    57196  UT558519970430        1                    5585N1
**IF 5585A     4744   UT558519970430        1                    5585N1
**  FNI change - add instream flow based on Alto multiplied by DA ratio.  Giving everything a priority
junior to SB3
**     only base flows apply since diversion or storage is less than 10,000
**  Subsistence flow at CP just downstream of reservoir
**   giving it priority date of original certificate.
IFnksubs       397    nksub19970430                                 nksubsis
**   Regulated flow - for checking
WRfknk02                 19970430                                                nklook     5585
TO      2              ADD                          5585A
**  Holds the monthly target
WRfknk02      1817    nkbas19970430                                          holdnkbase     5585
**  Ratio of target to regulated flow
WRfknk03             nkbas19970430                                            nkOnOff     5585
```

```
TO      2               ADD                     5585A                                   CONT
TO      6               DIV                                     holdnkbase
**  Flow switch based on ratio calculated above.  Applied if > 1
IF 5585A    1817   nkbas19970430                                nkbase
FS      5  fknk03       1       0       1 9999999   1
**   Original authorization.
WR 5585A        0      REC19970430   1                                        5585R1     5585
WSNACKNK    9072
**PX      2               1  4411A1
**PX      3               2  4411A1
**
** FNI Change - New WR to calculate yield
WR 5585A     4750     UMUN20160000   1                                        5585FY     5585
WSNACKNK     9072
PX      2               2  4411A1
**  end FNI change

**    FNI comment - keeping only in second simulation - mass balance not as important in the first
simulation
**WR4411A1                  20091129                                    BURAYBUR14     4411     5585
**WSRAYBRN 2898200
**BU      0       0          5585R1
**PX      2
**
**  FNI change - change to reference firm yield
WR4411A1                    99999999                                BURAYBUR14fy     4411     5585
WSRAYBRN 2898200
BU      0       0          5585FY
PX      2
**
```

The following records were added to the neches3.dis file.

```
**  FNI change
FDnksubs     ATCH        0
**
**  FNI change
WPnksubs    28.07       42       46
**
```

No changes were made to the other input files.

The impact analysis for the diversion from Lake Naconiche, modeled as described above, impacts only one water right in the Neches WAM (Table B-1). Table B-1 shows the *difference* between the FNI Base WAM model run and the modified WAM for all water rights in the October 2012 version of the Neches River WAM. The impacted water right, Permit 5629, is an irrigation right on the East Fork of the Angelina River with a 1999 priority date The mean shortage of Permit 5629 is increased by approximately 2 acre-feet per year and the period and volume reliability are each reduced by approximately two percent. All the values for the other water rights in the Neches WAM are zero which indicates that there is no change in reliability.

Table B-1: Difference between FNI Base WAM and Lake Naconiche Model

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability	
			Period (%)	Volume (%)
3306R1				
4411A2	0	0	0	0
4411A3	0	0	0	0
4411A4	0	0	0	0
4411A5	0	0	0	0
4434I1				
4434I1				
4415M1	0	0	0	0
3237M1	0	0	0	0
3274M4	0	0	0	0
4411M5	0	0	0	0
4411M6	0	0	0	0
4411I3	0	0	0	0
4411I4	0	0	0	0
4415M2	0	0	0	0
4415I1	0	0	0	0
4867A1	0	0	0	0
4410I1	0	0	0	0
3233A1	0	0	0	0
4856R1				
4861A1	0	0	0	0
4412I1	0	0	0	0
4866A1	0	0	0	0
3286A1	0	0	0	0
3221A1	0	0	0	0
3221A2	0	0	0	0
3221A3	0	0	0	0
4388R1				
4402M1	0	0	0	0
3274M5	0	0	0	0
4437I1				
4437I1				
4401A1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4396A1	0	0	0	0
4857A1	0	0	0	0
4853M1	0	0	0	0
4853I1	0	0	0	0
3222G1	0	0	0	0
4387A1	0	0	0	0
4843R1				
4427R1				
4433I1				
4433I1				
3277A1	0	0	0	0
4848R1				
4400R1				
4406A1	0	0	0	0
3275A1	0	0	0	0
3222G2	0	0	0	0
3302R1				
3289A1	0	0	0	0
4853E	0	0	0	0
4839A1	0	0	0	0
4841A1	0	0	0	0
3222G3	0	0	0	0
4871R1				
3256M1	0	0	0	0
3256I1	0	0	0	0
4399M1	0	0	0	0
3253A1	0	0	0	0
3274M3	0	0	0	0
3274R1				
3244A1	0	0	0	0
3297A1	0	0	0	0
3296A1	0	0	0	0
3266A1	0	0	0	0
3283A1	0	0	0	0
3284A1	0	0	0	0
3280A1	0	0	0	0
3298A1	0	0	0	0
4858A1	0	0	0	0
4858A2	0	0	0	0
3290A1	0	0	0	0
4847I1	0	0	0	0
4393D2	0	0	0	0
3254M1	0	0	0	0
4847I2				
3285A1	0	0	0	0
4386A1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3295A1	0	0	0	0
4382A1	0	0	0	0
4853J				
3299A1	0	0	0	0
4414A1	0	0	0	0
4408R1				
3291A1	0	0	0	0
4393I1	0	0	0	0
3249R1				
4409M1	0	0	0	0
3247A1	0	0	0	0
3236A1	0	0	0	0
3287A1	0	0	0	0
3276A1	0	0	0	0
4438I1				
4438I1				
3226A1	0	0	0	0
3260R1				
3252A1	0	0	0	0
3299A2	0	0	0	0
4859A1	0	0	0	0
4839I1	0	0	0	0
4419R1				
3293A1	0	0	0	0
4860A1	0	0	0	0
4395A1	0	0	0	0
FILL STEINHA				
FILLRAY				
4411M4	0	0	0	0
4411I1	0	0	0	0
4411I2	0	0	0	0
4411A1	0	0	0	0
4411M1	0	0	0	0
4425R1				
4840A1	0	0	0	0
4397A1	0	0	0	0
3292A1	0	0	0	0
3294A1	0	0	0	0
3294A2	0	0	0	0
4869A1	0	0	0	0
4865A1	0	0	0	0
4846A1	0	0	0	0
3251A1	0	0	0	0
4431A1	0	0	0	0
3245A1	0	0	0	0
3235A1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4380R1				
4380O1	0	0	0	0
4385R1				
3278A1	0	0	0	0
3288A1	0	0	0	0
4850A1	0	0	0	0
4872A1	0	0	0	0
4873A1	0	0	0	0
4381R1				
4384I1	0	0	0	0
FILLDIVDAM1				
4403A1	0	0	0	0
3223N2	0	0	0	0
3223N1	0	0	0	0
3269A1	0	0	0	0
3279A1	0	0	0	0
3222R1				
4401I1	0	0	0	0
4847I3	0	0	0	0
3282A1	0	0	0	0
4862A1	0	0	0	0
3238O1				
3303A1	0	0	0	0
3300R1				
4418R1				
3254M3	0	0	0	0
4864M1	0	0	0	0
4870R1				
3254A3	0	0	0	0
4392A1	0	0	0	0
4392O1				
4429A1	0	0	0	0
3263R1				
4426A1	0	0	0	0
4851R1				
4424R1				
3257R1				
4855R1				
3242R1				
3232R1				
3227R1				
3243R1				
3228R1				
3272R1				
4404M1	0	0	0	0
3264R1				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3261A1	0	0	0	0
4405R1				
3224A2	0	0	0	0
3273R1				
3255R1				
4413D1	0	0	0	0
4413B3	0	0	0	-0.05
4868R1				
4379R1				
3281R1				
3246R1				
4423R1				
3267R1				
3234R1				
3231G1	0	0	0	0
4417R1				
4430R1				
3230G1	0	0	0	0
3271R1				
4416R1				
3248A1	0	0	0	0
4854R1				
4391R1				
4428R1				
3304R1				
4420R1				
3262R1				
4389R1				
4849I1				
4421R1				
4845R1				
4398R1				
3240R1				
4394R1				
4844R1				
4386R1				
4407R1				
3229R1				
3305R1				
3239R1				
3241R1				
4390R1				
4842R1				
4852R1				
326831				
3258R1				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3265R1				
3270R1				
4425R2				
4436I1				
4436I1				
3259G1				
4864R1				
3238I1	0	0	0	0
4432A1	0	0	0	0
4383A1	0	0	0	0
3224A1	0	0	0	0
3301A1	0	0	0	0
3237I1	0	0	0	0
3237A1	0	0	0	0
3237A2	0	0	0	0
3250A1	0	0	0	0
4863A1				
4863A2				
4435I1				
4435I1				
4030A1	0	0	0	0
4422R1				
4413A3	0	0	0	0
4118R1				
4115A1	0	0	0	0
4167R1				
4186I1				
4186I1				
3878A1	0	0	0	0
4196I1				
4196I1				
4199R1				
4219M1	0	0	0	0
4219F1	0	0	0	0
4219A1	0	0	0	0
4430A1	0	0	0	0
4269A1	0	0	0	0
4279A1	0	0	0	0
4384I2	0	0	0	0
4384BU	0	0	0	0
4356A1	0	0	0	0
4410I2	0	0	0	0
4410F1	0	0	0	0
3254M5	0	0	0	0
4370R1				
4094I1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4094I2				
4448A1	0	0	0	0
3254M7	0	0	0	0
4501R1				
4540R1				
4543A1	0	0	0	0
4596A1	0	0	0	0
4595R1				
4609R1				
5013R1				
5015R1				
5027I1	0	0	0	0
4537M1	0	0	0	0
4537M2	0	0	0	0
4537I1	0	0	0	0
5041I1				
5091I1				
5091I1				
5087R1				
5134A1	0	0	0	0
5175M1				
5181R1				
5184O1				
5185M1				
5206I1				
5206I1				
5213I1				
5213I1				
5222R1				
5228A2	0	0	0	0
5232I1	0	0	0	0
5314I1	0	0	0	0
5351R1				
3224A3	0	0	0	0
5389A1	0	0	0	0
5415M1				
5484A1	0	0	0	0
5486A1	0	0	0	0
5508A1	0	0	0	0
5508A2	0	0	0	0
5508O1	0	0	0	0
5555O1				
5583R1				
5585R1				
561331				
5629A1	**0**	**1.71**	**-1.98**	**-1.9**

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
5669N1				
4409M2	0	0	0	0
5228D1	0	0	0	0
P_5757				
4413B3				
472436				
472435				
555502	0	0	0	0

Appendix C
Water Right Permit 5585

THE STATE OF TEXAS
COUNTY OF TRAVIS
I hereby certify that this is a true and correct copy of a Texas Natural Resource Conservation Commission document, which is filed in the permanent records of the Commission.
Given under my hand and the seal of office on
JUL 03 1998
Eugenia K. Brumm, Chief Clerk
Texas Natural Resource Conservation Commission

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

COPY

PERMIT TO APPROPRIATE AND USE STATE WATER

APPLICATION NO. 5585		*PERMIT NO. 5585*	*TYPE: Section 11.121*
Name:	*County of Nacogdoches*	*Address:*	*101 West Main Street Nacogdoches, Texas 75961*
Filed:	*April 30, 1997*	*County:*	*Nacogdoches*
Purposes:	*Flood Control and Recreation*	*Watershed:*	*Neches River Basin*
Watercourse:	*Naconiche Creek, tributary of Attoyac Bayou, tributary of the Angelina River, tributary of the Neches River*		

WHEREAS, the County of Nacogdoches has requested authorization to construct and maintain a dam on Naconiche Creek creating a reservoir to be used for flood control and in-place recreation purposes in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas; and

WHEREAS, the dam will be constructed by the Natural Resource Conservation Service (NRCS) and is referred to as Multi-Purpose Structure No. 23-A; and

WHEREAS, the Texas Natural Resource Conservation Commission finds that it has jurisdiction over the application; and

WHEREAS, the Executive Director has determined that although there may be some anticipated temperature differences in Naconiche Creek resulting from the construction of the proposed reservoir, these differences will probably be dissipated downstream due to springflow, seepage and vegetative cover; and

WHEREAS, the Executive Director has determined and recommended that in order to protect habitat and water quality at the reservoir site and downstream of the dam, certain special conditions be included in the permit; and

WHEREAS, the Stephen F. Austin School of Forestry has agreed to manage and monitor a wetland area around the perimeter of the reservoir in accordance with a "Final Monitoring Plan" dated May 14, 1998 that states it is intended and predicted to result in the conversion of 176 acres of land owned by the permittee to hydric soil condition due to increased saturation, thereby allowing more than 50% of the dominant vegetation of the area to propagate into obligate wetland, facultative wetland or facultative plants; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Natural Resource Conservation Commission in issuing this permit.

NOW, THEREFORE, this permit to appropriate and use State water is issued to the County of Nacogdoches, subject to the following terms and conditions:

1. *IMPOUNDMENT*

Permittee is authorized to construct and maintain a dam creating a reservoir in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas, on Naconiche Creek and to impound therein not to exceed 9072 acre-feet of water at a normal maximum operating elevation of 348.0 feet above mean sea level. The dam will be in the William C. Walker Survey, Abstract No. 596 and the Maria D. Castro Survey, Abstract No. 133 and Station 0+00 on the centerline of the dam at Latitude 31.7708° N and Longitude 94.5694° W, which is also N 27° W, 2650 feet from the southwest corner of the aforesaid Castro survey.

2. *USE*

Permittee is authorized to use the lake only for flood control and in-place recreational purposes with no diversion right.

3. *TIME LIMITATIONS*

a. *Construction of the dam herein authorized shall be commenced within two years and completed within five years from date of issuance of this permit. For the purposes of this permit, commencement of construction includes site preparation.*

b. *Failure to commence and/or complete construction of the dam within the period stated above shall cause this permit to expire and become null and void, unless permittee applies for an extension of time to commence and/or complete construction prior to the respective deadlines for commencement and completion, and the application is subsequently granted.*

4. *SPECIAL CONDITIONS*

a. *Permittee is responsible for the continuing maintenance and repair of the dam authorized herein.*

b. *Permittee shall pass inflows of State water past the reservoir in such quantities as are necessary to satisfy the rights of downstream domestic and livestock users and the senior and superior rights of other authorized water users.*

c. *In order to compensate for impacts to wetlands due to the construction of the aforesaid reservoir, permittee shall:*

i. *implement the mitigation plan developed and described in NRCS' draft and final "Supplemental Environmental Impact Statement for Attoyac Bayou Watershed in Nacogdoches, Rusk, Shelby and San Augustine Counties, Texas", which includes the purchase and preservation of an 852-acre tract of land (bottomland hardwoods) in the Angelina River Bottom;*

ii. *implement the May 14, 1998 "Final Monitoring Plan" for the "Lake Naconiche Created Wetlands" prepared by the permittee and the Stephen F. Austin School of Forestry, which includes monitoring and annual reporting to the Executive Director of the vegetation, soils and hydrology of approximately 176 acres of land owned by permittee around the perimeter of the proposed reservoir;*

iii. *achieve the Minimum Success Criteria" included on Page 4 of the referenced "Final Monitoring Plan" for the 176 acres of land around the perimeter of the reservoir within ten years after initial filling of the proposed reservoir and provide a report to the Executive Director documenting this achievement; and*

iv. *manage the lands included in the mitigation plan and in the monitoring plan in perpetuity, either by permittee or by its designee, so as to insure that these lands have no use inconsistent with the preservation of wetlands and wildlife habitat.*

d. *To provide for instream habitats and to retain some natural hydrologic patterns of Naconiche Creek during the months of July through November all inflows into the reservoir up to 3 cubic feet per second (cfs) must be passed through the reservoir. During all other months, all inflows into the reservoir up to the following amounts must be passed through the reservoir:*

December.....5 cfs	*March.....15 cfs*	*June....4 cfs*
January.....8 cfs	*April.....11 cfs*	
February.....12 cfs	*May.....9 cfs*	

This permit is issued subject to all superior and senior water rights in the Neches River Basin.

Permittee agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This permit is issued subject to the Rules of the Texas Natural Resource Conservation Commission and to the right of continuing supervision of State water resources exercised by the Commission.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Issue Date: JUL 03 1998

For the Commission

EXHIBIT 3

Resolution Authorizing Filing of Application

RESOLUTION

A RESOLUTION OF THE NACOGDOCHES COUNTY COMMISSIONER'S COURT AUTHORIZING FILING OF APPLICATION FOR AMENDMENT TO WATER USE PERMIT NO. 5585

WHEREAS, Nacogdoches County (the "County") owns Water Use Permit No. 5855 (the "Permit");

WHEREAS, the County desires to amend the Permit to add municipal, agricultural, and industrial purposes of use;

WHEREAS, the County also seeks to amend the Permit to add a diversion point on the perimeter of Lake Naconiche for diversion of up to 4,750 acre-feet on an annual basis; and,

WHEREAS, the Texas Water Code and Rules of the Commission on Environmental Quality (the "Commission") require proof of authorization to execute and prosecute applications for amendments to the Permit;

NOW, THEREFORE, BE IT RESOLVED BY THE NACOGDOCHES COUNTY COMMISSIONER'S COURT THAT:

1. The County Judge is hereby authorized on behalf of the Commissioner's Court to execute such applications as are necessary to be filed with the Commission to amend the Permit.

2. The County Judge is hereby authorized and directed on behalf of the Commissioner's Court to file said applications and to appear and arrange for the appearances of persons representing the County at the hearings and other proceedings on the applications before the Commission, and otherwise direct prosecution of the applications on behalf of the Commissioner's Court.

PASSED, ADOPTED AND APPROVED THIS 14th day of April, 2015.

Jerry Don Williamson, Precinct 1 Commissioner

Jerry Stone, Precinct 2 Commissioner

Jim Elder, Precinct 3 Commissioner

Elton Milstead, Precinct 4 Commissioner

ATTEST: June Clifton, County Clerk

4657948.1

EXHIBIT 4

Diversion Point Information Sheet

Supplemental Diversion Point Information Sheet

Diversion Point No. 1.

1) Watercourse: Naconiche Creek

2) Location of point of diversion at on the perimeter of the existing Lake Naconiche. Reservoir location is in Nacogdoches County, Texas as described in the Supplemental Dam/Reservoir Sheet.

3) Location from County Seat: Varies miles in a northeast direction from Nacogdoches, Nacogdoches County, Texas.

Location from nearby town (if other than County Seat): _____ miles in a _____ direction from _____, a nearby town shown on county highway map.

4) Zip Code: 75946

5) The diversion will be (check (√) all appropriate boxes and if applicable, indicate whether existing or proposed):

	Directly from stream	Existing	Proposed
	From an on-channel reservoir	X	
	From a stream to an off-channel reservoir		
	From a stream to an on-channel reservoir		
	From an off-channel reservoir		
	Other method (explain fully, use additional sheets if necessary)		

6) Rate of Diversion (Check (√) applicable provision):

X 1. Diversion Facility:

A. 11,771 Maximum gpm (gallons per minute)

1) Unknown Number of pumps
2) Unknown Type of pump
3) Unknown gpm, Pump capacity of each pump
4) Portable pump _Yes or X No

___2. If by gravity:

A._____ Headgate _____ Diversion Dam _____ Maximum gpm

B._____ Other method (explain fully - use additional sheets if necessary)

7) The drainage area above the diversion point is 17,453 acres or 27.27 square miles.

EXHIBIT 5

Supplemental Dam/Reservoir Information Sheet

Supplemental Dam/Reservoir Information Sheet

Dam (structure), Reservoir and Watercourse Data

A. Type of Storage Reservoir (indicate by checking (√) all applicable)

☑ on-channel ☐ off-channel ☐ existing structure ☐ proposed structure* ☐ exempt structure**

*Applicant shall provide a copy of the notice that was mailed to each member of the governing body of each county and municipality in which the reservoir, or any part of the reservoir, will be located as well as copies of the certified mailing cards.

**TWC Section 11.143 for uses of water for other than domestic, livestock, or fish and wildlife from an existing, exempt reservoir with a capacity of 200 acre-feet or less. Please complete Paragraph 6 below if proceeding under TWC 11.143.

Date of Construction 2006

B. Location of Structure No. 1.

1) Watercourse: Naconiche Creek

2) Location from County Seat: 13 miles in a northeast direction from Nacogdoches, Nacogdoches County, Texas.
Location from nearby town (if other than County Seat): _____ miles in a _____ direction from _____, a nearby town shown on county highway map.

3) Zip Code: 75946

4) The dam will be/is located in the William C. Walker, and Maria D. Castro Original Survey Nos. 347, Abstract No. 596 and 133 in Nacogdoches County, Texas.

5) Station 0+00 on the centerline of the dam is N 27 W° (bearing), 2650 feet (distance) from the southwest corner of Maria D. Castro Original Survey No. 347, Abstract No.133, in Nacogdoches County, Texas, also being at Latitude 31.7708°N, Longitude 94.5694°W. **(From Permit 5585).**

C. Reservoir:

1) Acre-feet of water impounded by structure at normal maximum operating level: 9,072 acre-feet

2) Surface area in acres of reservoir at normal maximum operating level: 692 acres

D. The drainage area above the dam is 17,453 acres or 27.27 square miles.

E. Other:

1) If this is a U.S. Natural Resources Conservation Service (NRCS) (formerly Soil Conservation Service (SCS)) floodwater-retarding structure, provide the Site No. 23A and watershed project name Attoyac Bayou Watershed

2) Do you request authorization to close the "ports" or "windows" in the service spillway?

☐ Yes ☑ No

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

AN ORDER extending the time for the County of Nacogdoches to complete construction of the reservoir authorized by Water Use Permit No. 5585

An application by County of Nacogdoches was presented to the Executive Director of the Texas Natural Resource Conservation Commission for consideration of approval. The applicant requests authorization to extend the time to complete construction of the reservoir authorized by Water Use Permit No. 5585.

After considering the application and matters related thereto, the Commission is of the opinion that the application is reasonable and should be granted.

NOW THEREFORE, BE IT ORDERED BY THE TEXAS NATURAL RESOURCE CONSERVATION COMMISSION that the County of Nacogdoches shall complete construction of the reservoir by December 31, 2006.

All other terms and conditions contained in Water Use Permit No. 5585 which are not specifically contrary to the terms of this order shall remain in full force and effect.

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION

For the Commission

DATE ISSUED: NOV 14 2000

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

PERMIT TO APPROPRIATE
AND USE STATE WATER

APPLICATION NO. 5585		*PERMIT NO. 5585*	*TYPE: Section 11.121*
Name:	*County of Nacogdoches*	*Address:*	*101 West Main Street* *Nacogdoches, Texas 75961*
Filed:	*April 30, 1997*	*County:*	*Nacogdoches*
Purposes:	*Flood Control and Recreation*	*Watershed:*	*Neches River Basin*
Watercourse:	*Naconiche Creek, tributary of Attoyac Bayou, tributary of the Angelina River, tributary of the Neches River*		

WHEREAS, the County of Nacogdoches has requested authorization to construct and maintain a dam on Naconiche Creek creating a reservoir to be used for flood control and in-place recreation purposes in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas; and

WHEREAS, the dam will be constructed by the Natural Resource Conservation Service (NRCS) and is referred to as Multi-Purpose Structure No. 23-A; and

WHEREAS, the Texas Natural Resource Conservation Commission finds that it has jurisdiction over the application; and

WHEREAS, the Executive Director has determined that although there may be some anticipated temperature differences in Naconiche Creek resulting from the construction of the proposed reservoir, these differences will probably be dissipated downstream due to springflow, seepage and vegetative cover; and

WHEREAS, the Executive Director has determined and recommended that in order to protect habitat and water quality at the reservoir site and downstream of the dam, certain special conditions be included in the permit; and

WHEREAS, the Stephen F. Austin School of Forestry has agreed to manage and monitor a wetland area around the perimeter of the reservoir in accordance with a "Final Monitoring Plan" dated May 14, 1998 that states it is intended and predicted to result in the conversion of 176 acres of land owned by the permittee to hydric soil condition due to increased saturation, thereby allowing more than 50% of the dominant vegetation of the area to propagate into obligate wetland, facultative wetland or facultative plants; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Natural Resource Conservation Commission in issuing this permit.

NOW, THEREFORE, this permit to appropriate and use State water is issued to the County of Nacogdoches, subject to the following terms and conditions:

1. *IMPOUNDMENT*

   Permittee is authorized to construct and maintain a dam creating a reservoir in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas, on Naconiche Creek and to impound therein not to exceed 9072 acre-feet of water at a normal maximum operating elevation of 348.0 feet above mean sea level. The dam will be in the William C. Walker Survey, Abstract No. 596 and the Maria D. Castro Survey, Abstract No. 133 and Station 0+00 on the centerline of the dam at Latitude 31.7708° N and Longitude 94.5694° W, which is also N 27° W, 2650 feet from the southwest corner of the aforesaid Castro survey.

2. *USE*

   Permittee is authorized to use the lake only for flood control and in-place recreational purposes with no diversion right.

3. *TIME LIMITATIONS*

   a. *Construction of the dam herein authorized shall be commenced within two years and completed within five years from date of issuance of this permit. For the purposes of this permit, commencement of construction includes site preparation.*

   b. *Failure to commence and/or complete construction of the dam within the period stated above shall cause this permit to expire and become null and void, unless permittee applies for an extension of time to commence and/or complete construction prior to the respective deadlines for commencement and completion, and the application is subsequently granted.*

4. *SPECIAL CONDITIONS*

a. *Permittee is responsible for the continuing maintenance and repair of the dam authorized herein.*

b. *Permittee shall pass inflows of State water past the reservoir in such quantities as are necessary to satisfy the rights of downstream domestic and livestock users and the senior and superior rights of other authorized water users.*

c. *In order to compensate for impacts to wetlands due to the construction of the aforesaid reservoir, permittee shall:*

i. *implement the mitigation plan developed and described in NRCS' draft and final "Supplemental Environmental Impact Statement for Attoyac Bayou Watershed in Nacogdoches, Rusk, Shelby and San Augustine Counties, Texas", which includes the purchase and preservation of an 852-acre tract of land (bottomland hardwoods) in the Angelina River Bottom;*

ii. *implement the May 14, 1998 "Final Monitoring Plan" for the "Lake Naconiche Created Wetlands" prepared by the permittee and the Stephen F. Austin School of Forestry, which includes monitoring and annual reporting to the Executive Director of the vegetation, soils and hydrology of approximately 176 acres of land owned by permittee around the perimeter of the proposed reservoir;*

iii. *achieve the <u>Minimum Success Criteria</u>" included on Page 4 of the referenced "Final Monitoring Plan" for the 176 acres of land around the perimeter of the reservoir within ten years after initial filling of the proposed reservoir and provide a report to the Executive Director documenting this achievement; and*

iv. *manage the lands included in the mitigation plan and in the monitoring plan in perpetuity, either by permittee or by its designee, so as to insure that these lands have no use inconsistent with the preservation of wetlands and wildlife habitat.*

d. *To provide for instream habitats and to retain some natural hydrologic patterns of Naconiche Creek during the months of July through November all inflows into the reservoir up to 3 cubic feet per second (cfs) must be passed through the reservoir. During all other months, all inflows into the reservoir up to the following amounts must be passed through the reservoir:*

December.....5 cfs	*March.....15 cfs*	*June....4 cfs*
January.....8 cfs	*April.....11 cfs*	
February.....12 cfs	*May.....9 cfs*	

This permit is issued subject to all superior and senior water rights in the Neches River Basin.

Permittee agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This permit is issued subject to the Rules of the Texas Natural Resource Conservation Commission and to the right of continuing supervision of State water resources exercised by the Commission.

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION

Issue Date: JUL 03 1998

For the Commission

John
FYI - Not sure of WR date issue. Let me know if any reason to discuss. Thanks
M

December 19, 2005

Planning, Environmental, and Regulatory Division
Regulatory Branch

SUBJECT: Project Number 200100006

Honorable Sue Kennedy
Nacogdoches County
101 W. Main, Suite 130
Nacogdoches, Texas 75961

Dear Honorable Kennedy,

This is in response to your letter dated November 5, 2005, requesting a modification to Department of the Army permit 198900163 for the discharge of dredged and fill material into waters of the United States associated with the construction of the dam and reservoir on Naconiche Creek in Nacogdoches County, Texas.

We have reviewed and hereby approve your request. Permit Number 198900163 is modified as follows:

1. Replace "December 31, 2005" in General Condition 1 on page one of the permit with "December 31, 2006".

This modification is effective immediately. All other terms and conditions of the original permit remain in full force and effect.

If you have any questions concerning this letter, please contact Mr. David Madden at the address above or telephone (817)886-1741.

Sincerely,

Wayne A. Lea
Chief, Regulatory Branch

Appendix A
USGS 7.5 Minute Topographic Map

Full Scale 7.5 Minute USGS Garrison West Quadrangle Map
Included in supplementary sleeve

0 1,000 2,000 4,000
Feet

N
W E
S

Lake Naconiche

County of Nacogdoches
101 West Main Street
Nacogdoches, Texas 75961
Nacogdoches County, Texas
Sheet 1 of 1

Appendix B
WAM Modeling and No Injury Analysis

Modifications to the Neches River WAM

The analyses in this water right application are based on the October 2012 version of the Neches River WAM, full authorization scenario and including Senate Bill 3 instream flow requirements, using the August 2013 version of WRAP-SIM. (WRAP-SIM is the computer program used to run the WAM.).

Base WAM Changes

```
** FNI Change - Changed to match the pattern in the permit
UCUT5585     492     666     922     655     553     238
UC           184     184     179     184     179     307
**UCUT5585   0.101   0.152   0.190   0.139   0.114   0.051
**UC         0.038   0.038   0.038   0.038   0.038   0.063


**  Sub modeled right - Lake Palestine
**   FNI change - add non-subordination rights to first simulation
WR3254N1  196000    UMUN19560430   1   1                                    3254M1   A3254
WSPALEST  410000
PX     3
**
WR3254N1   16400    UMUN19690915   1                                        3254M3    3254  3254ls
WSPALEST  411840
PX     3
**PX     2              1  4411N2
**
WR3254N1     400    UMUN19700914   1                                        3254A3    3254  3254ls
WSPALEST  411840
PX     3
**PX     2              1  4411N2
**
IF3254N2       0   IFCON19670309                        IFUNRMWD
TO     2             ADD                 3254N2                          CONT
TO     2             SUB      0.    302.  3254N1
**
WR3254N2       0        19670309                                  FILLDIVDAM1    3254
WSUNRMDW     119  1.3676   0.615
PX     3
**PX     2              1  4411N2
WR3254N2   18000    UMUN19830425   1                                        3254M5    3254  3254dd
WSUNRMDW     119  1.3673   0.615       0
WSPALEST  411840
OR3254N1  411840       1       1
PX     3
**PX     2              1  4411N2
**
WR3254N2    7310    UMUN19841001   1                                        3254M7    3254  3254dd
WSUNRMDW     119  1.3673   0.615       0
WSPALEST  411840
OR3254N1  411840       1       1
PX     3
**PX     2              1  4411N2
**
**  FNI change - Putting in at same priority date as BU from Steinhagen.  This minimizes picking up
extra available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR3254N2       0        20091129                                 3254divDamSub    3254
WSUNRMDW     119  1.3676   0.615
BU                            3254dd
PX     2              2  4411N2
**
WR3254N1               20091129   1                               3254PalSub    3254
WSPALEST  411840
BU                            3254ls
PX     2              2  4411N2
```

```
**  Lake Columbia
**   FNI change -  Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4537A   53307    UMUN19851122   1                                        4537M1    4537   4537s
WSCOLUMB  195500
PX     3
**PX     2              1  4411A1
**
WR 4537A    2200    UMUN19851122   1                                        4537M2    4537   4537s
WSCOLUMB  195500
PX     3
**PX     2              1  4411A1
**
WR 4537A   30000    UIND19851122   1                                        4537I1    4537   4537s
WSCOLUMB  195500
PX     3
**PX     2              1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4537A               20091129   1                                      4537sub    4537
WSCOLUMB  195500
BU                                4537s
PX     2              2  4411A1


**  Lake Striker
**   FNI change -  Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4847A    5000    UIND19551205   1                                        4847I1    4847
WSSTRIKR   26500
PX     3
**
WR 4847A       0    UIND19560430   1                                        4847I2    4847
WSSTRIKR   26960
PX     3
**
WR 4847A    5600    UIND19680205   1                                        4847I3    4847
**WR 4847A    5600    UIND19680205   2                                        4847I3    4847
WSSTRIKR   26960
PX     3
**PX     2              1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4847A               20091129   1                                      4847sub    4847
WSSTRIKR   26960
BU                       4847I3
PX     2              2  4411A1
**


**  Lk Nacogdoches
**   FNI change -  Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4864A   22000    UMUN19700105   1                                        4864M1    4864
WS  NACH   41000
PX     3
**PX     2              1  4411A1
**
WR 4864A       0     REC19770627   1                                        4864R1    4864
WS  NACH   42318
PX     3
**PX     2              1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4864A       0        20091129   1                                      4864sub    4864
```

```
WS  NACH    42318
BU                          4864M1
PX     2                2  4411A1
**


**   TPWD wetlands
**  FNI change - added group identifier
**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
WR555541        0  WTFILL19960709   1                                          5555O1     5555
WSWETLAN      168
SO            168      168  5555A1
**
IF5555A1     6460  TPWDIF20041103       1                IF5555A2
**
WR5555A1    10000         20041103   1                                          555502     5555
PX     3
**PX     2                1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR5555A1                 20091129   1                                          5555sub    5555
BU                          555502
PX     2                2  4411A1
**


** FNI Change - Changed to match IF requirment in the permit
**IF 5585A    57196  UT558519970430       1                   5585N1
IF 5585A     4744  UT558519970430       1                   5585N1
**
**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 5585A        0     REC19970430   1                                          5585R1     5585
WSNACKNK     9072
**PX     2                1  4411A1
PX     3
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 5585A        0     REC20091129   1                                          5585R2     5585
WSNACKNK     9072
PX     2                2  4411A1
**


**  Lake Pinkston
**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
WR 4404A     3800     UMUN19720702   1                                          4404M1     4404
WSPINKST     7380
PX     3
**PX     2                1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**   using option 2 to limit to depletions at subordinated reservoir.
WR 4404A                 20091129   1                                          4404sub    4404
WSPINKST     7380
BU                          4404M1
PX     2                2  4411A1
**


**  FNI change - added group identifier
WR 4409A      500     LMUN19571101   1                                          4409M1     4409


**   FNI change -   Add priority diversion to first simulation, explicity model subordination as a
separate right
```

```
WR 4409A      785    LMUN20000222   1                                        4409M2     4409
WSCARRIZ     2750  1.7193  0.6199       0
PX      3
**PX      2               1  4411A1
**  FNI change - Putting in at same priority date as BU from Rayburn.  This minimizes picking up extra
available flow not accessed because of PX 3 above.
**    using option 2 to limit to depletions at subordinated reservoir.
WR 4409A                20091129   1                                        4409sub    4409
WSCARRIZ     2750  1.7193  0.6199       0
PX      2               2  4411A1
**

**  FNI change - made this group of rights type 2 - no refill until after all subordination done
**    since we combined several to use group identifiers several no longer needed
**    Lake Columbia
**WR4411A1                20091129                                        BURAYBURN1     4411
WR4411A1                20091129   2                                    BURAYBURN1     4411
WSRAYBRN 2898200
BU      0        0         4537sub
**BU      0        0          4537M1
PX      2
**
**WR4411A1                20091129                                        BURAYBURN2     4411
**WSRAYBRN 2898200
**BU      0        0          4537M2
**PX      2
**
**WR4411A1                20091129                                        BURAYBURN3     4411
**WSRAYBRN 2898200
**BU      0        0          4537I1
**PX      2
**    TPWD wetlands
**WR4411A1                20091129                                        BURAYBURN4     4411
WR4411A1                20091129   2                                    BURAYBURN4     4411
WSRAYBRN 2898200
BU      0        0         5555sub
**BU      0        0          555502


**  FNI change - made this group of rights type 2 - no refill until after all subordination done
**    since we combined several to use group identifiers several no longer needed
**    Lake Columbia
**WR4411A1                20091129                                        BURAYBURN1     4411
WR4411A1                20091129   2                                    BURAYBURN1     4411
WSRAYBRN 2898200
BU      0        0         4537sub
**BU      0        0          4537M1
PX      2
**
**WR4411A1                20091129                                        BURAYBURN2     4411
**WSRAYBRN 2898200
**BU      0        0          4537M2
**PX      2
**
**WR4411A1                20091129                                        BURAYBURN3     4411
**WSRAYBRN 2898200
**BU      0        0          4537I1
**PX      2
**    TPWD wetlands
**WR4411A1                20091129                                        BURAYBURN4     4411
WR4411A1                20091129   2                                    BURAYBURN4     4411
WSRAYBRN 2898200
BU      0        0         5555sub
**BU      0        0          555502
PX      2
****STRIKER
**WR4411A1                20091129                                        BURAYBURN5     4411
WR4411A1                20091129   2                                    BURAYBURN5     4411
WSRAYBRN 2898200
```

```
BU     0       0         4847sub
**BU     0       0           4847I3
PX     2
**   Lake Palestine at diversion dam
**WR4411N2                20091129                                    BUSTEINHA6    4411
WR4411N2                 20091129   2                                BUSTEINHA6    4411
WSSTEINH   94250
BU     0       0   3254divDamSub
**BU     0       0           3254M3
PX     2
**   Lake Palestine lakeside
**WR4411N2                20091129                                    BUSTEINHA6    4411
WR4411N2                 20091129   2                                BUSTEINHA7    4411
WSSTEINH   94250
BU     0       0      3254PalSub
**BU     0       0           3254A3
PX     2
**
**WR4411N2                20091129                                    BUSTEINHA8    4411
**WSSTEINH   94250
**BU     0       0           3254M5
**PX     2
**WR4411N2                20091129                                    BUSTEINHA9    4411
**WSSTEINH   94250
**BU     0       0           3254M7
**PX     2
** add municipal beneficiaries of Condition C
**  Lake Nacogdoches
**WR4411A1                20091129                                    BURAYBUR10    4411
WR4411A1                 20091129   2                                BURAYBUR10    4411
WSRAYBRN 2898200
BU     0       0         4864sub
**BU     0       0           4864M1
PX     2
**
**WR4411A1                20091129                                    BURAYBUR11    4411
**WSRAYBRN 2898200
**BU     0       0           4864R1
**PX     2
**  Lake Pinkston
**WR4411A1                20091129                                    BURAYBUR12    4411
WR4411A1                 20091129   2                                BURAYBUR12    4411
WSRAYBRN 2898200
BU     0       0         4404sub
**BU     0       0           4404M1
PX     2
**  San Augustine Carrizo Crk
**WR4411A1                20091129                                    BURAYBUR13    4411
WR4411A1                 20091129   2                                BURAYBUR13    4411
WSRAYBRN 2898200
BU     0       0         4409sub
**BU     0       0           4409M2
PX     2
**  Lake Naconiche
**WR4411A1                20091129                                    BURAYBUR14    4411
WR4411A1                 20091129   2                                BURAYBUR14    4411
WSRAYBRN 2898200
**BU     0       0           5585R1
BU     0       0           5585R2
PX     2
**
WR4411A1                 20091129                                    REFILLRB    4411
WSRAYBRN 2898200
PX     2
**
WR4411N2                 20091129                                    REFILLST    4411
WSSTEINH   94250
PX     2
```

The following records were added to the neches3.dat file to model the proposed diversion from Lake Naconiche.

```
**  FNI change - pattern for new base eflow at lake Naconiche
UC nksub      74      68      74      24      24      24     =      397
UC            15      15      14      22      21      22
UC nkbas     375     341     375     118     122     118     =     1817
UC            54      54      52      70      68      70
**

**  FNI change - add control point for subsistence calculations for Lake Naconiche
**CP 5585A    ATCH                      7
CP 5585A  nksubs                      7
CPnksubs    ATCH                      7           5585A
**

**FNI change dummy CPs for Lake Naconiche
CPfknk02     OUT                      2    NONE    NONE
CPfknk03     OUT                      2    NONE    NONE

** FNI change - fake CPs associated with Lake Naconiche SB3 instream flows
CIfknk02 9999999 9999999 9999999 9999999 9999999 9999999
CI       9999999 9999999 9999999 9999999 9999999 9999999
CIfknk03 9999999 9999999 9999999 9999999 9999999 9999999
CI       9999999 9999999 9999999 9999999 9999999 9999999

** FNI Change - Changed to match IF requirement in the permit
****IF 5585A   57196  UT558519970430       1                  5585N1
**IF 5585A    4744  UT558519970430       1                  5585N1
**  FNI change - add instream flow based on Alto multiplied by DA ratio.  Giving everything a priority
junior to SB3
**    only base flows apply since diversion or storage is less than 10,000
**  Subsistence flow at CP just downstream of reservoir
**   giving it priority date of original certificate.
IFnksubs     397   nksub19970430                        nksubsis
**   Regulated flow - for checking
WRfknk02               19970430                                          nklook    5585
TO     2              ADD                   5585A
**  Holds the monthly target
WRfknk02    1817   nkbas19970430                                    holdnkbase    5585
**  Ratio of target to regulated flow
WRfknk03           nkbas19970430                                       nkOnOff    5585
TO     2             ADD                   5585A                        CONT
TO     6             DIV                                      holdnkbase
**  Flow switch based on ratio calculated above.  Applied if > 1
IF 5585A    1817   nkbas19970430                        nkbase
FS     5  fknk03       1       0       1 9999999   1
**   Original authorization.
WR 5585A       0     REC19970430   1                                   5585R1    5585
WSNACKNK    9072
**PX     2              1  4411A1
**PX     3              2  4411A1
**
** FNI Change - New WR to calculate yield. With subordination, but at a 2016 priority date
WR 5585A    4750    UMUN20160000   1                                   5585FY    5585
WSNACKNK    9072
PX     2              2  4411A1
**  end FNI change

**  FNI change - Lake Naconiche, change to priority date of new right, allow to fill at that date.
**WR4411A1              20091129                                      BURAYBUR14    4411
**WR4411A1              20091129   2                                  BURAYBUR14    4411
WR4411A1              20160000   1                                 BURAYBUR14    4411
WSRAYBRN 2898200
**BU     0       0          5585R1
**BU     0       0          5585R2
```

```
BU      0       0           5585FY
PX      2
```

The following records were added to the neches3.dis file.

```
**  FNI change
FDnksubs     ATCH        0
**
**  FNI change
WPnksubs    28.07       42       46
**
```

No changes were made to the other input files.

The impact analysis for the diversion from Lake Naconiche, modeled as described above, has no impact on water rights in the Neches WAM (Table B-1). Table B-1 shows the *difference* between the FNI Base WAM model run and the modified WAM for all water rights in the October 2012 version of the Neches River WAM. All the values for water rights in the Neches WAM are zero which indicates that there is no change in reliability.

Table B-1: Difference between FNI Base WAM and Lake Naconiche Model

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3306R1				
4411A2	0	0	0	0
4411A3	0	0	0	0
4411A4	0	0	0	0
4411A5	0	0	0	0
4434I1				
4434I1				
4415M1	0	0	0	0
3237M1	0	0	0	0
3274M4	0	0	0	0
4411M5	0	0	0	0
4411M6	0	0	0	0
4411I3	0	0	0	0
4411I4	0	0	0	0
4415M2	0	0	0	0
4415I1	0	0	0	0
4867A1	0	0	0	0
4410I1	0	0	0	0
3233A1	0	0	0	0
4856R1				
4861A1	0	0	0	0
4412I1	0	0	0	0
4866A1	0	0	0	0
3286A1	0	0	0	0
3221A1	0	0	0	0
3221A2	0	0	0	0
3221A3	0	0	0	0
4388R1				
4402M1	0	0	0	0
3274M5	0	0	0	0
4437I1				
4437I1				
4401A1	0	0	0	0
4396A1	0	0	0	0
4857A1	0	0	0	0
4853M1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4853I1	0	0	0	0
3222G1	0	0	0	0
4387A1	0	0	0	0
4843R1				
4427R1				
4433I1				
4433I1				
3277A1	0	0	0	0
4848R1				
4400R1				
4406A1	0	0	0	0
3275A1	0	0	0	0
3222G2	0	0	0	0
3302R1				
3289A1	0	0	0	0
4853E	0	0	0	0
4839A1	0	0	0	0
4841A1	0	0	0	0
3222G3	0	0	0	0
4871R1				
3256M1	0	0	0	0
3256I1	0	0	0	0
4399M1	0	0	0	0
3253A1	0	0	0	0
3274M3	0	0	0	0
3274R1				
3244A1	0	0	0	0
3297A1	0	0	0	0
3296A1	0	0	0	0
3266A1	0	0	0	0
3283A1	0	0	0	0
3284A1	0	0	0	0
3280A1	0	0	0	0
3298A1	0	0	0	0
4858A1	0	0	0	0
4858A2	0	0	0	0
3290A1	0	0	0	0
4847I1	0	0	0	0
4393D2	0	0	0	0
3254M1	0	0	0	0
4847I2				
3285A1	0	0	0	0
4386A1	0	0	0	0
3295A1	0	0	0	0
4382A1	0	0	0	0
4853J				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3299A1	0	0	0	0
4414A1	0	0	0	0
4408R1				
3291A1	0	0	0	0
4393I1	0	0	0	0
3249R1				
4409M1	0	0	0	0
3247A1	0	0	0	0
3236A1	0	0	0	0
3287A1	0	0	0	0
3276A1	0	0	0	0
4438I1				
4438I1				
3226A1	0	0	0	0
3260R1				
3252A1	0	0	0	0
3299A2	0	0	0	0
4859A1	0	0	0	0
4839I1	0	0	0	0
4419R1				
3293A1	0	0	0	0
4860A1	0	0	0	0
4395A1	0	0	0	0
FILL STEINHA				
FILLRAY				
4411M4	0	0	0	0
4411I1	0	0	0	0
4411I2	0	0	0	0
4411A1	0	0	0	0
4411M1	0	0	0	0
4425R1				
4840A1	0	0	0	0
4397A1	0	0	0	0
3292A1	0	0	0	0
3294A1	0	0	0	0
3294A2	0	0	0	0
4869A1	0	0	0	0
4865A1	0	0	0	0
4846A1	0	0	0	0
3251A1	0	0	0	0
4431A1	0	0	0	0
3245A1	0	0	0	0
3235A1	0	0	0	0
4380R1				
4380O1	0	0	0	0
4385R1				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3278A1	0	0	0	0
3288A1	0	0	0	0
4850A1	0	0	0	0
4872A1	0	0	0	0
4873A1	0	0	0	0
4381R1				
4384I1	0	0	0	0
FILLDIVDAM1				
4403A1	0	0	0	0
3223N2	0	0	0	0
3223N1	0	0	0	0
3269A1	0	0	0	0
3279A1	0	0	0	0
3222R1				
4401I1	0	0	0	0
4847I3	0	0	0	0
3282A1	0	0	0	0
4862A1	0	0	0	0
3238O1				
3303A1	0	0	0	0
3300R1				
4418R1				
3254M3	0	0	0	0
4864M1	0	0	0	0
4870R1				
3254A3	0	0	0	0
4392A1	0	0	0	0
4392O1				
4429A1	0	0	0	0
3263R1				
4426A1	0	0	0	0
4851R1				
4424R1				
3257R1				
4855R1				
3242R1				
3232R1				
3227R1				
3243R1				
3228R1				
3272R1				
4404M1	0	0	0	0
3264R1				
3261A1	0	0	0	0
4405R1				
3224A2	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
3273R1				
3255R1				
4413D1	0	0	0	0
4413B3	0	0	0	-0.05
4868R1				
4379R1				
3281R1				
3246R1				
4423R1				
3267R1				
3234R1				
3231G1	0	0	0	0
4417R1				
4430R1				
3230G1	0	0	0	0
3271R1				
4416R1				
3248A1	0	0	0	0
4854R1				
4391R1				
4428R1				
3304R1				
4420R1				
3262R1				
4389R1				
4849I1				
4421R1				
4845R1				
4398R1				
3240R1				
4394R1				
4844R1				
4386R1				
4407R1				
3229R1				
3305R1				
3239R1				
3241R1				
4390R1				
4842R1				
4852R1				
326831				
3258R1				
3265R1				
3270R1				
4425R2				

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4436I1				
4436I1				
3259G1				
4864R1				
3238I1	0	0	0	0
4432A1	0	0	0	0
4383A1	0	0	0	0
3224A1	0	0	0	0
3301A1	0	0	0	0
3237I1	0	0	0	0
3237A1	0	0	0	0
3237A2	0	0	0	0
3250A1	0	0	0	0
4863A1				
4863A2				
4435I1				
4435I1				
4030A1	0	0	0	0
4422R1				
4413A3	0	0	0	0
4118R1				
4115A1	0	0	0	0
4167R1				
4186I1				
4186I1				
3878A1	0	0	0	0
4196I1				
4196I1				
4199R1				
4219M1	0	0	0	0
4219F1	0	0	0	0
4219A1	0	0	0	0
4430A1	0	0	0	0
4269A1	0	0	0	0
4279A1	0	0	0	0
4384I2	0	0	0	0
4384BU	0	0	0	0
4356A1	0	0	0	0
4410I2	0	0	0	0
4410F1	0	0	0	0
3254M5	0	0	0	0
4370R1				
4094I1	0	0	0	0
4094I2				
4448A1	0	0	0	0
3254M7	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
4501R1				
4540R1				
4543A1	0	0	0	0
4596A1	0	0	0	0
4595R1				
4609R1				
5013R1				
5015R1				
5027I1	0	0	0	0
4537M1	0	0	0	0
4537M2	0	0	0	0
4537I1	0	0	0	0
5041I1				
5091I1				
5091I1				
5087R1				
5134A1	0	0	0	0
5175M1				
5181R1				
5184O1				
5185M1				
5206I1				
5206I1				
5213I1				
5213I1				
5222R1				
5228A2	0	0	0	0
5232I1	0	0	0	0
5314I1	0	0	0	0
5351R1				
3224A3	0	0	0	0
5389A1	0	0	0	0
5415M1				
5484A1	0	0	0	0
5486A1	0	0	0	0
5508A1	0	0	0	0
5508A2	0	0	0	0
5508O1	0	0	0	0
5555O1				
5583R1				
5585R1				
561331				
5629A1	0	0	0	0
5669N1				
4409M2	0	0	0	0
5228D1	0	0	0	0

NAME	Difference in Target Diversion (Ac-Ft/Yr)	Difference in Mean Shortage (Ac-Ft/Yr)	Difference in Reliability Period (%)	Difference in Reliability Volume (%)
P_5757				
4413B3				
472436				
472435				
555502	0	0	0	0

Appendix C
Water Right Permit 5585

THE STATE OF TEXAS
COUNTY OF TRAVIS
I hereby certify that this is a true and correct copy of a Texas Natural Resource Conservation Commission document, which is filed in the permanent records of the Commission.
Given under my hand and the seal of office on JUL 03 1998
Eugenia K. Brumm, Chief Clerk
Texas Natural Resource Conservation Commission

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

COPY

PERMIT TO APPROPRIATE AND USE STATE WATER

APPLICATION NO. 5585		*PERMIT NO. 5585*	*TYPE: Section 11.121*
Name:	*County of Nacogdoches*	*Address:*	*101 West Main Street Nacogdoches, Texas 75961*
Filed:	*April 30, 1997*	*County:*	*Nacogdoches*
Purposes:	*Flood Control and Recreation*	*Watershed:*	*Neches River Basin*
Watercourse:	*Naconiche Creek, tributary of Attoyac Bayou, tributary of the Angelina River, tributary of the Neches River*		

WHEREAS, the County of Nacogdoches has requested authorization to construct and maintain a dam on Naconiche Creek creating a reservoir to be used for flood control and in-place recreation purposes in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas; and

WHEREAS, the dam will be constructed by the Natural Resource Conservation Service (NRCS) and is referred to as Multi-Purpose Structure No. 23-A; and

WHEREAS, the Texas Natural Resource Conservation Commission finds that it has jurisdiction over the application; and

WHEREAS, the Executive Director has determined that although there may be some anticipated temperature differences in Naconiche Creek resulting from the construction of the proposed reservoir, these differences will probably be dissipated downstream due to springflow, seepage and vegetative cover; and

WHEREAS, the Executive Director has determined and recommended that in order to protect habitat and water quality at the reservoir site and downstream of the dam, certain special conditions be included in the permit; and

WHEREAS, the Stephen F. Austin School of Forestry has agreed to manage and monitor a wetland area around the perimeter of the reservoir in accordance with a "Final Monitoring Plan" dated May 14, 1998 that states it is intended and predicted to result in the conversion of 176 acres of land owned by the permittee to hydric soil condition due to increased saturation, thereby allowing more than 50% of the dominant vegetation of the area to propagate into obligate wetland, facultative wetland or facultative plants; and

WHEREAS, the Commission has complied with the requirements of the Texas Water Code and Rules of the Texas Natural Resource Conservation Commission in issuing this permit.

NOW, THEREFORE, this permit to appropriate and use State water is issued to the County of Nacogdoches, subject to the following terms and conditions:

1. *IMPOUNDMENT*

Permittee is authorized to construct and maintain a dam creating a reservoir in Nacogdoches County approximately 13 miles northeast of Nacogdoches, Texas, on Naconiche Creek and to impound therein not to exceed 9072 acre-feet of water at a normal maximum operating elevation of 348.0 feet above mean sea level. The dam will be in the William C. Walker Survey, Abstract No. 596 and the Maria D. Castro Survey, Abstract No. 133 and Station 0+00 on the centerline of the dam at Latitude 31.7708° N and Longitude 94.5694° W, which is also N 27° W, 2650 feet from the southwest corner of the aforesaid Castro survey.

2. *USE*

Permittee is authorized to use the lake only for flood control and in-place recreational purposes with no diversion right.

3. *TIME LIMITATIONS*

a. *Construction of the dam herein authorized shall be commenced within two years and completed within five years from date of issuance of this permit. For the purposes of this permit, commencement of construction includes site preparation.*

b. *Failure to commence and/or complete construction of the dam within the period stated above shall cause this permit to expire and become null and void, unless permittee applies for an extension of time to commence and/or complete construction prior to the respective deadlines for commencement and completion, and the application is subsequently granted.*

4. *SPECIAL CONDITIONS*

a. *Permittee is responsible for the continuing maintenance and repair of the dam authorized herein.*

b. *Permittee shall pass inflows of State water past the reservoir in such quantities as are necessary to satisfy the rights of downstream domestic and livestock users and the senior and superior rights of other authorized water users.*

c. *In order to compensate for impacts to wetlands due to the construction of the aforesaid reservoir, permittee shall:*

i. *implement the mitigation plan developed and described in NRCS' draft and final "Supplemental Environmental Impact Statement for Attoyac Bayou Watershed in Nacogdoches, Rusk, Shelby and San Augustine Counties, Texas", which includes the purchase and preservation of an 852-acre tract of land (bottomland hardwoods) in the Angelina River Bottom;*

ii. *implement the May 14, 1998 "Final Monitoring Plan" for the "Lake Naconiche Created Wetlands" prepared by the permittee and the Stephen F. Austin School of Forestry, which includes monitoring and annual reporting to the Executive Director of the vegetation, soils and hydrology of approximately 176 acres of land owned by permittee around the perimeter of the proposed reservoir;*

iii. *achieve the Minimum Success Criteria" included on Page 4 of the referenced "Final Monitoring Plan" for the 176 acres of land around the perimeter of the reservoir within ten years after initial filling of the proposed reservoir and provide a report to the Executive Director documenting this achievement; and*

iv. *manage the lands included in the mitigation plan and in the monitoring plan in perpetuity, either by permittee or by its designee, so as to insure that these lands have no use inconsistent with the preservation of wetlands and wildlife habitat.*

d. *To provide for instream habitats and to retain some natural hydrologic patterns of Naconiche Creek during the months of July through November all inflows into the reservoir up to 3 cubic feet per second (cfs) must be passed through the reservoir. During all other months, all inflows into the reservoir up to the following amounts must be passed through the reservoir:*

December.....5 cfs	*March.....15 cfs*	*June....4 cfs*
January.....8 cfs	*April.....11 cfs*	
February.....12 cfs	*May.....9 cfs*	

This permit is issued subject to all superior and senior water rights in the Neches River Basin.

Permittee agrees to be bound by the terms, conditions and provisions contained herein and such agreement is a condition precedent to the granting of this permit.

All other matters requested in the application which are not specifically granted by this permit are denied.

This permit is issued subject to the Rules of the Texas Natural Resource Conservation Commission and to the right of continuing supervision of State water resources exercised by the Commission.

TEXAS NATURAL RESOURCE CONSERVATION COMMISSION

Issue Date: JUL 03 1998

For the Commission

Attachment B

Modeling Files WAM Analysis

Nacogdoches County
Application to Amend Permit 5585
Response to RFI dated 10/13/2016

Attachment B
November 14, 2016