

**Agenda Back-Up
for the
Barton Springs/Edwards Aquifer Conservation District
Board of Directors**

Regular Meeting

**November 8, 2018
6:00 P.M.**

NOTICE OF OPEN MEETING

Notice is given that a **Regular Meeting** of the Board of Directors of the Barton Springs/Edwards Aquifer Conservation District will be held at the **District office**, located at 1124 Regal Row, Austin, Texas, on **Thursday, November 8, 2018**, commencing at **6:00 p.m.** for the following purposes, which may be taken in any order at the discretion of the Board.

Note: The Board of Directors of the Barton Springs/Edwards Aquifer Conservation District reserves the right to meet in Executive Session at any time during the course of this meeting to discuss any of the matters listed on this agenda, as authorized by the Texas Government Code Sections §551.071 (Consultation with Attorney), 551.072 (Deliberations about Real Property), 551.073 (Deliberations about Gifts and Donations), 551.074 (Personnel Matters), 551.076 (Deliberations about Security Devices), 551.087 (Economic Development), 418.183 (Homeland Security). No final action or decision will be made in Executive Session.

1. **Call to Order.**
2. **Citizen Communications (Public Comments of a General Nature).**
3. **Routine Business**
 - a. **Consent Agenda.** *(Note: These items may be considered and approved as one motion. Directors or citizens may request any consent item be removed from the consent agenda, for consideration and possible approval as a separate item of Regular Business on this agenda.)*
 1. Approval of Financial Reports under the Public Funds Investment Act, Directors' Compensation Claims, and Specified Expenditures greater than \$5,000. **Not for public review**
 2. Approval of minutes of the Board's October 11, 2018, Regular Meeting. **Not for public review at this time**
 - b. **General Manager's Report.** *(Note: Topics discussed in the General Manager's Report are intended for general administrative and operational information-transfer purposes. The Directors will not take any action unless the topic is specifically listed elsewhere in this agenda for consideration.)*
 1. **Standing Topics.**
 - i. Personnel matters
 - ii. Upcoming public events of possible interest
 - iii. Aquifer conditions and status of drought indicators
 2. **Special Topics.** *(Note: Individual topics listed below may be discussed by the Board in this meeting, but no action will be taken unless a topic is specifically posted elsewhere in this agenda as an item for possible action. A Director may request an individual topic that is presented only under this agenda item be placed on the posted agenda of some future meeting for Board discussion and possible action.)*

- i. Review of Status Report Update – at directors’ discretion. **Pg. 14**
- ii. Update on certain projects and activities of individual teams.
- iii. Update on activities related to the Travis County ILA.
- iv. Update on Board committee activity.
- v. Update on various development activity over aquifer recharge and contributing zones. **Pg. 18**
- vi. Update on activities related to area roadway projects.
- vii. Update on GMA and regional water planning.
- viii. Update on Electro Purification LLC SOAH proceedings.

4. Presentations.

- a. Presentation on the science behind NOAA Atlas 14 – the precipitation frequency values for the U.S. - by Texas State Climatologist, Dr. John Neilson-Gammon. **Pg. 22**
- b. Presentation on the concepts behind a sustainable yield study for the Trinity Aquifers by Dr. Brian Smith. **Pg. 26**

5. Discussion and Possible Action.

- a. Discussion and possible action related to the Status Report Update and Weekly Highlights reports to the Board. **NBU**

6. Directors’ Reports.

Directors may report on their involvement in activities and dialogue that are of likely interest to the Board, in one or more of the following topical areas:

- Meetings and conferences attended or that will be attended;
- Board committee updates;
- Conversations with public officials, permittees, stakeholders, and other constituents;
- Commendations; and
- Issues or problems of concern.

7. Adjournment.

Please note: This agenda and available related documentation, if any, have been posted on the District website, www.bseacd.org. If you have a special interest in a particular item on this agenda and would like any additional documentation that may be developed for Board consideration, please let staff know at least 24 hours in advance of the Board Meeting so that we can have those copies made for you.

The Barton Springs/Edwards Aquifer Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the District office at 512-282-8441 at least 24 hours in advance if accommodation is needed.

Item 1

Call to Order

Item 2

Citizen Communications

Item 3

Routine Business

a. Consent Agenda

(Note: These items may be considered and approved as one motion. Directors or citizens may request any consent item be removed from the consent agenda, for consideration and possible approval as a separate item of Regular Business on this agenda.)

- 1. Approval of Financial Reports under the Public Funds Investment Act, Directors' Compensation Claims, and Specified Expenditures greater than \$5,000.**
- 2. Approval of minutes of the Board's October 11, 2018, Regular Meeting.**

Item 3

Routine Business

- b. General Manager's Report.** *(Note: Topics discussed in the General Manager's Report are intended for general administrative and operational information-transfer purposes. The Directors will not take any action unless the topic is specifically listed elsewhere in this agenda.)*

1. Standing Topics.

- i. Personnel matters and utilization**
- ii. Upcoming public events of possible interest**
- iii. Aquifer conditions and status of drought indicators**

- 2. Special Topics.** *(Note: Individual topics listed below may be discussed by the Board in this meeting, but no action will be taken unless a topic is specifically posted elsewhere in this agenda as an item for possible action. A Director may request an individual topic that is presented only under this agenda item be placed on the posted agenda of some future meeting for Board discussion and possible action.)*

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- viii. Update on Electro Purification LLC SOAH proceedings.**

STATUS REPORT UPDATE FOR NOVEMBER 8, 2018 BOARD MEETING

Prepared by District Team Leaders

	Leader, Staff	Date	PROJECT / ACTIVITY DESCRIPTION	STATUS/COMMENTS
GENERAL MANAGEMENT TEAM				
	Alicia Reinhard-Martinez			
	ARM	11/2/2018	Meetings, Training, Presentations, and Conferences	External Meetings Attended: Groundwater Panel meeting at TWCA Fall Conference, GMA 10 and GMA 9 meetings, EIP hearing prokstantas meetings including Hays County Commissioner, and Needmore permit applicant meeting, including a tour of the property, LBJ Wildflower Center Focus Group meeting. Other meetings: EIP scheduling meeting. Teleconference calls: Kirk Holland and the COA regarding HCP IIA and with Legislative consultants. Conferences/Seminars: TAGD Leadership Training
Summary of Significant Activities	ARM	11/2/2018	Ongoing Special Projects, Committees, and Workgroups	Ongoing Special Projects: Continue conversations on HCP Year one implementation and will HTGCD on collaborating on monitoring wells in Hays County, planning meeting with District's auditor, Discussions with COA and TXDOT on Oak Hill Parkway project, research on Permian Highway Pipeline project and Team Retreat.
	ARM	11/2/2018	Routine Activities and Day-to-Day operations	Routine Activities/Day-to-Day Operations: provided general oversight of staff activities and oversight of day-to-day operations; approved admin documents; prepared agendas and backup for Board meeting; prepared GM report and assigned tasks; held two Planning team meetings; served as liaison between Board and staff; Consultation with Attorney on: EIP and Needmore permit application, November 8 meeting agenda. Other Activities: Consultation with Benefits and HR coordinator.
ADMINISTRATION TEAM				
	Dana Christine Wilson			
Accounts Receivable - A	DCW	11/2/2018	Permittee accounts carrying a past due balance:	Los Lomas HOA: 2nd late fee assessed on past due for a total of \$104.14; Manchaeca Optimist Youth: owes late fee of \$76.94 which they fight paying every year. Last year we removed it, so this year they need to pay it; Bueck's Backyard: 2nd late fee assessment with total due of \$264 UPDATE: - not receiving mail since August due to construction;
Accounts Receivable - B	DCW	11/2/2018	November monthly billings.	15 monthly invoices for \$29,147.05 mailed out on October 16, 2018 (due on Nov 5th and late on Nov 16th). December monthly and 2nd quarter billings to be mailed out on November 16th (due on Dec 5th and late on Dec 16th).
Annual Report / Appendix B of the District Management Plan	DCW	11/2/2018	Currently preparing the annual report with Appendix B which has a new format.	This includes compiling appendix B for the annual report which references the management plan. We are also incorporating the HCP into the reporting in these two documents.
Audit Specific - MD&A	DCW	11/2/2018	Preparing the Management Discussion and Analysis, a required component of the audit report.	The MD&A is a very important part of the audit report. It provides an overview of the previous year of operations, contains useful information, and touches on the upcoming year and future projects.
Audit Specific - Montemayor	DCW	11/2/2018	Currently preparing for the annual financial audit which includes closing the books for FY 2018, among many other tasks.	Audit scheduled to begin in late November.
Conservation Credits Analysis, and Overpumpage	SD/DCW	11/2/2018	Analysis completed and was presented to Board at September 27 meeting, where they were approved.	Now we will ask for camp scholarship donations from these permittees of their conservation credits. UPDATE: Current donations received: Slaughter Creek Acres \$86.72; Austin Walter \$8,063.26; Goforth \$700; Texas LeHigh \$258,74 plus an additional \$1,200.
Financial Reporting - Website	DCW	11/2/2018	Most current, available financial reports to be posted.	Balance Sheet, Profit and Loss Statements, and Check Registers through September 2018 have been posted on the District website.
Trust Accounting - Third-party retirement administrator The Standard	DCW	11/2/2018	Annual Trust Accounting in process.	Annual compliance testing and compliance testing date validation with employee census data. Will take 45 days. Will submit completed compliance testing to the State Pension Review Board as required by law.
REGULATORY COMPLIANCE TEAM				
	Vanessa Eschner			

	Leader, Staff	Date	PROJECT / ACTIVITY DESCRIPTION	STATUS/COMMENTS
Electro Purification	KBE, VE, ES	11/1/2018	Production Permit	In mid October the ALJ requested briefs from the parties and she made a decision on party status. A hearing schedule is now being worked out..
Needmore Water LLC	KBE, VE, ES	11/1/2018	Conversion of a Temporary Permit to a Regular Permit	At the 10/11/18 Board Meeting the Board remanded the matter back to SOAH. The ALJ has not yet provided a response on the matter.
ASR Rulemaking	KBE, VE, ES	11/1/2018	Rule Making/Technical Workgroup	Staff will schedule another committee update in mid November to refine a few new concepts.
SH45 SW/Mopac Intersections	KBE, VE, ES	11/1/2018	Consent Decree/Roadway Projects	The District's consultant (Dave Fowler) and staff (VE) performed roadway inspections of both the Mopac Intersections project and the SH-45SW project on 9/28/18. Both projects have been maintaining their stormwater and construction BMPs to a very high standard, and no significant issues occurred during the September storm events.
Database Development	KBE, VE, ES	11/1/2018	Intern Contract - Database Development	Intern and staff are working through several workflow processes so that the backend framework of the database is functioning correctly. The front end design is also being tested and refined.
General Manager Approved Permits	KBE, VE, ES	11/1/2018	Individual Permits < 2,000,000 gallyr	Staff received an application from Hays County for a Trinity well to produce 100,000 gpy for the purpose of fire use and roadway construction. The application is under review.
Drought Stage- Alarm Drought	KBE, VE, ES	11/1/2018	Drought Compliance Monitoring and Enforcement	No Drought was declared on 10/11/18.
EDUCATION & OUTREACH TEAM				
Travis County ILA	RG, I.C, BH, JV, BAS	11/1/18	Neighborhood site visits and geology recon	Travis County ILA: This week staff visited 12 well owners and assessed 15-16 wells and a spring in the Hamilton Pool/Peternales area. Well owners asked about well construction, water level trends, and aquifer dynamics. Several were willing to have their well serve as a monitor site in the future. Water levels ranged from 86' to over 500'. Conductivity was generally high. A few wells were in the 1,000's but the majority were 2,500+ microSiemens/cm. We took 2 water development board sampling suites. There are several sites to revisit to video and potentially log. This program will be ongoing for the next four weeks. www.bsencd.org/TravisCo
Augmented Reality Water Quality Teaching Tool	RG, JV	11/1/18	Remitic macroinvertebrates	Decks are being distributed to staff, Directors, teachers and collaborators. The app is now available through the App store & Google Play. We piloted the game with 225 seventh grade students from Dahlstrom Middle School in conjunction with the Cave Sim trailer. Students did the Project the Recharge Zone group activity and examined differences between the Barton Springs and Austin Blind salamanders using iPads. The decks are available to the public for purchase through the Pixel Profundo website and the store at the Science Mill in Johnson City. Details, demo sheets, and links to download the apps: www.bsencd.org/ar
Cave Sim	RG, JV	11/1/18	Potential collaboration on education trailer	As part of Austin Cave Festival, the Colorado-based company, Cave Sim, brought their educational cave trailer. The trailer has cave passages equipped with sensors on "sensitive features" to teach about caves, habitat, recharge, and cultural heritage. Since Cave Festival, several groups have met to discuss the potential of having an Austin-based version that highlights the Central Texas groundwater resources, cave species, and development challenges. The District sponsored a visit to Dahlstrom Middle School on Tuesday, Oct. 9. Cave Sim clearly made an impact on students that were able to tour. It's a fantastic teaching tool.
SH45 Educational Signs	RG, ES	11/1/18	Collaboration on content for educational signs on mixed use trail along SH45	Robin has been working with HCC, CTRMA, and others to develop content for educational signage along the mixed use trail parallel to SH45. The RMA has been highly receptive to ideas and has expanded the original number of signs planned to include additional information about the recharge zone, groundwater communities, dye-tracing research, importance of land stewardship, low-impact development, and sensitivity of groundwater resources.

	Leader, Staff	Date	PROJECT / ACTIVITY DESCRIPTION	STATUS/COMMENTS
eNews	RG, all staff	11/1/18	October edition	The October edition of the eNews went out on Oct. 16. There continues to be significant increases in new subscribers. Articles included No-drought declaration, Teacher Wish List Winners, Travis Co Neighborhood Well Site visits program, and Rainwater Revival reminders and invitation to attend. https://hseacd.org/publications/newsletters/
Internet Traffic Report	RG, JV	11/1/18	Page views and visits to the District Website	The District website had 3,842 total page views by 2,970 unique sessions—a slight decrease from last month. Top sites in order of number of views are the home page (1,014), Drought Status (302), Maps (161), Travis Co Groundwater Study (152), and Staff (120). The District Facebook page now has 722 (up 6 from last month) 'likes' and responses to posts have been very positive. The most popular FB posts were about Should Well Owners Boil Water (179 views) and Well Components: Water Softeners (111 views).
AQUIFER SCIENCE TEAM				
Dye Tracing	BS, BH, JC	11/2/18	Dye tracing	Technical summaries of the recent Onion Creek (contributing zone) are completed. A technical summary of the dye trace to Jacob's Well Spring is pending.
Central Hays County Groundwater Evaluation	BH, BS, JC	11/2/18	Well and hydrogeology characterization	AS staff have prepared a technical memo stating that there is a potential for unreasonable impacts from pumping of the FP wells at the requested permit amount. Testing of the multipart well in Rolling Oaks is continuing as well as continued work enhancing the monitor well network in the FP area.
Antioch Cave	BS, BH, JC	11/2/18	Onion Creek Recharge Enhancement Project	New equipment to control the Antioch valve were installed in March 2017. A new flow meter was installed in March 2018. The vault functioned as designed during the March 2018 rain event. City of Buena staff visited the Antioch system on November 2.
Water-Quality Studies	BS, BH, JC	11/2/18	Sampling and analysis of groundwater and surface water	District staff have been collecting groundwater samples for several projects including for the TWDB and the Ruby Ranch ASR pilot project.
Saline Zone Studies	BS, BH	11/2/18	Saline Zone report for TWDB grant	Carollo Engineers completed a draft final report for the RFP grant, which was submitted to TWDB on October 31. Aquifer Science staff completed a report of the multipart well testing and sampling that is a part of the RFP grant report. A final stakeholder meeting was held on November 28. The final report was submitted to the TWDB and is available on the RSEACD website. The final report was accepted by TWDB in March.
Drought and Water-Level Monitoring	BH, BS, JC	11/2/18	Drought status, monitor wells, and synoptic water level events	On July 12, the District's Board of Directors declared Stage II Alarm Drought. Owing to a very wet September and October, the Board declared an end to drought on October 11. On 11/2/18, the Lovelady well had a level of 490.4 and is still rising. Flow at Barton Springs was 68 cfs.
Information Transfer	BS, BH, JC	11/2/18	Presentations, conferences, reports, and publications	Aquifer Science staff have completed and submitted for review two draft chapters about the Barton Springs segment for a memoir (book) about the Edwards Aquifer to be published in the Fall of 2018. Two abstracts have been accepted for the annual GSA meeting in Indianapolis that will be held from Nov. 3-7.
Aquifer Testing	BS, BH, JC	11/2/18	Planning, participation, and review of aquifer tests	EP aquifer testing finished in January 2017. District staff received an application and hydrogeologic report from EP. Staff completed a technical review of EP's production application and produced three technical memos.
Travis County ILA	BS, BH, JC, RG, LC, JV	11/2/18	Hydrogeologic Atlas of Western Travis County	Travis County approved the ILA on 7/3/18 to contribute to studies producing databases and publications characterizing the hydrogeology of Western Travis County.
AD HOC TEAMS				
Technical Team	BAS	11/2/18	Current areas of discussion	Topics of discussion at the technical team meeting in October were drought status, water-level monitoring, Travis County studies, and ASR.
Planning Team	ARM	11/2/18	Strategic and tactical planning and discussion topics	Meetings held October 16 and 30, 2018

Leader, Staff	Date	PROJECT / ACTIVITY DESCRIPTION	STATUS/COMMENTS
UPCOMING ITEMS OF INTEREST			
GSA Annual Conference	11/5 - 7/2018	Brian Smith to give presentations	
CMA 9 Meeting	11/5/2018		
TWCA Legislative Subcommittee meeting	11/7/2018		
Veteran's Holiday	11/12/2018	Office Closed	
South Texas Geological Society meeting	11/14/2018	Brian Smith and Brian Hunt to give presentation	
Thanksgiving Holiday	11/22 - 23/2018	Office Closed	
Guadalupe Basin Coalition Texas Hill Country Water Summit	12/5/2018	Alicia to give presentation.	



Permian Highway Pipeline Project Fact Sheet

Project Overview:

- Kinder Morgan Texas Pipeline (KMTP) and EagleClaw Midstream Ventures (EagleClaw) announced a final investment decision to proceed with the Permian Highway Pipeline Project (PHP Project). KMTP and EagleClaw will be the initial partners, each with a 50 percent ownership interest in the project. Apache will have the option to acquire equity from the initial partners and has announced its intent to assign that option to Altus Midstream, a new company announced by Apache and Kayne Anderson Acquisition Corp.
- The approximately \$2 billion PHP Project is designed to transport up to 2.0 billion cubic feet per day of natural gas through approximately 430 miles of 42-inch pipeline from the Waha market area near Cayanosa, Texas, to U.S. Gulf Coast markets. KMTP will build and operate the pipeline.
- A number of federal and state agencies will be involved with the approval and oversight of the PHP Project, including and not limited to the Railroad Commission of Texas, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Texas Historical Commission, Texas Commission on Environmental Quality, Texas General Land Office and Native American tribes as applicable.

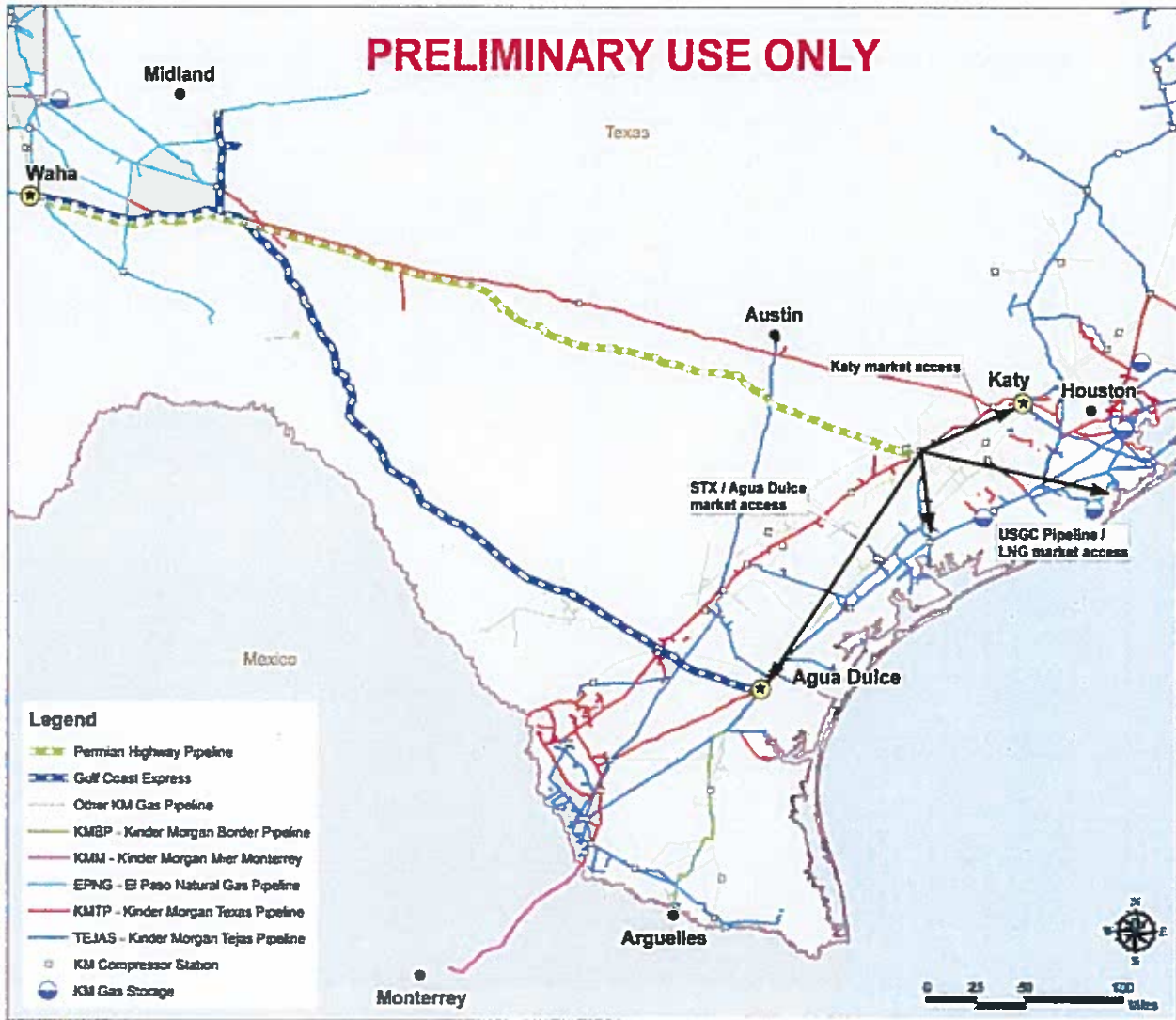
Project Benefits:

- The PHP Project will provide an outlet for increased natural gas production from the Permian Basin to growing market areas along the U.S. Gulf Coast, including new LNG facilities that will be in service in the next few years.
- The PHP Project will generate directly an estimated 2,500 local construction jobs and 18 full-time, ongoing positions following construction and will help continue to accelerate the development and job creation from the booming oil and gas activity throughout Texas.
- When complete, the new facilities constructed as part of the PHP Project will generate approximately \$42 million of increased annual revenue to applicable state and local taxing bodies.

Estimated Project Schedule:

- Stakeholder Outreach: Ongoing
- Civil and Environmental Surveys: September 2018 – June 2019
- Begin Construction: Fall 2019
- Proposed In-Service Date: Fourth Quarter of 2020

PRELIMINARY USE ONLY





"PRELIMINARY USE ONLY"

<p>Site Location</p>	<ul style="list-style-type: none"> — KMT (Texas Pipeline) — TEJAS (KM Tejas Pipeline) - - - Permian Highway Pipeline 	<p>Scale in Miles</p>	<p>KINDER MORGAN</p> <p>Hays County, TX Pipeline Map</p> <p><small>GIS Mapping PERMIAN HIGHWAY PIPELINE will ultimately and ultimately provide and manage complete Pipeline Data. Supporting Networks and Change for the overall pipeline group to help ensure compliance, regulatory and maintenance systems and to help support business operations.</small></p> <p><small>Date: 06/22/16</small></p>
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Item 4

Presentations

- a. Presentation on the science behind NOAA Atlas 14 – the precipitation frequency values for the U.S. - by Texas State Climatologist, Dr. John Neilson-Gammon.**
- b. Presentation on the concepts behind a sustainable yield study for the Trinity Aquifers by Dr. Brian Smith.**



National Oceanic and Atmospheric
Administration
U.S. Department of Commerce

NOAA updates Texas rainfall frequency values

Data is used in infrastructure design and flood risk management

Weather | flooding rain

Audio from the media teleconference is posted to the "resources" section below.

September 27, 2018 —

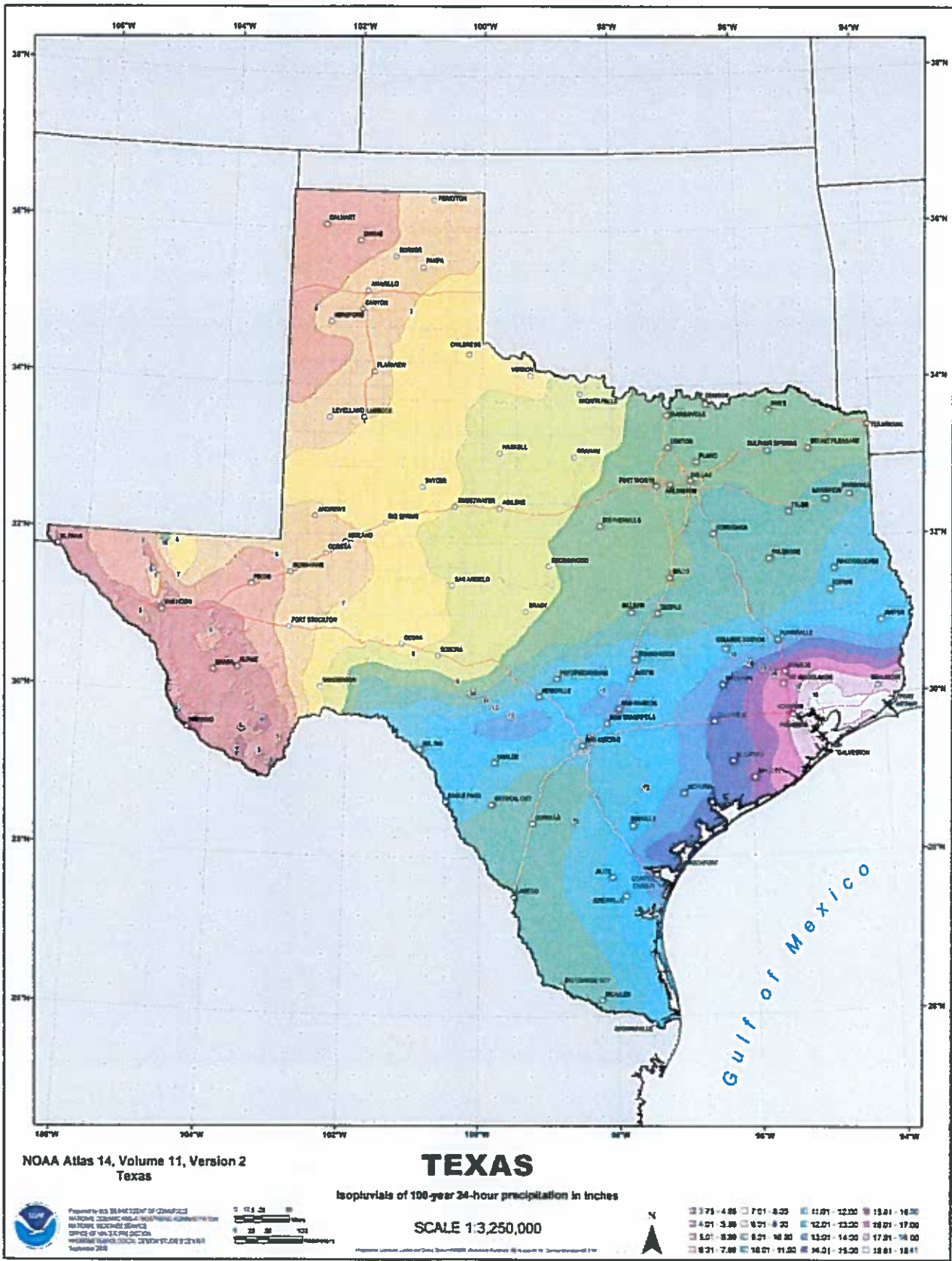


A NOAA analysis released today finds significantly higher rainfall frequency values in parts of Texas, redefining the amount of rainfall it takes to qualify as a 100-year or 1000-year event.

The study, published as NOAA Atlas 14, Volume 11 Precipitation-Frequency Atlas of the United States, Texas, found increased values in parts of Texas, including larger cities such as Austin and Houston, that will result in changes to the rainfall amounts that define 100-year events, which are those that on average occur every 100 years or have a one percent chance of happening in any given year. In Austin, for example, 100-year rainfall amounts for 24 hours increased as much as three inches up to 13 inches. 100-year estimates around Houston increased from 13 inches to 18 inches and values previously classified as 100-year events are now much more frequent 25-year events.

NOAA Atlas 14 rainfall values are used for infrastructure design and planning activities under federal, state and local regulations. They also help delineate flood risks, manage development in floodplains for FEMA's National Flood Insurance Program and are used to monitor precipitation observations and forecasts that can indicate flooding threats by NOAA's National Weather Service.

"NOAA's new rainfall frequency values for Texas will help state and local authorities better understand their flood risk and more accurately plan and design infrastructure to minimize the threat of flooding," said Thomas Graziano, Ph.D., director, NOAA Office of Water Prediction.



Graphic of Texas shows the updated rainfall values in inches that define certain extreme events, such as the 100-year storm. (NOAA)

Current standards used for infrastructure design and floodplain regulations will likely be revised based on the new values. Officials in locations that have seen significant increases are already assessing the potential impacts of adopting the new estimates based on NOAA's preliminary data shared during the study's peer-review process over the past year.

The updated values will supersede those currently available for Texas from the 1960s and 1970s. The new values are more accurate than estimates developed 40 to 50 years ago due to decades of additional rainfall data, an increase in the amount of available data, both in the number of stations and their record lengths, and improved methods used in the analysis.

NOAA's Atlas 14 is a peer-reviewed publication that serves as the official government source of precipitation frequency values for the U.S. The new values can be viewed online or downloaded from NOAA's Hydrometeorological Design Studies Center webpage and cartographic maps at https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_maps.html.

Funding for NOAA Atlas 14 Volume 11 was provided by key stakeholders, including the U.S. Army Corps of Engineers-Fort Worth District, Texas Department of Transportation, Brazos River Authority, Harris County Flood Control District, City of Austin and City of Fort Worth.

Media contact

Maureen O'Leary, 301-427-9000

EVALUATION OF SUSTAINABLE YIELD OF THE TRINITY AQUIFERS

In 2004, a study was concluded by District staff that was conducted to determine the sustainable yield of the Edwards Aquifer. This study led to the promulgation of rules to protect springflow and water levels from excessive lowering during periods of severe drought. A key aspect of the new rules was cessation of issuance of new historical permits and the allowance for permits for conditional use of Edwards groundwater. A similar effort is now being conducted for the Trinity Aquifers of the District. District staff have been studying the Trinity Aquifers for many years, but the efforts were increased in 2003 when we installed monitor wells to investigate the relationships between the Edwards and Trinity Aquifers.

The current Trinity study focusses on the potential for unreasonable impacts from pumping from wells or well fields. A definition for unreasonable impacts is given in District rules. These rules came about following passage of House Bill 3405 in 2015 which brought about annexation of portions of Hays County into the District. The key objectives of this study are to 1) determine potential for unreasonable impacts from localized and regional pumping on water levels, wells, and springflow, 2) evaluate the combined effects of pumping and extreme drought on water levels, wells and springflow, and 3) provide a scientific basis for any rules that would need to be promulgated following the study.

The concepts specified in the District's rules for unreasonable impacts can be summarized as:

- Impacts from specific permit requests
- Impacts from severe drought
- Impacts from increased pumping over a broad area

Some of the hydrogeologic concepts too be evaluated are:

- Hydraulic relationships between Trinity hydrogeologic units, horizontally and vertically
- Influence of faults and other structures on groundwater flow
- Impacts of drought on water levels, spring flow, and stream flow
- Variations in transmissivity and water quality
- Surface and groundwater interactions
- Sources and magnitude of recharge

Much of the work to be conducted can be addressed by the following tasks:

- Water-level monitoring- synoptic measurements over a broad area and continuous water levels in key wells
- Adding more monitor wells to existing network
- Preparation of hydrographs and maps showing history of water-level measurements
- Analytical modeling for localized impacts from pumping

- Numerical modeling
 - TWDB GAM
 - Blanco River model
 - District's Trinity model
- Assessment of exempt and permitting pumping
- Water-quality sampling and analysis
- Rainfall, stream-flow/loss measurements
- Dye-trace studies
- Field mapping
- Geophysical logging

Some of the questions to be considered by the study are:

- Do we need to end historical permitting of the Trinity?
- Do we need a non-Edwards drought trigger for the Trinity?
- Should we set a 50% pumpage reduction for extreme drought?
- Can Jacob's Well and Pleasant Valley Springs be impacted by Trinity pumping in the District?
- Are the current Desired Future Conditions (DFCs) adequately protective of the aquifers?

Current partners in Trinity studies:

- Hays Trinity Groundwater Conservation District
- Edwards Aquifer Authority
- Texas State University- Meadows Center
- University of Texas at Austin
- Blanco Pedernales Groundwater Conservation District
- City of Austin

Other organizations involved in certain aspects of the study:

- Hays and Travis Counties
- TWDB

Approximate timeline:

- Draft report by March 2020 (dependent on completion of District's Trinity model)
- Review of draft report by technical advisory committee (2 months)
- Drafting of rules by District staff (2 months)
- Review of proposed rule changes by policy advisory committee (3 months)

Item 5

Board Discussions and Possible Actions

- a. Discussion and possible action related to the Status Report Update and Weekly Highlights reports to the Board.**

Item 6

Director's Reports

Directors' Reports.

Directors may report on their involvement in activities and dialogue that are of likely interest to the Board, in one or more of the following topical areas:

- **Meetings and conferences attended or that will be attended;**
- **Committee formation and updates;**
- **Conversations with public officials, permittees, stakeholders, and other constituents;**
- **Commendations; and**
- **Issues or problems of concern.**

Item 7

Adjournment