

**RESOLUTION TO ADOPT PROPOSED DESIRED FUTURE CONDITIONS
FOR AQUIFERS IN GROUNDWATER MANAGEMENT AREA 11**

THE STATE OF TEXAS	§
	§
GROUNDWATER MANAGEMENT AREA 11	§
	§
GROUNDWATER CONSERVATION DISTRICTS	§

WHEREAS, Texas Water Code § 36.108 requires the groundwater conservation districts located in whole or in part in a groundwater management area (“GMA”) designated by the Texas Water Development Board to adopt proposed desired future conditions for the relevant aquifers located within the management area;

WHEREAS, the groundwater conservation districts located wholly or partially within Groundwater Management Area 11 (“GMA 11”), as designated by the Texas Water Development Board, as of the date of this resolution are as follows: Neches & Trinity Valleys Groundwater Conservation District, Panola County Groundwater Conservation District, Pineywoods Groundwater Conservation District, Rusk County Groundwater Conservation District (collectively hereinafter “the GMA 11 Districts”);

WHEREAS, the GMA 11 Districts are each governmental agencies and bodies politic and corporate operating under Chapter 36, Water Code;

WHEREAS, the GMA 11 Districts desire to fulfill the requirements of Texas Water Code §36.108 through mutual cooperation and joint planning efforts;

WHEREAS, the GMA 11 Districts have had numerous public meetings, including stakeholder meetings for the specific purpose of receiving comments and input from stakeholders within GMA 11, and they have engaged in joint planning efforts to promote comprehensive management of the aquifers located in whole or in part in Groundwater Management Area 11;

WHEREAS, GMA 11 held meetings on February 25, 2015; March 26, 2015; April 8, 2015; May 4, 2015; July 15, 2015; September 3, 2015; November 4, 2015; January 19, 2016; March 22, 2016; and April 28, 2016, in compliance with its statutory duty to publically consider the desired future conditions considerations listed in § 36.108(d);

WHEREAS, the GMA 11 Districts have considered the following factors, listed in §36.108(d), in establishing the proposed desired future conditions for the aquifer(s), set forth under Appendix B:

- (1) groundwater availability models and other data or information for the management area;
- (2) aquifer uses or conditions within the management area, including conditions that differ substantially from one geographic area to another;

- (3) the water supply needs and water management strategies included in the state water plan;
- (4) hydrological conditions, including for each aquifer in the management area the total estimated recoverable storage as provided by the Texas Water Development Board Executive Administrator and the average annual recharge, inflows, and discharge;
- (5) other environmental impacts, including impacts on spring flow and other interactions between groundwater and surface water;
- (6) the impact of subsidence;
- (7) socioeconomic impacts reasonably expected to occur;
- (8) the impact on the interests and rights in private property, including ownership and the rights of management area landowners and their lessees and assigns in groundwater as recognized under Texas Water Code §36.002;
- (9) the feasibility of achieving the desired future conditions; and
- (10) any other information relevant to the specific desired future conditions;

WHEREAS, the proposed desired future conditions provide a balance between the highest practicable level of groundwater production and the conservation, preservation, protection, recharging, and prevention of waste of groundwater in the management area;

WHEREAS, after considering the factors listed in 36.108(d), Texas Water Code, the GMA 11 Districts may establish different desired future conditions for: (1) each aquifer, subdivision of an aquifer, or geologic strata located in whole or in part within the boundaries of GMA 11; or (2) each geographic area overlying an aquifer in whole or in part or subdivision of an aquifer within the boundaries of GMA 11;

WHEREAS, the GMA 11 Districts recognize that GMA 11 includes a geographically and hydrologically diverse area with a variety of land uses and a diverse mix of water users;

WHEREAS, at least two-thirds of the GMA 11 Districts had a voting representative in attendance at the April 28, 2016, meeting in accordance with Section 36.108, Texas Water Code; and the following districts had a voting representative in attendance at the meeting: Neches & Trinity Valleys Groundwater Conservation District, Panola County Groundwater Conservation District, Pineywoods Groundwater Conservation District, Rusk County Groundwater Conservation District, and;

WHEREAS, it is the intent and purpose of the GMA 11 Districts, by adoption of this resolution, to meet the requirements of Texas Water Code §36.108, and establish proposed “desired future conditions for the relevant aquifers” within GMA 11 for the specific aquifer(s) and desired future conditions described under “Appendix B,” attached hereto and incorporated herein for all purposes;

WHEREAS, at the April 28, 2016, meeting, after a motion was duly made and seconded, the GMA 11 Districts adopt this resolution establishing desired future conditions for the aquifer(s) described under "Appendix B", the motion prevailed by the following vote:

NOW, THEREFORE, BE IT RESOLVED BY THE AUTHORIZED VOTING REPRESENTATIVES OF THE GMA 11 DISTRICTS AS FOLLOWS:

1. The above recitals are true and correct.
2. The authorized voting representatives of the GMA 11 Districts hereby establish the proposed desired future conditions of the aquifer(s) as set forth in Appendix B by the vote reflected in the above recitals.
3. The GMA 11 Districts and their agents and representatives, individually and collectively, are further authorized to take any and all actions necessary to implement this resolution.
4. The proposed desired future conditions of the aquifer(s) adopted by the GMA 11 Districts and attached hereto shall be sent to the GMA 11 Districts to commence the public comment and hearing period required by Section 36.108(d-2), Texas Water Code.

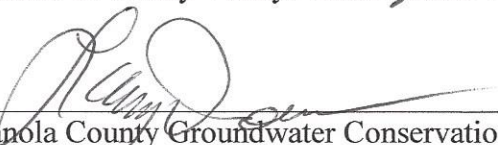
AND IT IS SO ORDERED.

PASSED AND ADOPTED on this 28th day of April, 2016.

ATTEST:



Neches & Trinity Valleys Groundwater Conservation District



Panola County Groundwater Conservation District



Pineywoods Groundwater Conservation District



Rusk County Groundwater Conservation District

ATTACHMENTS

- Appendix A: Copies of notices of April 28, 2016, meeting
- Appendix B: Proposed Desired Future Conditions

Appendix A
April 28, 2016 Meeting Notices

NOTICE OF A MEETING FOR THE GROUNDWATER MANAGEMENT AREA 11

Notice is hereby given that the groundwater conservation districts (GCD) located wholly or partially within the **Groundwater Management Area 11** (GMA-11) as designated by the Texas Water Development Board (TWDB) consisting of:

FILED FOR RECORD
at 8:40 o'clock A M.

Neches and Trinity Valleys Groundwater Conservation District (NTVGCD),
Panola County Groundwater Conservation District (PCGCD),
Pineywoods Groundwater Conservation District (PGCD), and
Rusk County Groundwater Conservation District (RCGCD);

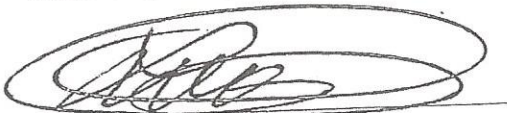
APR 15 2016

MARK STAPLES
County Clerk, Anderson County Texas
By SW Deputy

Will hold a **Joint Planning Meeting at 10:00 a.m. on Thursday, April 28, 2016** in room 119 (Commissioners Room) in Nacogdoches City Hall at 202 E. Pilar, Nacogdoches, TX, for the following purpose:

1. Call meeting to order and establish a quorum.
2. Public comments.¹
3. Discussion and possible action to approve the minutes of the January 19, 2016 meeting.
4. Discussion and possible action to approve the minutes of the March 22, 2016 meeting.
5. Discussion and possible action on GMA-11 technical memorandum on non-relevant aquifers.
6. Discussion and possible action on the preliminary explanatory report.
7. Review and possible action on consultant deliverable and invoice for DFC consultant work.
8. Discussion and possible action regarding adoption of proposal for Desired Future Conditions for all relevant aquifers in GMA-11 and accompanying resolution.
9. Review and possible action for the interlocal agreement amendment.
10. Report from the GMA-11 representatives for the Region I and Region D regional water planning groups.
11. Discussion of possible agenda items for the next GMA-11 meeting.
12. Set date, time, and place of next meeting.
13. Adjourn meeting.

Dated and posted prior to 5:00 PM on or before the 15th day of April, 2016.



Leah Adams, GMA-11 Contact
Panola County Groundwater Conservation District

This meeting is available to all persons regardless of disability. If you require special assistance to attend or participate in the meeting, please contact the Panola County GCD at (903) 690-0143 at least 24 hours in advance of the meeting.

PUBLIC COMMENTS: Citizens who desire to address GMA-11 on any matter may sign up to do so prior to this meeting. Public comments will be received during this portion of the meeting. Please limit comments to 3 (three) minute. No discussion or final action will be taken by GMA-11.

Questions, Requests for Information and Comments Submission: Citizens who wish to ask questions, to request additional information, or to submit comments may do so by submitting such information to the following person:

Leah Adams, Panola County GCD, 419 W. Sabine Street, Carthage, Texas 75633
(903) 690-0143 / ladams@pcgcd.org

NOTICE OF A MEETING FOR THE GROUNDWATER MANAGEMENT AREA 11

FILED
APR 14 2016
9 O'CLOCK A.M.

Notice is hereby given that the groundwater conservation districts (GCD) located wholly or partially within the **Groundwater Management Area 11** (GMA-11) as designated by the Texas Water Development Board (TWDB) consisting of:

APR 14 2016
AMY FINCHER
County Clerk, County Court at Law
Angelina County, Texas
By TW

Neches and Trinity Valleys Groundwater Conservation District (NTVGCD),
Panola County Groundwater Conservation District (PCGCD),
Pineywoods Groundwater Conservation District (PGCD), and
Rusk County Groundwater Conservation District (RCGCD);

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13. Adjourn meeting.

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Leah Adams, GMA-11 Contact
Panola County Groundwater Conservation District

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(903) 690-0143 / ladams@pcgcd.org



6012

NOTICE OF A MEETING FOR THE GROUNDWATER MANAGEMENT AREA 11

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12. Set date, time, and place of next meeting.
13. Adjourn meeting.

Dated and posted prior to 5:00 PM on or before the 15th day of April, 2016.

Leah Adams, GMA-11 Contact
Panola County Groundwater Conservation District

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(903) 690-0143 / ladams@pcgcd.org

FILED
 FOR RECORD
 2016 APR 15 AM 9:14
 LAVERNE LUSK COUNTY CLERK
 CHEROKEE COUNTY, TEXAS
 DEPUTY

NOTICE OF A MEETING FOR THE
GROUNDWATER MANAGEMENT AREA 11

FILED FOR RECORD
2016 APR 15 AM 9:18

Notice is hereby given that the groundwater conservation districts (GCD) located wholly or partially within the Groundwater Management Area 11 (GMA-11) as designated by the Texas Water Development Board (TWDB) consisting of:

Neches and Trinity Valleys Groundwater Conservation District (NTVGCD),
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Leah Adams, GMA-11 Contact
Panola County Groundwater Conservation District

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Leah Adams, GMA-11 Contact
Panola County Groundwater Conservation District

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Leah Adams, Panola County GCD, 419 W. Sabine Street, Carthage, Texas 75633
(903) 690-0143 / ladams@pcgcd.org

FILED
NACOGDOCHES COUNTY
TEXAS
2016 APR 14 AM 9:59

NOTICE OF A MEETING FOR THE GROUNDWATER MANAGEMENT AREA 11

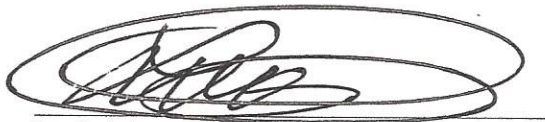
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13. Adjourn meeting.


Dated and posted prior to 5:00 PM on or before the 15th day of April, 2016.



Leah Adams, GMA-11 Contact
Panola County Groundwater Conservation District

FILED FOR RECORD
IN MY OFFICE
AT 9:35 O'CLOCK a M

APR 14 2016

BOBBIE DAVIS
COUNTY CLERK, PANOLA COUNTY, TEXAS
BY  DEPUTY

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Dated and posted prior to 5:00 PM on or before the 15th day of April, 2016.



Leah Adams, GMA-11 Contact
Panola County Groundwater Conservation District

FILED FOR RECORD

Apr 14, 2016 01:34P

TRUDY MCGILL, COUNTY CLERK
RUSK COUNTY, TEXAS

BY: Renda Rowe, DEPUTY

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Leah Adams, Panola County GCD, 419 W. Sabine Street, Carthage, Texas 75633
(903) 690-0143 / ladams@pcgcd.org

Leah Adams

From: Texas Register <TexReg@sos.texas.gov>
Sent: Thursday, April 14, 2016 3:36 PM
To: ladams@pcgcd.org
Subject: S.O.S. Acknowledgment of Receipt

Acknowledgment of Receipt

Agency: Groundwater Management Area 11

Liaison: Leah Adams

The Office of the Secretary of State has posted
notice of the following meeting:

Board: Groundwater Management Area 11

Committee:

Date: 04/28/2016 10:00 AM "TRD# 2016002496"

Notice posted: 04/14/16 03:36 PM

Proofread your current open meeting notice at:

[http://texreg.sos.state.tx.us/public/pub_om_lookup\\$.startup?Z_TRD=2016002496](http://texreg.sos.state.tx.us/public/pub_om_lookup$.startup?Z_TRD=2016002496)

Appendix B

Proposed Desired Future Conditions

GMA 11 Technical Memorandum 16-02 (Draft 2), dated March 25, 2016, summarizes the how the results of groundwater availability model simulations were used to developed the proposed desired future conditions for the Sparta, Queen City, and Carrizo-Wilcox aquifers for GMA 11.

Table 5 from GMA 11 Technical Memorandum 16-02 (Draft 2), dated March 25, 2016 lists the proposed desired future conditions, and is presented below. As described in the technical memorandum, the proposed desired future conditions are average drawdowns (in feet) from year 2000 conditions to 2070 conditions were largely based on GAM Scenario 4. Based on an analysis of model output and model limitations, the output from the model was modified to develop the proposed desired future conditions as follows:

- Layers 2 and 4 (the confining units) were eliminated, and Table 5 includes only aquifer units. Areas that have no active cells are designated as NP (for not present).
- Layers 5, 6, 7, and 8 are combined, and a single drawdown value for the Carrizo-Wilcox Aquifer are listed
- All areas that are less than 200 square miles are eliminated (noted as NRS, or not relevant for purposes of joint planning due to size of area).
- Areas with negative drawdown that are greater than 200 square miles have had the negative drawdown cells eliminated from the average drawdown calculation, effectively assuming that those cells have a zero drawdown, and that the negative drawdown areas are a result of model limitations, as discussed (designated in yellow).
- The desired future condition in Panola County for the Carrizo-Wilcox Aquifer is listed as 3 feet. The actual average using all data from the model is 2 feet. If the areas with negative drawdown are assumed to be zero, the revised average is 4 feet. As presented at the March 22, 2016 GMA 11 meeting, Mr. Wade Oliver (representing the Panola County GCD) evaluated the average drawdown under Scenario 4 using an alternative analytical modeling approach and concluded that the drawdown was 3 feet. Thus, Mr. Oliver's result is consistent with the midpoint between the two GAM-based drawdown approaches.
- Based on the principle of using the GAM as a joint planning tool and the fact that the GAM predictions contain uncertainty, GMA 11 considered the DFCs to be compatible and physically possible if the difference between modeled drawdown results and the DFC drawdown targets are within a 5 percent range for all aquifers in GMA 11.

**Proposed Desired Future Conditions
Average Drawdown (ft) from 2000 to 2070**

County	Sparta Aquifer	Queen City Aquifer	Carrizo-Wilcox Aquifer
Anderson	NRS	9	90
Angelina	16	NRS	48
Bowie	NP	NP	5
Camp	NP	NRS	33
Cass	NP	10	68
Cherokee	NRS	14	99
Franklin	NP	NP	14
Gregg	NP	NRS	58
Harrison	NP	1	18
Henderson	NP	5	50
Hopkins	NP	NP	3
Houston	3	6	80
Marion	NP	24	45
Morris	NP	NRS	46
Nacogdoches	5	4	29
Panola	NP	NP	3
Rains	NP	NP	1
Rusk	NP	NRS	23
Sabine	1	NP	9
San Augustine	2	NP	7
Shelby	NP	NP	1
Smith	NP	17	119
Titus	NP	NRS	11
Trinity	9	NRS	51
Upshur	NP	9	77
Van Zandt	NP	NRS	21
Wood	NP	5	89
GMA11	4	10	56

Notes: NP = Not present

NRS = Not Relevant due to size (less than 200 square miles)

Yellow Cells represent average drawdown calculations that assume negative drawdown is zero (model artifact and model limitation)

Green Cell represents the recommended DFC for Panola County as described in report