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STATE OFFICE OF
ADMINISTRATIVE HEARINGS
Carol Hale, CLERK

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STATE OFFICE OF
ADMINISTRATIVE HEARINGS
Carol Hale, CLERK

TCEQ Docket No. 2021-1001-MWD
SOAH Docket No. 582-22-0585

APPLICATION BY CITY OF
GRANBURY FOR NEW TEXAS
POLLUTANT DISCHARGE
ELIMINATION SYSTEM PERMIT
NO. WQ0015821001

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STATE OFFICE OF

ADMINISTRATIVE HEARINGS

**APPLICANT’S RESPONSE TO PROTESTANTS’
MOTION TO STRIKE AND MOTION FOR CONTINUANCE**

TO THE HONORABLE ADMINISTRATIVE LAW JUDGES:

The City of Granbury submits this response to protestants’ motion to strike and alternative motion for continuance. The City respectfully requests that both motions be denied. In support, the City shows the following:

Nothing was Untimely Disclosed and the Protestants Were Not Surprised.

The constraints and challenges imposed by the 180-day deadline, the discovery cut-off rules, and the sequencing imposed by title 30, section 80.17(c) of the Texas Administrative Code require all parties to complete a lot of work in a short amount of time. That is why the City took the lead on working with the parties to develop an agreed procedural and hearing schedule. Protestants’ counsel actively participated in developing

**Applicant’s Response to
Protestants’ Motion to Strike and
Motion for Continuance**

the procedural schedule. All parties agreed to the various milestone dates.¹ All parties agreed that the expert witnesses would not be expected to stop work once their initial disclosures were made. In fact, there is no rule that blocks the City from continuing to develop its case after the Protestants file theirs. If the Commission intended for section 80.17(c) to serve that function, it would have said so in the rule.

On January 25, 2022, the City designated Mr. Osting as a testifying expert witness.

The City disclosed that he would provide expert opinion testimony that:

... the water quality modeling conducted by the Executive Director's staff does comply with applicable regulations and ensure that the Executive Director's draft permit is protective of water quality, ***as verified by his own independent modeling and other pertinent information.*** In addition, it is anticipated that Mr. Osting will provide expert opinion testimony regarding that the proposed discharges in the Executive Director's draft permit will meet applicable Tier 1 and Tier 2 antidegradation requirements, ***based on his own independent assessment, including modeling, and consideration of other pertinent data.*** It is anticipated that Mr. Osting will provide expert opinion testimony that the nutrient limits in the Executive Director's draft permit and the proposed discharges are consistent with and comply with all applicable Texas Surface Water Quality Standards.

Attach. A. On the same day, the City designated Mr. Flores as an expert witness.

The City disclosed that he would provide expert opinion testimony that:

... the proposed discharges in the Executive Director's draft permit will meet applicable Tier 1 and Tier 2 antidegradation requirements, ***based on his***

¹ During schedule discussions among the parties' counsel prior to the prehearing conference on December 13, 2021, the City offered to extend the discovery deadlines for all parties to a uniform date after the City's and Protestants' prefiled testimony was due. Protestants expressed no interest in the City's offer, and OPIC would not agree to extend discovery deadlines past the cut-off deadlines imposed by section 80.151(b).

own independent assessment, including site specific data, and consideration of other pertinent data. It is anticipated that Mr. Flores will provide expert opinion testimony that the nutrient limits in the Executive Director’s draft permit and the proposed discharges are consistent with and comply with all applicable Texas Surface Water Quality Standards.

Attach. A. The City gave a full and factual disclosure of Mr. Osting and Mr. Flores on January 25, which was a date agreed to by the Protestants. The disclosures included both witnesses’ CVs that described their credentials, including in the areas of modeling, hydrology, and aquatic science, particularly in the context of Tier 1 and Tier 2 antidegradation assessments. Attach. B.

Notably, both Mr. Osting and Mr. Flores worked alongside Mr. Machin for New Braunfels Utilities on a protested Tier 2 antidegradation assessment, which involved field-data collection and modeling during the discovery period of that contested case. In fact, the New Braunfels Utilities case appears on Mr. Osting’s and Mr. Machin’s CVs. Additionally, Woody Frossard engaged Mr. Osting to challenge Tier 1 and Tier 2 compliance in a current protest of a TPDES Permit application by Mr. Frossard’s employer, Tarrant Regional Water District. Mr. Osting has been asked to conduct dynamic modeling in support of that protest. Two of the Protestants’ key witnesses, therefore, are well aware of Mr. Osting’s and Mr. Flores’ work—in fact, they have relied on it in similar contexts.

Armed with all this actual and constructive knowledge of Mr. Osting’s and Mr. Flores’ respective roles in this case, the Protestants had between January 25 and February

18 to depose both witnesses. The Protestants indicated no interest in deposing either one. Mr. Osting and Mr. Flores provided timely supplements to their disclosures. The Protestants had all the information available to them under the schedule they agreed to. They should not be allowed to stand idly by and then claim prejudice because of circumstances they created. It is disingenuous for the Protestants to proclaim that they had no knowledge of the work Mr. Osting and Mr. Flores would be conducting in this case. A party cannot be surprised when they are willfully ignorant of the facts around them.²

The City is Allowed to Present Additional Evidence to Support the Draft Permit.

The Protestants have attempted to rebut the presumption that the draft permit should be issued. TCEQ rules authorize the City to “present additional evidence to support the executive director’s draft permit.” 30 Tex. Admin. Code § 80.17(c)(3). The additional evidence allowed by section 80.17(c)(3) is not restricted to evidence responsive to what the Protestants have submitted through their rebuttal. Even if the City’s additional evidence supporting the draft permit is not directly responsive to the Protestants’ own evidence, the evidence is still allowed by section 80.17(c)(3).

² See *City of Paris v. McDowell*, 79 S.W.3d 601, 605-08 (Tex. App.—Texarkana 2002, no pet.) (concluding that a party had sufficient notice of opposing expert’s biomechanical testimony in a car-crash investigation where discovery responses disclosed that the expert would testify as to all aspects of accident investigation and reconstruction, and his curriculum vitae described that he performed investigations, reconstructions, and biomechanical analyses).

However, the City's evidence that causes the Protestants such concern is directly responsive to evidence presented by the Protestants. As examples, various Protestants' witnesses testify about aquatic environments, native and endangered species, human and environmental health effects, recreational impacts, and water level conditions. Mr. Esmond discusses his thoughts on *E. coli*, including anticipated concentrations at various points in the receiving waters. Mr. Machin testifies about manipulations he made to TCEQ modeling files and what the outputs from those models suggest to him regarding phosphorous concentrations. Mr. Frossard testifies about various modeling parameters he used in his assumptions, modeling calibration, the relationship of his modeling assumptions and his opinions regarding bacteria, algae, chlorophyll *a*, and the utility that other models besides QUALTX could have on understanding potential impacts of each. He also testifies about health impact assumptions made in various research reports, conversations he had with undisclosed third parties about the impacts of discharges on algal growth, and conclusions he drew from observations of water bodies in other parts of Texas. Furthermore, Mr. Frossard gave deposition testimony that certain calibrated QUALTX modeling and dynamic modeling that assessed impacts of certain bacteria and algae could address his concerns. Attach. C. He made this disclosure one day before he submitted his prefiled testimony. It should be expected that the City would review, consider, and react to Mr. Frossard's testimony in the development of its case.

All three witnesses discuss Tier 1 and Tier 2 antidegradation requirements in their prefiled testimony. And all three testified in depositions of the value of site-specific data in water quality modeling. They all three testified of the roles that dynamic modeling—like the QUAL2K modeling conducted by Mr. Osting as described in his testimony—can play in assessing what impacts discharges of nutrients and bacteria might have on receiving waters. And they all testified about the value of calibrated model results.

The portions of Mr. Osting’s and Mr. Flores’ testimony that the Protestants want out of the record directly respond to these issues. The breadth of the City’s case was not limited to only issues the Protestants addressed. Even if it were, however, the evidence in the City’s prefiled testimony was directly responsive to what the Protestants submitted in their case. The City’s additional evidence falls within the scope of evidence allowed by section 80.17(c)(3).

There is No Justification for a Continuance, and a Continuance Would Unjustly Prejudice the City.

The Protestants have already presented a rebuttal case, as provided for by section 80.17(c)(2). Section 80.117(b) does not entitle them to two. Regardless, a protesting party is only entitled to a rebuttal under section 80.117(b) if another party presents evidence it could not have reasonably anticipated. The Protestants knew of the importance of independent modeling in assessing water quality impacts attributable to the draft permit. Attach. D. The Protestants knew of Mr. Osting’s expertise with steady state water quality

models and dynamic models, and they knew of Mr. Flores' expertise in aquatic biology. Attach. B. They knew long before their prefiled testimony was due that Mr. Flores had collected site-specific data on Rucker Creek and Rucker Cove. They knew, or should have known, that Mr. Osting would likely use that data to assess water quality impacts for both Tier 1 and Tier 2 antidegradation assessments. And they knew, or should have known, that the City would likely develop data and modeling in response to what the Protestants' witnesses disclosed in their depositions and prefiled testimony.

In addition, time is of the essence for the City of Granbury. The City is currently under a citywide development ban because of the lack of needed wastewater treatment capacity. This ban has been in place for well over a year and it is straining the Granbury community. As Dr. Perryman explains in his prefiled testimony, the delays have cost millions of dollars in lost economic and social development opportunities for the Granbury area. Additional delays in advancing a decision on the draft permit through to a final Commission decision will unfairly prejudice the City and its residents.

Prayer for Relief

There is no justification for excluding any of Mr. Osting's or Mr. Flores' testimony or corresponding exhibits. The Protestants had equal opportunity as all other parties in this contested case to conduct discovery, explore the issues, and develop their best case. The City should not be held responsible for how the Protestants used their opportunity.

In addition, there is no legal basis to grant the Protestants' continuance request. The Protestants have presented one rebuttal case already, and they should have reasonably anticipated the case that the City would make with its additional evidence. The Judges would be required to depart from the requirements of sections 80.17(c) and 80.117(b) and use an arbitrary standard instead to grant the Protestants' request. Additionally, the continuance that the Protestants have requested is undoubtedly made solely for the purpose of delay. In fact, the Protestants' motions could be considered sanctionable conduct in some venues.

Plausible deniability is the common thread of the Protestants' motion to strike and motion for continuance. It is not a legally supportable basis for granting either request. Accordingly, the City respectfully requests that the Judges:

- (i) deny Protestants' motion to strike;
- (ii) deny Protestants' motion for continuance; and
- (iii) award the City all other relief it is entitled to in law and in equity.

Respectfully submitted,

J.T. Hill, PLLC
3508 Far West Boulevard, Suite 170
Austin, Texas 78731
(512) 806-1060 (phone)
(512) 957-1405 (fax)
jason@jthill.com

By: /s/ Jason T. Hill
Jason T. Hill
State Bar No. 24046075

**ATTORNEY FOR APPLICANT
CITY OF GRANBURY**

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document has been filed and served via an approved electronic filing service on this the 28th day of February, 2022, to the following:

Anthony Tatu, Staff Attorney
Mattie Isturiz, Staff Attorney
Texas Commission on Environmental Quality
Environmental Law Division, MC-173
P.O. Box 13087
Austin, Texas 78711-3087
(512) 239-0600 (P)
anthony.tatu@tceq.texas.gov
mattie.Isturiz@tceq.texas.gov

Attorneys for the Executive Director

Garrett T. Arthur
State Bar No. 24006771
garrett.arthur@tceq.texas.gov
Office of Public Interest Counsel
P.O. Box 13087, MC 103
Austin, Texas 78711
(512) 239-5757 (P)

Attorney for Office of Public Interest Counsel

Michael J. Booth
Booth & Associates, P.C.
5701 W. Slaughter, Suite A130
Austin Texas 78749
(512) 472-3263 (P)
mjb@baw.com

**Attorney for Bennett’s Camping Center & RV Ranch, and
Stacy & James Rist**

**Applicant’s Response to
Protestants’ Motion to Strike and
Motion for Continuance**

John Bedecarre
Eric Allmon
Perales, Allmon & Ice, P.C.
1206 San Antonio St.
Austin, Texas 78701
(512) 469-6000 (P)
johnb@txenvirolaw.com
eallmon@txenvirolaw.com

Attorneys for Victoria Calder and Granbury Fresh

/s/ Jason T. Hill

Jason T. Hill

Attachments

- Attachment A Excerpts from City of Granbury's January 25, 2022 Initial Disclosures
- Attachment B CV of Tim Osting, P.E., D.WRE., CFM
CV of David Flores
- Attachment C Cuts from deposition of Woody Frossard, February 3, 2022
- Attachment D Cuts from deposition of Steven Esmond, P.E., January 31, 2022

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ELIMINATION SYSTEM PERMIT	§	
NO. WQ0015821001	§	ADMINISTRATIVE HEARINGS

**APPLICANT’S RESPONSE TO PROTESTANTS’
REQUEST FOR DISCLOSURES AND DESIGNATION OF
FACT AND EXPERT WITNESSES PURSUANT TO ORDER NO. 2**

Pursuant to Rules 194 and 195 of the Texas Rules of Civil Procedure, Title 1, Chapter 155 of the Texas Administrative Code and Order No. 2, Applicant City of Granbury submits the following Rule 1942(f) and 195 disclosures and disclosures of fact and expert witnesses.

Respectfully submitted,

J.T. Hill, PLLC
3508 Far West Boulevard, Suite 170
Austin, Texas 78731
(512) 806-1060 (phone)
(512) 957-1405 (fax)
jason@jthill.com

By: /s/ Jason T. Hill ..

Jason T. Hill
State Bar No. 24046075

**ATTORNEY FOR APPLICANT
CITY OF GRANBURY**

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing document has been sent via email on this the 25th day of January, 2022, to the following:

Anthony Tatu, Staff Attorney
Mattie Isturiz, Staff Attorney
Texas Commission on Environmental Quality
Environmental Law Division, MC-173
P.O. Box 13087
Austin, Texas 78711-3087
(512) 239-0600 (P)
anthony.tatu@tceq.texas.gov
mattie.isturiz@tceq.texas.gov

Attorneys for the Executive Director

Garrett T. Arthur
State Bar No. 24006771
garrett.arthur@tceq.texas.gov
Office of Public Interest Counsel
P.O. Box 13087, MC 103
Austin, Texas 78711
(512) 239-5757 (P)

Attorney for Office of Public Interest Counsel

Michael J. Booth
Booth & Associates, P.C.
5701 W. Slaughter, Suite A130
Austin Texas 78749
(512) 472-3263 (P)
mjb@baw.com

**Attorney for Bennett's Camping Center & RV Ranch, and
Stacy & James Rist**

John Bedecarre
Eric Allmon
Perales, Allmon & Ice, P.C.
1206 San Antonio St.
Austin, Texas 78701
(512) 469-6000 (P)
johnb@txenvirolaw.com
eallmon@txenvirolaw.com

Attorneys for Victoria Calder and Granbury Fresh

/s/ Jason T. Hill

Jason T. Hill

Responsive information can be accessed using the link provided at the end of these disclosures.

(iii) the expert's qualifications, including a list of all publications authored in the previous 10 years;

Expert qualifications are listed on the resume provided in response to these requests.

(iv) a list of all other cases in which, during the previous four years, the expert testified as an expert at trial or by deposition;

None.

(v) a statement of the compensation to be paid for the expert's study and testimony in the case.

Enprotec/Hibbs & Todd has received \$6,230 to date for compensation directly attributable to its study and testimony in the case, and is being compensated for work on this assignment based on billable hours plus expenses. Ms. Dunn's analysis remains in progress and, thus, the firm's overall level of compensation has not yet been determined. The firm's compensation is not dependent in any way on the outcome of any proceedings or the substance of the opinions that he provides.

David Flores
Arroyo Environmental Consultants, LLC
161 Cushman Drive
Kyle, Texas 78640
(512) 262-7538

(B) the subject matter on which the expert will testify;

It is anticipated that Mr. Flores will offer his expert opinion regarding the Executive Director's draft permit, the application, and regarding whether the proposed discharge authorization will be protective of water quality, the health of requesters and their families, livestock, and wildlife, including endangered species. Mr. Flores will offer expert testimony whether the proposed discharge will adversely impact recreational activities. Additionally, Mr. Flores will provide expert opinion testimony regarding whether the proposed discharges in the Executive Director's draft permit will meet applicable Tier 1 and Tier 2 antidegradation requirements. Mr. Flores will offer expert testimony regarding nutrient limits within the Executive Director's draft permit and whether the proposed discharge

complies with the Texas Water Quality Standards. Mr. Flores will offer expert opinion testimony regarding the location of the proposed wastewater treatment plant and wetland rules and or requirements.

(C) the general substance of the expert's mental impressions and opinions and a brief summary of the basis for them, or if the expert is not retained by, employed by, or otherwise subject to the control of the responding party, documents reflecting such information;

Mr. Flores will testify that the proposed discharges meet established water quality standards, and will be protective of public health, including the health of the protestants and their families, as well as livestock, wildlife, any endangered species present, and recreational activities. Mr. Flores will provide expert opinion testimony regarding that the proposed discharges in the Executive Director's draft permit will meet applicable Tier 1 and Tier 2 antidegradation requirements, based on his own independent assessment, including site specific data, and consideration of other pertinent data. It is anticipated that Mr. Flores will provide expert opinion testimony that the nutrient limits in the Executive Director's draft permit and the proposed discharges are consistent with and comply with all applicable Texas Surface Water Quality Standards. In addition, Mr. Flores is expected to provide expert opinion testimony regarding the location of the proposed wastewater treatment plant and wetland rules and or requirements.

(D) if the expert is retained by, employed by, or otherwise subject to the control of the responding party:

(i) all documents, tangible things, reports, models, or data compilations that have been provided to, reviewed by, or prepared by or for the expert in anticipation of the expert's testimony;

The Texas Clean Rivers Program - [CRP Data Tool \(texas.gov\)](https://www.tceq.texas.gov/crp/)

TCEQ – Surface Water Quality Web Reporting Tool - [Surface Water Quality Web Reporting Tool \(texas.gov\)](https://www.tceq.texas.gov/surface-water-quality-web-reporting-tool/)

Discovery produced by the parties.

Other responsive information can be accessed using the link provided at the end of these disclosures.

(ii) the expert's current resume and bibliography;

Responsive information can be accessed using the link provided at the end of these disclosures.

(iii) the expert's qualifications, including a list of all publications authored in the previous 10 years;

(i) all documents, tangible things, reports, models, or data compilations that have been provided to, reviewed by, or prepared by or for the expert in anticipation of the expert's testimony;

TPDES Permit Application for WQ001582100.

Applicable statutes and rules.

Discovery produced by the parties.

Other responsive information can be accessed using the link provided at the end of these disclosures.

(ii) the expert's current resume and bibliography;

Responsive information can be accessed using the link provided at the end of these disclosures.

(iii) the expert's qualifications, including a list of all publications authored in the previous 10 years;

Expert qualifications are listed on the resume provided in response to these requests.

(iv) a list of all other cases in which, during the previous four years, the expert testified as an expert at trial or by deposition;

None.

(v) a statement of the compensation to be paid for the expert's study and testimony in the case.

Enprotec/Hibbs & Todd has received \$6,230 to date for compensation directly attributable to its study and testimony in the case, and is being compensated for work on this assignment based on billable hours plus expenses. Mr. Hay's analysis remains in progress and, thus, the firm's overall level of compensation has not yet been determined. The firm's compensation is not dependent in any way on the outcome of any proceedings or the substance of the opinions that he provides.

Tim Osting, P.E.
Aqua Strategies, Inc.
11929 Fitzhugh Corners
Dripping Springs, Texas 78620

(512) 826-2604

(B) the subject matter on which the expert will testify;

It is anticipated that Mr. Osting will offer expert opinion testimony regarding the Executive Director's draft permit, the application, and regarding whether the proposed discharge authorization will be protective of water quality, the health of requestors and their families, livestock, and wildlife, including endangered species. Mr. Osting will provide expert opinion testimony regarding whether the proposed discharge will adversely impact recreational activities. Mr. Osting is also expected to provide expert opinion testimony regarding whether the modeling complies with applicable regulations to ensure the Executive Director's draft permit is protective of water quality. In addition, it is anticipated that Mr. Osting will provide expert opinion testimony regarding whether the proposed discharges in the Executive Director's draft permit will meet applicable Tier 1 and Tier 2 antidegradation requirements. Mr. Osting will provide expert opinion testimony regarding nutrient limits in the Executive Director's draft permit and whether the proposed discharges comply with applicable Texas Surface Water Quality Standards. In addition, Mr. Osting is expected to provide expert opinion testimony regarding whether the location for the proposed wastewater treatment plant complies with the 100-year flood plain and wetland location standards.

(C) the general substance of the expert's mental impressions and opinions and a brief summary of the basis for them, or if the expert is not retained by, employed by, or otherwise subject to the control of the responding party, documents reflecting such information;

Mr. Osting will testify that the proposed discharges meet established water quality standards, and will be protective of public health, including the health of the protestants and their families, as well as livestock, wildlife, any endangered species present, and recreational activities. Mr. Osting will provide expert opinion testimony that the water quality modeling conducted by the Executive Director's staff does comply with applicable regulations and ensure that the Executive Director's draft permit is protective of water quality, as verified by his own independent modeling and other pertinent information. In addition, it is anticipated that Mr. Osting will provide expert opinion testimony regarding that the proposed discharges in the Executive Director's draft permit will meet applicable Tier 1 and Tier 2 antidegradation requirements, based on his own independent assessment, including modeling, and consideration of other pertinent data. It is anticipated that Mr. Osting will provide expert opinion testimony that the nutrient limits in the Executive Director's draft permit and the proposed discharges are consistent with and comply with all applicable Texas Surface Water Quality Standards.

(D) if the expert is retained by, employed by, or otherwise subject to the control of the responding party:

(i) all documents, tangible things, reports, models, or data compilations that have been provided to, reviewed by, or prepared by or for the expert in anticipation of the expert's testimony;

TPDES Permit Application for WQ001582100

Applicable statutes and rules.

Discovery produced by the parties.

Other responsive information can be accessed using the link provided at the end of these disclosures

Discovery produced by the parties.

Other responsive information can be accessed using the link provided at the end of these disclosures.

(ii) the expert's current resume and bibliography;

Responsive information can be accessed using the link provided at the end of these disclosures.

(iii) the expert's qualifications, including a list of all publications authored in the previous 10 years;

Expert qualifications are listed on the resume provided in response to these requests.

(iv) a list of all other cases in which, during the previous four years, the expert testified as an expert at trial or by deposition; and

Expert qualifications are listed on the resume provided in response to these requests.

(v) a statement of the compensation to be paid for the expert's study and testimony in the case.

Aqua Strategies, Inc. has received \$1,384 to date for compensation directly attributable to its study and testimony in the case, and is being compensated for work on this assignment based on billable hours plus expenses. Mr. Osting's analysis remains in progress and, thus, the firm's overall level of compensation has not yet been determined. The firm's compensation is not dependent in any way on the outcome of any proceedings or the substance of the opinions that he provides.

Tim Osting

PE, D.WRE, CFM

Principal Engineer / COO

512/627-1563

tosting@aquastrategies.com

aquastrategies.com



Tim Osting is a professional engineer working in the field and office on water resources since 1996. Specializing in site-specific hydrology, hydraulics, water quality and environmental flows, Tim consults on complex environmental projects involving watersheds, wetlands, rivers, lakes and coasts. Tim measures flow, water levels, bathymetry and water quality. Tim develops solutions to environmental systems problems using grounded field data. Tim is experienced modeling hydrology, hydraulics, hydrodynamics, water quality, water quantity and sediments.

Personal & Professional Profile

Years of Experience 23

Education

2007
MSE, Environmental and Water Resources Eng., University of Texas at Austin

1998
BSE, Civil Eng., University of Texas at Austin

Professional Registrations/Affiliations

Professional Engineer, Texas, No. 91931

Diplomate, Water Resources Engineer, No. 564, AAWRE

Certified Floodplain Manager, No. 3492-18N

Member American Society of Civil Engineers

Professional History

2014 – PRESENT
Principal Engineer / COO – Aqua Strategies Inc.

2005 – 2014
Managing Engineer, Water Resources – Espey Consultants dba RPS, Austin, TX

2001 – 2005 (1996-1998)
Team Leader, Instream Flows – Texas Water Development Board

1998 – 2001
Designer – Steger Bizzell Engineering Inc.

Software Experience

Hydrology, Water Quality, and Hydrodynamic Modeling - HSPF, SWAT, SWMM, WAM/WRAP, CE-QUAL-W2, EPD-RIV1, WASP, EFDC, CMS-FLOW, CORMIX, QUAL2E, QUAL2K, QUALTX, River2D, SMS, RMA-2, HEC-2/RAS (sed, wq, 2D), HEC-1/HMS

Programming and GIS - FORTRAN, C++, vb, python, gawk, Object PASCAL, SQL Arc/ESRI, GSLIB, QGIS

Specialized Training

2019 TWRI Urban Riparian Restoration

2016 WAM/WRAP training with Richard Hoffpaur II SWAT training with SSL, Ragavan Srinivasan

2014 HEC-RAS Sediment with Tony Thomas/Stanford Gibson (HEC)

2012 HEC-EFM, RPT, RAS (wq) with John Hickey/Mark Jensen (HEC)

2003 Trimble GPS Post-processed and RTK surveying II Natural Rivers: Mechanisms, Morphology and Mgmt, R.Hey

Recent Project Experience

Water Quality

2020 – 2021 - Ongoing

Water Quality Modeling, field survey, and Antidegradation Expert Testimony for contested TPDES discharge permit application. Private client.

For a TPDES permit and pending contested case hearing, Tim is measuring onsite data, evaluating TCEQ modeling, and providing applicant support for a proposed wastewater treatment plant discharge into a stream.

Water Quality Modeling, field survey, and Antidegradation Expert Testimony for contested TPDES discharge permit application. Braun and Gresham, Carson.

Expert testimony. For a TPDES permit contested case hearing, Tim measured onsite data, evaluated TCEQ CSTR model, conducted additional water quality modeling, and developed a report and prefile testimony to support a protest of a proposed wastewater treatment plant discharge into a stream.

2019 - Ongoing

Water quality on-site sampling and BMP analysis for a large resort and golf course. Private Client, Oklahoma Project Manager. Tim is managing a project to install rainfall-activated automated water quality samplers, analyze laboratory data and assess concentrations in runoff for a private client considering conditions on over 1300 acres.

Texas Land Application Permit (TLAP) for industrial water discharge. Arroyo Environmental, Texas Foam Project Manager. Tim is designing an irrigation system land application site for discharge of low-concentration cooling tower and boiler blowdown industrial wastewater near Bastrop, TX.

2019-CURRENT (Ongoing), 2013 – 2014, 2015

Panther Island/Trinity River Vision, CE-QUALW2 Water Quality Modeling. CDM-Smith, TRWD Project Manager. Tim developed a CE-QUAL-W2 hydrodynamic and water quality model of the proposed Trinity River Vision project site. The site, and the model, includes a flood bypass channel, three dynamic flood gates, canals, bulkheads and re-circulation devices on the Trinity River in downtown Fort Worth, TX, including the future flood bypass channel to be constructed by USACE. The CE-QUAL-W2 model will be used to identify potential water quality issues and solutions, including gate and lake management strategies. Tim also participated in initial development of SWMM stormwater watershed models, and has developed a python tool to link the SWMM output to CE-QUAL-W2 receiving water model to create a comprehensive tool to evaluate the proposed system. Currently Tim is refining existing conditions calibration for a 5 year simulation, creating automated post-processing tools to visualize outputs, and making the model easier to use for TRWD for assessing future discharges into the system.

2015-2018

TPDES permit and CORMIX modeling for reverse osmosis reject water. Alan Plummer AI, Lloyd-Gosselink, City of Abilene

Technical Consultant. Tim developed a CORMIX model and designed a diffuser to discharge reverse osmosis reject water into a lake. The COMRIX modeling and diffuser design report was used for the TPDES permit that will be issued by TCEQ.

2015-2016

New Braunfels. Antidegradation Expert Testimony for contested TPDES discharge permit application. Lloyd-Gosselink, New Braunfels Utilities.

Expert testimony. For a TPDES permit contested case hearing, Tim developed a new time-series water quality model of the Guadalupe River to support the applicant's anti-degradation assessment. The case related to an amended TPDES discharge permit by NBU where the amount, limits and discharge location into the Guadalupe River would be changing. The time-varying water quality model assessed nutrient, algae, temperature and dissolved oxygen conditions before and after proposed modifications to the waste water treatment plant. Tim developed pre-file testimony and testified as an expert for both water quality and hydrology. The hearing ended favorably for NBU.

2017

Landa Lake Dissolved Oxygen Management Plan. BIO-WEST, City of New Braunfels

Technical Consultant. Tim is developing a Dissolved Oxygen (DO) Management Plan for Landa Lake. This is in support of the Edwards Aquifer Habitat Conservation Plan which supports protection of spring-dependent endangered species. This project evaluated use of aerators for the lake, resulted in development of a model considering algal and macrophyte conditions in the lake, analyzed historical data.

2016-current

Water quality sampling program for Lake of the Arbuckles Watershed Association. Chickasaw Nation, Oklahoma

Project Manager. Tim is managing a project to initiate a water quality sampling program with the Chickasaw Nation and LAWA, and coordinating sampling with Oklahoma Water Resources Board (OWRB). The sampling will set a baseline condition and then later as watershed practices are enabled the sampling will assess for surface water quality changes. The project is sampling in the streams and in the lake that is currently impaired for DO and Chl-a. This project is a continuation of the development of a Bureau of Reclamation Watershed Protection Plan. The HAWQS and SWAT model system was used to identify priority sub-watersheds based upon nitrogen, phosphorus and sediment loadings.

2014-2016

Water quality modeling and BMP evaluation for 319 San Marcos Watershed Protection Plan. Meadows Center for Water and Environment at Texas State University.

Project Manager. Tim provided technical assistance for this 319 WPP program which is designed to prevent a TMDL and I-Plan from being necessary. Tim analyzed hydrology conditions through an HSPF model, analyzed water quality conditions through a custom routing model and performed uncertainty analysis on model results. Tim coordinated with TCEQ 319 staff to complete the water quality portions of the project, along with TSU staff.

2012, 2016

TCEQ, TWDB and BRA, Development of Water Quality Models, Brazos, Navasota and Little Rivers. For the Texas Instream Flow Program, Mr. Osting managed a multi-disciplinary team to first determine water quality threshold values for ecological processes and aquatic organisms, then to develop EPD-RIV1 and QUAL2K water quality models for the Brazos River, Navasota River and Little River. Existing historical data and model predictions were compared to state water quality standards and to location-specific ecological thresholds for DO and Temperature to determine whether acceptable water quality is maintained across all anticipated flow levels. Water accounting was developed for the simulation period for areas downstream of the Rosharon gauge to the Gulf of Mexico.

2006-PRESENT

TCEQ 401 Water Quality Certification - Modeling and sediment analysis

– Multiple (15+) projects for private and public clients in Tres Palacios Bay, St. Charles Bay, GIWW, Port O'Connor; Copano Bay, San Antonio Bay, Matagorda Bay, Lake Wichita: For multiple private development projects located adjacent to Texas Bays that require USACE 404 permits and associated 401 certifications, Mr. Osting was responsible for coastal water quality modeling and coastal sediment transport analysis. Mr. Osting modeled Dissolved Oxygen in waters influenced by inflows, rainfall, wind, wave and tide forces within constructed canals using RMA-2 and EFDC for hydrodynamics and both WASP (versions 5, 6 and 7.2) and QUALTX for water quality. Erosion and sediment transport analyses were performed to characterize shoreline processes responding to flow patterns and barge traffic, and to determine necessity of protection of dredged canals from infill.

2014

Guadalupe River Water Quality Model for Instream Flow conditions. BIO-WEST, GBRA, TWDB

Project Lead. Tim is developing a new water quality model of the Guadalupe River between Gonzales and Victoria for the Texas Instream Flow Program (TIFP) and the GBRA. The calibrated model will assess temperature and dissolved oxygen conditions, and nutrients to the extent necessary, in consideration of aquatic species thresholds. The existing HEC-RAS flood model will be used as basis for the HEC-RAS water quality model.

2009

TCEQ/TIFP/SARA In-stream Flow Water Quality Approach and Model Evaluation. BIO-WEST, SARA, TCEQ

Project Lead. To address the needs of the Texas Instream Flow Program (TIFP), the TCEQ sponsored this project to identify instream flow water quality evaluation needs, and to make recommendations on approaches and/or models applicable to instream flow studies across the state of Texas. Tim was overall project manager for this project involving the TCEQ, TPWD, TWDB, SARA, BIO-WEST, Inc., and James Miertschen and Associates, Inc. Recognizing limitations in existing water quality modeling approaches, particularly with the steady-state Qual-TX model, Tim evaluated over 50 available models and developed recommendations for models and/or approaches appropriate for analyzing time-varying water quality conditions for parameters like dissolved oxygen (DO), temperature, TSS and nutrients. Tim and colleagues compared performance of WASP, QUAL2K, EPD-Riv1, INFOWORKS-RS, HEC-RASwq and AquaTox.

2006-2010

Lake Granbury Watershed Protection Plan (WPP), BRA, TCEQ, EPA

Project Manager. Tim conducted water quality assessment to support development of an 319-funded WPP managed by the Brazos River Authority, sponsored by TCEQ and EPA. Tim was responsible for the data collection, evaluation and modeling, including a determination of important canal circulation patterns. Tim conducted a detailed analysis of alternative bacteria management measures using the SELECT approach and customized lake modeling, that included development of annualized costs for alternatives including regional sewer treatment. After vetting through stakeholders through numerous meetings, Mr. Osting managed writing of the WPP. This WPP was only the second to be accepted by the TCEQ and EPA in Texas, after Plum Creek WPP.

2008-2011

Caddo Lake Watershed Protection Plan – Jefferson, TX. NETMWD, TCEQ

Project Manager. Related to the Watershed Protection Plan (WPP) for Cypress Basin and Caddo Lake sponsored by the North East Texas Municipal Water District (NETMWD), the TCEQ and US EPA, Mr. Osting participated in scoping of a comprehensive data analysis and evaluation project leading to recommendations related to water quality modeling and data gaps. Mr. Osting also serves in a capacity to relate water quality components to instream flow building blocks. Mr. Osting managed water quality data analysis and source assessment, monitoring recommendations, and modeling in Phase II of the WPP for the Caddo Lake Watershed. Modeling consists of development of a SELECT model to prioritize bacteria loadings, and a SWAT whole-water-shed model linked to complementary river (QUALTX) and lake models (EFDC and WASP) to characterize the circulation patterns and water quality conditions, including response of DO in streams and the lake to changing nutrient loadings.

Recent Project Experience

Water Resources

2019 - ongoing

Operational yield assessment for Delta Regional Water Project and Panchita Reservoir – Halff, HCDD1

Project Manager. Tim developed the assessment procedure for determining maximum yield of 3 reservoirs in the Nueces-RioGrande Basin based upon existing water rights and proposed infrastructure. Tim analyzed existing naturalized flow information and is directing an uncertainty analysis on derivation of these flows, including re-development of naturalized flow information after subtracting return flows developed from data compiled as part of this project (wwtp return flows 2009-2018, irrigation returns comparable period). Tim is directing development of multiple scenarios that prioritize water use from the 3 reservoirs, water source from drainage infrastructure re-routing, and uncertainty related to naturalized flows and return flows. The estimated yield and uncertainty in yield is being assessed on a daily time step using RiverWare.

Water rights permit amendment near San Angelo, Bentwood County Club LLC

Project Manager. Tim directed completion of surface water right application and participated in TCEQ pre-application meeting for this amendment application. The amendment is to move a diversion location to Lake Nasworthy as part of an agreement with City of San Angelo.

2018 - 2019

Analysis of a low-head dam for a TPWD Sand and Gravel Permit contested case hearing, and TCEQ water right and USACE 404 compliance. Braun and Gresham PLLC, Private Client

Project Manager. Tim is providing sediment, water levels, water quality, water rights and connectivity services related to a low-head weir dam.

Hydrology assessment for development of USFWS CCAA documentation. BIO-WEST, Brazos River Authority

Project Manager. Tim provided hydrology assessment related to a Candidate species Conservation Agreement with Assurances between BRA and USFWS for potential impacts of water management on candidate endangered species. Historical, current and projected conditions were evaluated using TCEQ and BRA WAM.

Water reliability assessment in Brazos River basin, BHDA, Private Client

Technical Consultant. Tim provided water rights reliability opinion for a water user in preparation for a contested case hearing. TCEQ WAM/WRAP model files and outputs were used and bundled with a water quality assessment. WAM files were extended in time using available data.

Water reliability and water source assessment in a Texas river basin, Private Client

Technical Consultant. Tim provided water rights reliability analysis for a water user interested in reliability of multiple different water sources transported to the point of use multiple different ways. The TCEQ WAM/WRAP model files and outputs were used initially then modified by adjusting water rights and by extending the time period of assessment. Naturalized flows and other WAM inputs were updated to extend the simulation period.

2018

Water reliability assessment using extended period TCEQ WAM/WRAP, City of Granbury

Technical Consultant. Tim directed an assessment using the Brazos TCEQ WAM/WRAP package to determine reliability of a water right based upon priority date, as well as used existing available information to extend the time period of the WAM/WRAP through 2015 by adding naturalized flows, eflow triggers and net evaporation. Cost of the water right was estimated based upon other water right sales as well as the reliability of this water.

2017

Emergency Spillway 2D Modeling – Lake Cypress Springs. Carollo, Franklin County Water District

Project Manager. Tim developed a 2D HEC-RAS model and analysis scenarios to evaluate whether on-the-ground modifications are necessary to the emergency spillway at Lake Cypress Springs. Several scenarios of dirt moving were evaluated and the recommendation focused on land management changes to improve hydraulic efficiency.

Review of LCRA Water Management Plan and WAM, Private Client

Technical Consultant. Tim provided technical input related to review of WAM/WRAP model files and outputs for consistency with the most recent version of LCRA's Water Management Plan.

QAQC for Firm Yield assessment of 4 Oklahoma Lakes, Choctaw and Chickasaw Nations

Technical Consultant. Tim provided technical review and QA/QC for calculations conducted by others for the firm yield of 4 reservoirs having storage volumes ranging from 2,000 ac-ft to 50,000 ac-ft.

2016-2017

Water Quality Assessment for HB1437 Interbasin Transfer (Brushy Creek) and Geomorphic Stream Sediment Assessment. K Friese & Associates, Brazos River Authority.

Project Manager. To evaluate several strategies to return approximately 20,000 ac-ft per year out of Brushy Creek from the Brazos River to the Colorado River basin, Tim conducted a water quality assessment of Brushy Creek return flows and a water quality data and modeling assessment of the Walberger Creek system, as well as a stream sediment field assessment of Cottonwood Creek. The short term and long term sediment and stream impacts resulting from increasing flow in the creek was assessed and reported. The long term water quality impact of increasing flow in the system was assessed considering the local influences and source water mixing.

2011 – PRESENT

Trinity River Long Term Monitoring and 2014-2017 SB3 Flow Validation, Trinity River Authority of Texas

Technical Consultant and Project Lead. Tim was asked to participate with staff to develop a long term monitoring program to determine major environmental processes influencing the Trinity River. With TRA staff in 2011, Tim participated in a 400-mile river navigation field survey between Fort Worth and Trinity Bay, study site selection, and establishment of four long-term monitoring sites. Baseline field activities include cross-section surveys, water surface profile surveys and sediment sampling. Modeling includes sediment transport capacity and riparian inundation mapping. 2014-2019 activities include validation of SB3 flow standards at four measurement points based upon on-site physical measurements. Sediment scour modeling and water quality modeling is in-progress, including data collection and lab measurements (sediment coring and JET testing).

2010 – PRESENT (ongoing)

System Operation Permit Water Management Plan, Brazos River Authority

Environmental Program. Tim is providing environmental program support for sediment, water quality, biology, and hydrology studies, and permitting support for staff to help craft a Water Management Plan providing for efficient use of 11 existing reservoirs. This is a multi-component, multi-year project to balance BRA permit obligations with adopted SB3 environmental flow standards. The project is currently focusing on field data collection, summary of historical studies, Standard Operation Procedures and Environmental Flows Achievement. Tim participated with BRA staff and other consultants to develop the environmental components of the Water Management Plan and Tim provided expert testimony on hydrology and environmental flows during the permit contested case hearing.

Recent Project Experience

Coastal

2018-2019

USFWS Bahia Grande Restoration, Reconnection and Tidal Circulation Modeling (CMS-FLOW/WAVE). Scheibe Consultants LLC and USFWS.

Project Manager. Tim is providing sediment, water levels, water quality, water rights and connectivity services related to a low-head weir dam. Tim is responsible for development of a CMS-FLOW and CMS-WAVE model for the Bahia Grande restoration area complex near Port Isabel, TX. He is responsible for sizing a new tidal inlet channel between Bahia Grande and the Paso Corvinas lagoons, and for developing hydraulic information for protection of existing bird habitat/rookery islands.

2014-2015

Coastal wave and runup evaluation for Texas City Rainwater Inner Levee. Scheibe Consulting

Project Lead. To respond to FEMA levee certification review comments issued to the City of Texas City, Tim provided a coastal wind and wave analysis considering 1% (eg, 100-year) hurricane conditions and historical flood study reports. The analysis resulted in wave setup, runup and overtopping estimates for the existing levee. Tim conducted GIS mapping activities, including DEM development from LiDAR .las files, levee alignment stationing and extracting elevation profiles.

2014-2015

Jetty Assessment and Coastal Modeling, San Bernard River at the Gulf of Mexico. RPS, Dannenbaum Eng., Brazoria County, TX

Project Lead. Tim was lead for the littoral sediment task on a team to recommend geometric properties of a jetty to manage sedimentation at the San Bernard River mouth at the Gulf of Mexico. The project included on-site assessment,

data accumulation, and development of a TX-BLEND hydrodynamic model.

2016

Nueces Bay Rookery Island Restoration Survey, Scheibe Consulting, CBBEP

Project Manager. For a Coastal Bend Bays Estuary Program (CBBEP), Tim conducted on-site elevation survey using survey-grade GPS to characterize existing condition of rookery island beach profiles in Nueces Bay and to determine fill volumes necessary for restoration. Tim also conducted a hydrographic survey using a vessel-mounted echosounder to determine appropriate construction barge pathways from White's Point to the restoration islands.

2015

East Matagorda Bay Freshwater Inflow Infrastructure Assessment – Texas State University MCWE, TWDB

Technical Consultant. In support the SB3 stakeholder group for the Colorado and Lavaca River Basins and Bays, Mr. Osting developed flow need amounts for a conceptual design for a proposed pipeline delivering augmented freshwater inflow to East Matagorda Bay from the Lower Colorado River. This hydrologic restoration project is designed to improve the ecological health of this minor bay.

USACE 404 permit support for wetlands and barge docking at a sand quarry site. RPS and private client, Texas.

Tim participated in conceptual design of stream and wetlands restoration concept plan for an after-the-fact 404 permit. He provided bathymetric survey field services and conceptual planning assistance for onsite barge docking facilities, including permit planning.

2008

Lower Brazos River Salinity Monitoring Project –Brazoria County, TX. - BRA, TWDB

Project Manager. As part of a USACE-funded effort to evaluate movement of salinity from the Gulf of Mexico upstream into the Brazos River, the Texas Water Development Board (TWDB) and Brazos River Authority (BRA) sponsored this project to monitor salinity in a 30-mile reach of the Brazos River. Tim led the team to install and maintain conductivity, temperature and water level data loggers. The sensor installations collected data through Hurricane Ike.

Recent Project Experience

Hydrographic Survey and Sediment

2019

Lower Colorado River Supplemental Hydrographic and Cross-section Survey. Scheibe Consultants, TWDB

Project Manager. Tim managed measurement of 22 cross-sections of the Colorado River in Colorado, Wharton and Matagorda Counties. The survey used survey-grade GPS RTK/VRS along with echosoundings, and will be used for a flood protection planning study.

Lake Whitney Hydrographic and Sediment Survey. CDM Smith, US Army Corps of Engineers

Project Manager. Tim managed and executed the field program to determine the current volume and accumulated sediment volume of Lake Whitney, Texas. Tim conducted extensive QAQC on data processing and final determination of elevation-area-capacity tables.

Lake Hydrographic and Sediment Survey. Private Client

Project Manager. Tim managed and executed the field program to determine the current volume and accumulated sediment volume of a water supply reservoir of approximately 1,000 surface acres in the Brazos basin. Tim conducted extensive QAQC on data processing and final determination of elevation-area-capacity tables.

2017

Analysis of sediment removal from a hill country water body. Braun and Gresham PLLC, Private Client

Project Manager. Tim provided on-site consulting to provide supporting data and an opinion related to a intermittent (non-perennial) and non-navigable stream. Permitting information was provided related to sediment removal upstream of an existing water crossing.

Lake Wister, Lake Carl Albert, New Spiro Lake: Sediment and Hydrographic Surveys – Poteau, TX- USACE and Choctaw Nation

Project Manager. Tim was field and data manager for a sediment thickness and hydrographic survey of Lake Wister, a 7500 surface acre water supply reservoir near Poteau, OK. The crew used a multi-frequency echosounder, RTK GPS, and advanced data post-processing techniques to determine the Elevation Area Capacity table, sediment

accumulation, and sediment accumulation rates. Physical core samples were collected to calibrate the sediment thickness identified in the echosounder trace. Data collection was completed in May 2017 and the report is to be completed in Summer 2017. Lakes Carl Albert and New Spiro were surveyed at the same time using the same methods.

2016

Travisso Reservoir Hydrographic Survey – Nameless, TX. Scheibe Consulting LLC

Project Manager. For a development project, Tim conducted a hydrographic survey of an existing amenity lake. The 20-foot deep lake was surveyed using an echosounder and differential GPS system. An on-site elevation control benchmark was established and elevations of respective outlet structures were measured.

2014-PRESENT

Lake Wichita Revitalization Project. Water Planning and Water Quality. - USACE 404/401 permit. Carollo, City of Wichita Falls

Task Manager. Mr. Osting, with the Lake Wichita Study Committee and the City of Wichita Falls, coordinated 404 permit pre-application meetings with the USACE Tulsa District. The lake project plan currently involves excavating over 5,000 ac-ft of sediment then construction of shoreline amenities (parks, marinas, ramps, activity centers). Mr. Osting is conducting lake level analysis, water availability, water quality, habitat and bathymetry analyses to assist the City in determining project design objectives. Mr. Osting has completed materials included in the USACE 404 application that was submitted in November 2016 including 401 certification materials for the lake and constructed canals.

Recent Project Experience

Environmental Flow

2016

Caddo Lake Environmental Flows, Hydrology and water quality -- Caddo Lake Institute

Technical Consultant. Mr. Osting provided technical support for water quality and sediment considerations at the Caddo Lake environmental flows update meeting in December 2016. He also helped to scope collection of LiDAR data for the riparian areas in the basin and to QAQC the data to prepare it for the next steps of improving understanding of inundation in bottomland wetland areas.

2015

East Matagorda Bay Freshwater Inflow Infrastructure Assessment – Texas State University MCWE, TWDB

Technical Consultant. In support the SB3 stakeholder group for the Colorado and Lavaca River Basins and Bays, Mr. Osting developed flow need amounts for a conceptual design for a proposed pipeline delivering augmented freshwater inflow to East Matagorda Bay from the Lower Colorado River. This hydrologic restoration project is designed to improve the ecological health of this minor bay.

Additional Project Experience

2013-2014

Endangered Species Riffle Beetle Habitat Restoration – Landa Lake, New Braunfels. RPS, City of New Braunfels, EAA

Technical Consultant. In support of the approved Edwards Aquifer Habitat Conservation Plan (HCP), Mr. Osting was project manager for riparian shore-line restoration and sediment removal activities. This work preserves and enhances habitat near artesian springs to protect the endangered riffle beetle. The shoreline rehabilitation work has prevented many cubic yards of sediment from entering riffle beetle habitat. Lake dredging work is being evaluated to determine if it has uncovered potential habitat areas on the lake bottom.

2013

Waxahachie Creek Geomorphic Stability Assessment. KBR, TRWD

Project Manager. In support of river-crossing design for a 110-inch raw water transmission line (TRWD IPL), Tim conducted a geomorphic stability assessment of 3 miles of Waxahachie Creek. The assessment included an on-site survey, office geomorphic assessment, HEC-RAS modeling, stable cross-section assessment and recommendations for long-term monitoring.

Sediment Island Removal –Comal River (old channel), New Braunfels. BIO-WEST, City of New Braunfels, EAA.

Technical Consultant. In support of the approved Habitat Conservation Plan (HCP), Mr. Osting provided to BIO-WEST on-site services that included fluvial geomorphology, turbidity minimization, and stream restoration oversight to excavation contractors during restoration activities. This project was to benefit the endangered fountain darter.

Old Channel Restoration– Comal River, New Braunfels. BIO-WEST, City of New Braunfels, EAA

Technical Consultant. In support of the approved Habitat Conservation Plan (HCP), Mr. Osting provided modeling support and on-site vegetation installation assistance to staff at BIO-WEST.

2008-2011

San Antonio River Instream Flow Planning Project –San Antonio River, TX. BIO-WEST, SARA

Project Manager. The San Antonio River Authority (SARA), in collaboration with the Texas Instream Flow Program, is conducting a basin specific study of the lower San Antonio River Basin. SARA initially selected the team of BIO-WEST and RPS team to serve in an advisory role to SARA, but the project team's role has evolved and now includes field, technical and professional services covering project over-sight, study design development, historical document reviews, methodology evaluations, data analysis, field data collection, habitat modeling, water quality modeling, sediment transport analysis, report preparation and meeting with State agencies, local officials or the public. Mr. Osting has participated with SARA and the TIFP throughout the SB2 Study Design process, and is currently managing execution of a field study program to evaluate changes in aquatic habitat across a low range of flows. Mr. Osting has developed 1D and 2D hydraulic and habitat models to assess habitat at low flows and is currently collecting data to develop 2D hydraulic models at five sites. Mr. Osting led development of a riparian area modeling effort that links results of 1D HEC-RAS near-channel floodplain inundation models to the Texas Ecological Systems Classification Project (TESCP) which is an ecosystem spatial dataset.

Colorado River Instream Flow Analysis -- Colorado River, TX

Mr. Osting worked with the LCRA and BioWest, Inc., on the Colorado River Instream Flow Study to determine environmental needs. Mr. Osting conducted field work and provided technical assistance for data collection efforts at 10 sites on the Colorado River between Austin and Bay City. Data collected at each site included instream bathymetry (single-beam echosounder), point velocity (ADV), current profiles (ADCP), water surface elevation (survey-grade differential GPS), water surface fluctuation (level gauges) and water edge (Laser rangefinder). Mr. Osting participated in all phases of the project with concentration on data interpretation, development of River2D hydrodynamic models and integration of hydrodynamics with aquatic habitat. Mr. Osting participated in development of flow regime recommendations that maintain health of the river ecosystem.

Matagorda Bay Health Evaluation, Marsh Habitat Analysis – Matagorda Bay, TX. LCRA

Technical Consultant. Mr. Osting is responsible for design and programming of automated tools to evaluate and utilize hydro-dynamic and salinity model output for the Marsh Habitat Analysis. The tool integrates model output, habitat mapping, salinity suitability and habitat suitability to provide insight into suitability of marsh conditions for a variety of species for a variety of scenarios. Mr. Osting is also responsible for troubleshooting and QA/QC hydrodynamic and water quality model simulations (RMA-2, RMA-4). Mr. Osting and other RPS staff performed extensive uncertainty analysis on the habitat model and results of habitat model.

SAC/SJRA SB3 Ecological Overlay “drill-down” – San Jacinto River watershed, TX. SJRA, TCEQ

Project Manager. In support of the Texas SB3 environmental flows process, RPS conducted a review of existing literature within the San Jacinto River watershed on behalf of the San Jacinto River Authority (SJRA) and the Science Advisory Committee (SAC) of the SB3 Environmental Flows Advisory Group. The primary objective of this work is to extract from existing studies information relevant to development of environmental flow guidelines within the basin. A detailed matrix of occurrence of 117 fish species was analyzed to develop focal species that may be relevant to focal environmental flow components. Biology, water quality, physical processes (geomorphology) and sediment/ nutrient data and reports were investigated to support development of relationships of ecological parameters with flow.

2008

Highlands Reservoir Hydrographic Survey – Highlands, TX. SJRA

Project Manager. As part of a system-wide canal and water supply evaluation conducted by RPS for the San Jacinto River Authority, Mr. Osting was responsible for hydrographic/ volumetric survey of Highlands Reservoir, a 600 surface acre water impoundment.

2011

Nueces River Regional Sediment Management Plan (RSMP) – Phase 1, 2 & ITR – Corpus Christi, TX. Halff, USACE

Project Manager. Mr. Osting worked with Halff and Associates and the US Army Corps of Engineers (USACE) to evaluate sediment within the Nueces River basin between Choke Canyon reservoir and the Gulf of Mexico. Phase 1 of this Section 2037 project identified current sediment needs, problems and opportunities, as well as potential sediment

strategies or management measures that benefit the region. A wide range of potential opportunities were identified involving alluvial watershed sediment sources, lake impoundment, fluvial river transport, bay sediment loading, navigation dredging and spoils, coastal erosion and estuarine marsh areas. Mr. Osting was responsible for preliminary evaluation of Lake Corpus Christi sediment bypass strategies (including hydrosuction dredging), assessment of coastal erosion risk areas, fluvial sediment transport and marsh issues. Phase 2 expands the level of stakeholder involvement, and provides additional information on specific sediment management opportunities. Mr. Osting is responsible for evaluation of sediment management opportunities for Lake Corpus Christi, including maintenance dredging and dredge material disposal. Mr. Osting conducted an Independent Technical Re-view (ITR) of conceptual design of marsh restoration breakwaters in Nueces Bay.

Blue Water Shores WWTP outfall location dye study – Acton, TX. BRA, TCEQ

The Blue Water Shores Waste-water Treatment Plant (WWTP) is permitted to discharge treated effluent into Lake Granbury. To determine where the outfall that was constructed in the late 1970s was located, Rhodamine WT dye was injected into the discharge waste stream. A fluorometer mounted in a boat was used to continuously sample and analyze lake water to identify and track the dye plume emitted from the discharge location. The plume pattern was used to estimate location of the end of the outfall pipe.

2012

BRA, Chloride/TDS Concentration Predictive Tool, Texas: Mr. Osting is project lead for the development of an automated forecast system for chloride and total dissolved solids (TDS) concentration within the Brazos River basin, from the Salt Fork Brazos River downstream through Possum Kingdom Lake, Lake Granbury and Lake Whitney. The daily forecast can be used by Brazos River Authority (BRA) staff or customers to more effectively manage water supply in the basin. The concentration forecast will consider antecedent conditions in the watershed and upstream water bodies. Uncertainty in the underlying datasets and in the forecast are incorporated into the forecast.

2010

EARIP Comal River stream modeling. BIO-WEST, EAA

Modeler. Tim developed a QUAL2E temperature model of Landa Lake and the old and new Comal River channels to assess temperature conditions for a range of flow split scenarios, including recirculation. Tim also provided siting and conceptual design for the proposed experimental channel area.

2008

Lake Granbury Canal Circulation Dye Studies –Granbury, TX

Project Manager. BRA. As part of a lakeside canal modeling effort, the exchange of lake water with canal water was estimated. Ex-change differed among different canals having different configurations, a circulation study was conducted. Rhodamine WT dye was deployed into six canal systems then the dye plume was tracked using a fluorometer and GPS system over the following 36 to 48 hours. On-site wind and environmental data was collected for the duration of the study. The dye tracks were used to estimate a combined dispersion/ diffusion coefficient for each canal system.

Lake Canal Construction Specification Study, WQ Modeling –Lake Granbury, TX. BRA

Tim worked with the Brazos River Authority (BRA) and Brown and Gay Engineers to determine appropriate geometric configurations for new residential canals. Tim determined appropriate configurations based upon water quality aspects considering existing lake-wide conditions, orientation with respect to prevailing winds, cross-sectional and longitudinal geometry, circulation patterns and depth fluctuations. The EFDC hydro-dynamic model, combined with the WASP water quality model were used to evaluate a matrix of geometric configurations based upon flushing time and Dissolved Oxygen concentration. Canal widths, depths, lengths, configuration and orientation were recommended on the basis of this water quality modeling effort.

2012

Flood zone analysis - Ascension Parish, LA

Technical Consultant. For a private client, evaluate likelihood of project site inundation from backwater hydraulics. The downstream area was complicated by an expansive marsh system, drainage canals and connection to Lake Maurepas and Lake Pontchartrain subject to hurricane surge flooding.

2008

MRGO Closure Dike design for USACE-MVN – New Orleans, LA

Technical Consultant. The Mississippi River - Gulf Outlet (MRGO) is a deep-draft ship channel that transects a sensitive coastal wetland environment from the Gulf of Mexico to the Port of New Orleans, Louisiana. After an in-depth study, the US Government has decided to close the MRGO to both deep-and shallow-draft navigation. Mr. Osting and other RPS staff participated in evaluation of two alternative closure dikes: a cellular sheet pile wall and a rubble-mound breakwater. Based upon predicted storm surge, water depth and potential breaking wave heights, Mr. Osting developed

wave loading forces for the vertical sheet pile wall alternative. For the rubble-mound alternative, Mr. Osting developed rock size, weights and gradations for the 50-foot high rubble mound structure that would resist surge and wave attack under extreme surge and wave conditions; he also developed conceptual cross-sections, overbank toe-scour protection and performed hydraulic conductivity analysis of the proposed structure. Construction plans and specifications were developed by others for the rubble-mound structure based upon Mr. Osting's analysis.

Matagorda Bay Health Evaluation, Bay Salinity Analysis – Matagorda Bay, TX. LCRA

Technical Consultant. As part of development of freshwater inflow criteria for Matagorda Bay, Mr. Osting was responsible for an extensive analysis of salinity gradients and trends in the eastern arm of west Matagorda Bay. The analysis included comparison of salinity time-series sonde observation data, point observation data and model predictions (RMA-2 and RMA-4). Relationships between salinity and freshwater inflow from the Colorado River were developed and evaluated. The ultimate use of the analysis was to develop and increase confidence in bay environmental inflow criteria.

**Representative
Publications
Reports and
Proceedings**

2018

BULLOCK, P, OSTING, T. **Emergency spillway 2D modeling renovation options – Lake Cypress Springs**. Texas Water Conservation Association Mid-year 2018.

2014

PETERSEN, C, OSTING, T, ROWNEY, C, BRASHEAR, B, FROSSARD, W. **Linking watershed and receiving water quality models to protect and enhance water quality in the Trinity River in Fort Worth, TX**. EPA Region 6 Stormwater MS4 Conference 2014

2012

MORGAN, T and OSTING, T. **Lake Granbury Watershed Protection Plan – Accepted by stakeholders, TCEQ and EPA**. Texas Water Conservation Association (TWCA).

2011

OSTING, T. **Approach for water quality evaluation for instream flows in Texas**. EWRI 2011, Palm Springs, CA.

2010

OSTING, T. **Environmental Flow Studies: Linking ecosystem indicators with hydrological metrics**.

Invited Guest Lecture at Spatial Sciences Laboratory (SSL) – Texas A&M University.

OSTING, T. **Blending biology and engineering: linking ecosystem indicators with hydrological metrics**. Invited lecture, 46th Annual Meeting Texas Section, American Society of Agricultural and Biological Engineers (ASABE).

CHOWDHURY, A, OSTING, T, FURNANS, J, MATTHEWS, R. **Groundwater-surface water interaction in the Brazos River Basin: Evidence from lake connection history and chemical and isotopic compositions**. Texas Water Development Board Report R-375.

2009

OSTING, T. **Expanded method for identifying submerged objects in single-beam echosounder data**. Proceedings of the EWRI 2009, Kansas City, MO.

2007

OSTING, T, HODGES, B. **Estimating uncertainty of 2D hydraulic models used for aquatic habitat modeling studies**. University of Texas at Austin; Center for Research in Water Resources (UT-CRWR) Online Report 07-03.

2006

WHITE, L., HODGES, B.R., AUSTIN, B.N., and OSTING, T. **Identification of submerged large woody debris from single-beam echo soundings**. Journal of Hydroinformatics, Vol. 7, pp.1-12.

OSTING, T. **Spatial Data for Habitat Modeling**. Symposium on Emerging Technologies for Research on Rivers and Reservoirs, invited session, Texas River and Reservoir Management Society.

2004

OSTING, T. **An improved anisotropic scheme for interpolating scattered bathymetric data points in sinuous river channels**. CRWR Online Report 04-01, UT Austin Center for Research in Water Resources, 21 pages.

2003

OSTING, T. and AUSTIN, B.N. **Instream flow study of the Sulphur River**. Report prepared for the US Army Corps of Engineers. 214pp.

OSTING, T., AUSTIN, B.N. and MATTHEWS, R. **Instream flow study of the Lower Brazos River**. Report prepared for the US Army Corps of Engineers. 178pp.



DAVID FLORES

SCIENTIST/BIOLOGIST

EDUCATION

Texas State University • 2006

- M.S. Aquatic Biology

Texas State University • 2003

- B.S. Aquatic Biology
- Minor in Chemistry

PROFESSIONAL TRAINING & CERTIFICATIONS

- National Pollution Discharge Elimination System (NPDES) permitting
- ArcGIS/QGIS
- California Air Resources Board (CARB) 100 series course
- Water Quality Standards – Environmental Protection Agency (EPA)
- Trimble RTK GPS
- YSI/Sontek data sonde and M9 Acoustic Doppler Current Profiler (ADCP)
- Aquatic Plant Identification
- Fish Identification
- Nielsen Environmental Sampling Field Course
- United States Army Corps of Engineers (USACE) Wetlands Training
- USACE 404/401 Permitting

AREAS OF EXPERTISE

Mr. Flores is the President and Principal Biologist for Arroyo Environmental Consultants, LLC (Arroyo). He has over 20 years of experience in water resources analysis and environmental field study design in many of the Texas river basins, including acting as a Project Principal and Project Manager for many projects in the following areas of expertise: water quality sampling and analysis, instream flows, bay and estuary inflow analyses, hydrographic surveys, environmental site assessments, riparian assessments, fish and insect identification, biological population surveys (terrestrial and aquatic), wetland determinations and delineations, environmental chemistry, river/stream micro- and meso-habitat assessments, threatened and endangered species assessments, Rivers and Harbors Act Section 10 permits, Clean Water Act Section 404/401 permits, and National and Texas Pollution Discharge Elimination System (NPDES and TPDES) permits. Mr. Flores has also served as an expert scientific witness for several environmental permitting actions.

Mr. Flores has worked for all three Texas environmental agencies (the Texas Commission on Environmental Quality [TCEQ], the Texas Parks and Wildlife Department [TPWD] and the Texas Water Development Board [TWDB]) and collaborated with federal resource agencies (USACE, the EPA and the United States Fish and Wildlife Service [USFWS]). While at TCEQ, Mr. Flores worked on the Water Quality Standards Team providing technical review of Section 404 Permits and issuing Section 401 Water Quality Certifications.

Mr. Flores is intimately familiar with various environmental ecosystems having led and assisted large- and small-scale data collection efforts (i.e. stream cross section surveys, water quality sampling) on the Brazos, Sabine, San Jacinto, Nueces, Colorado, Pecos, Devils, San Marcos, Lavaca, San Antonio, and Trinity Rivers, as well as several reservoirs and coastal bays.

EXPERIENCE

TPDES Permitting Actions (Multiple Clients) • 2015 – ongoing

Mr. Flores has successfully led and participated in numerous TPDES permitting actions including serving as an expert scientific witness as part of the contested case process. Mr. Flores led field data collection, analysis and reporting efforts that include stream physical habitat characterization, water quality, flow measurements, fish, macroinvertebrate and mussel community assessments, water quality data collection, riparian and instream habitat classification, aquatic vegetation surveys and nutrient screening. Mr. Flores has performed technical reviews of over 200 TPDES permit applications and has an in-depth understanding of the Texas Water Quality Standards and their implementation. Additionally, Mr. Flores developed an independent antidegradation review methodology which has been utilized during these processes.

Most Recent TPDES Projects

Legal Cases:

- TPDES Permit Action • 2021 - ongoing
- TPDES Permit Action • 2022 - ongoing
- TPDES Permit Action • 2021 - ongoing
- TPDES Permit Action • 2020 – ongoing
- TPDES Stormwater Litigation • 2020
- TPDES Stormwater Litigation • 2019
- TPDES Permit Action • 2019
- TPDES Permit Action • 2017
- TPDES Permit Action • 2017

Permitting Actions:

- TPDES Permit Action • 2019 – ongoing
- TPDES TLAP & Stormwater Permits • 2019 – ongoing
- TPDES Permit Action • 2019 – ongoing



		<p>08 Mr. Garrett T. Arthur 09 OFFICE OF PUBLIC INTEREST COUNSEL P.O. Box 13087, MC 103 10 Austin, Texas 78711 Telephone: (512) 239-5757 11 email: garrett.arthur@tceq.texas.gov 12 FOR EXECUTIVE DIRECTOR OF TCEQ: 13 Ms. Mattie Isturiz, Staff Attorney Mr. Anthony Tatu, Staff Attorney 14 TEXAS COMMISSION ON ENVIRONMENTAL QUALITY Environmental Law Division, MC-173 15 P.O. Box 13087 Austin, Texas 78711-3087 16 Telephone: (512) 239-0600 email: mattie.isturiz@tceq.texas.gov 17 anthony.tatu@tceq.texas.gov 18 FOR BENNETT'S CAMPING CENTER & RV RANCH, AND STACY & JAMES RIST: 19 Mr. Michael J. Booth 20 BOOTH & ASSOCIATES, P.C. 5701 W. Slaughter, Suite A130 21 Austin, Texas 78749 Telephone: (512) 472-3263 22 email: mjb@baw.com 23 24 25 003:01 APPEARANCES 02 FOR VICTORIA CALDER and GRANBURY FRESH: 03 Mr. John Bedecarre Mr. Eric Allmon 04 PERALES, ALLMON & ICE, P.C. 1206 San Antonio St. 05 Austin, Texas 78701 Telephone: (512) 469-6000 06 email: johnb@txenvirolaw.com eallmon@txenvirolaw.com</p>
2	052:15 - 054:08	<p>052:15 Q Okay. I'll take a shot at this. Do you 16 believe, Mr. Frossard, that there could be conditions in 17 the draft permit that would satisfy your concerns as 18 opposed to just being convinced that the application 19 should be denied?</p>

20 A Yes. Could you ask that again, please, sir?

21 Q You bet. And I'll just take it in one part.

22 Do you believe just based on your

23 professional experience and your understanding clearly

24 of water quality issues, particularly in Lake Granbury,

25 do you believe that there could be conditions placed on

053:01 the draft permit that would satisfy your concerns about

02 water quality?

03 A With additional work, yes, sir, I think

04 potentially could be.

05 Q And so can you tell me what that additional

06 work might be?

07 A Yes, sir. I think you would have to analyze

08 the resulting impact of the nutrient loads, both total

09 phosphorus and total nitrogen on the receiving waters,

10 making sure that with that information in there with a

11 calibrated Qualtex model that the DO standard of 5 would

12 not be violated and that with the appropriate model to

13 analyze the impacts to the cove associated with

14 cyanobacteria growth, that there would not be a -- a

15 high risk potential for human health or animal issues or

16 additional aquatic impacts on the receiving waters.

17 Q And Qualtex and then you -- and then you

18 mentioned the appropriate modeling, if I understood you

19 correctly. Is that -- are you referring to a model

20 different from Qualtex in that regard?

21 A Yes, sir, model such as CE-QUAL-W2, the

22 modeling of that type of methodology.

23 Q A dynamic model in that case?

24 A Yes, sir, that looks at algal components.

25 Q Okay. Just to make sure I've rounded out the

054:01 issue here, are there any -- is there anything else

02 there, Mr. Frossard?

03 A No, sir. I believe if you've met the DO

04 standard and you're able to show that, and you're able

05 to show that there are no additional impacts to the

06 receiving waters, I think then at that point in time you

07 probably have satisfied a Tier 1 and a Tier 2

08 requirement.

Attachment D

Case	Granbury TPDES App.
Issue Code	Esmond on 2020 modeling

ESMOND, STEVEN 1/31/22 VOL 1		
1	001:01 - 001:23	<p>001:01 SOAH's DOCKET NO. 582-22-0585</p> <p>02 TCEQ DOCKET NO. 2021-1001-MWD</p> <p>03 APPLICATION OF THE) BEFORE THE STATE OFFICE CITY OF GRANBURY FOR NEW)</p> <p>04 TEXAS POLLUTANT DISCHARGE) OF ELIMINATION SYSTEM)</p> <p>05 PERMIT NO. WQ0015821001) ADMINISTRATIVE HEARINGS</p> <p>06</p> <p>07</p> <p>08 ORAL DEPOSITION OF</p> <p>09 STEVEN E. ESMOND, P.E.</p> <p>10 January 31, 2022</p> <p>11 (Via Zoom Videoconference)</p> <p>12</p> <p>13</p> <p>14</p> <p>15 ORAL DEPOSITION of STEVEN E. ESMOND, P.E., produced</p> <p>16 as a witness at the instance of the Applicant and duly</p> <p>17 sworn, was taken in the above-styled and numbered cause</p> <p>18 on January 31, 2022 from 9:00 a.m. to 1:32 p.m., before</p> <p>19 Mary Carol Griffin, Certified Shorthand Reporter in and</p> <p>20 for the State of Texas, reported remotely by</p> <p>21 computerized stenotype machine pursuant to the Texas</p> <p>22 Rules of Civil Procedure and the provisions stated on</p> <p>23 the record or attached hereto.</p>
2	002:01 - 002:20	<p>002:01 APPEARANCES</p> <p>02 FOR CITY OF GRANBURY:</p> <p>03 Mr. Jason T. Hill J.T. Hill, PLLC</p> <p>04 3508 Far West Boulevard, Suite 170 Austin, TX 78731</p> <p>05 Telephone: 512-806-1060 - Fax: 512-957-1405 email: jason@jthill.com</p> <p>06 FOR VICTORIA CALDER and GRANBURY FRESH:</p> <p>07 Mr. John Bedecarre</p> <p>08 PERALES, ALLMON & ICE, P.C. 1206 San Antonio St.</p>

		<p>09 Austin, Texas 78701 Telephone: 512-469-6000</p> <p>10 email: johnb@txenvirolaw.com</p> <p>11 FOR EXECUTIVE DIRECTOR OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:</p> <p>12 Ms. Mattie Isturiz</p> <p>13 TEXAS COMMISSION ON ENVIRONMENT QUALITY Environmental Law Division, MC-173</p> <p>14 P.O. Box 13087 Austin, TX 78711-3087</p> <p>15 Telephone: 512-239-0600 email: mattie.isturiz@tceq.texas.gov</p> <p>16 FOR BENNETT'S CAMPING CENTER AND RV RANCH, AND STACY AND</p> <p>17 JAMES RIST:</p> <p>18 Mr. Michael J. Booth BOOTH & ASSOCIATES, P.C.</p> <p>19 5701 W. Slaughter, Suite A130 Austin, Texas 78749</p> <p>20 Telephone: 512-472-3263 email: mjb@baw.com</p>
3	003:01 - 003:12	<p>003:01 APPEARANCES</p> <p>02 FOR THE OFFICE OF PUBLIC INTEREST COUNSEL FOR THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY:</p> <p>03 Mr. Garrett T. Arthur</p> <p>04 THE OFFICE OF PUBLIC INTEREST COUNSEL OF THE COMMISSION ON ENVIRONMENTAL QUALITY</p> <p>05 P.O. BOX 13087, MC-103 Austin, Texas 78711</p> <p>06 Telephone: 512-239-5757 email: garrett.arthur@tceq.texas.gov</p> <p>07 OTHERS PRESENT:</p> <p>08 Woody Frossard, Observer</p> <p>09 Tim Osting, ASI Chris Coffman, City Manager, City of Granbury</p> <p>10 David Flores, Observer Luci Dunn, Observer</p> <p>11 Chris Hay, Observer Bianca Whitaker, Observer</p> <p>12 Josh Berryhill, Observer Rick Crownover, City of Granbury</p>
4	046:20 - 047:15	<p>046:20 Q I've got a document up here, Mr. Esmond, that</p> <p>21 appears to be on your letterhead. The bottom right-hand</p>

		<p>22 corner has the number 976.1. Do you see that?</p> <p>23 A Right. I see that.</p> <p>24 <u>Q Is this correspondence that you wrote?</u></p> <p>25 <u>A Right.</u></p> <p>047:01 <u>Q And you agree that that date, September 9,</u></p> <p>02 <u>2020, is correct?</u></p> <p>03 <u>A Right.</u></p> <p>04 Q I want you to look over to Page 2 of the</p> <p>05 document numbered 976.2 in the bottom right-hand corner.</p> <p>06 Let me ask you to take a look at this</p> <p>07 excerpt. And particularly, Mr. Esmond, there is a</p> <p>08 statement here to Ms. Rist: <u>We will present a</u></p> <p>09 <u>one-dimensional model in the contested case hearing to</u></p> <p>10 <u>prove that the effluent isn't mitigated to any</u></p> <p>11 <u>significant degree by Rucker Creek and that this plant</u></p> <p>12 <u>basically discharges its effluent to Lake Granbury for</u></p> <p>13 <u>all intents and purposes.</u></p> <p>14 <u>Did I read that correctly?</u></p> <p>15 <u>A I think so.</u></p>
5	048:06 - 049:25	<p>048:06 Q (BY MR. HILL) September 9th, 2020, obviously</p> <p>07 is the day after the email exchange between Stacy Rist</p> <p>08 and Victoria Calder referencing a conversation that they</p> <p>09 had had with you.</p> <p>10 What was it that you looked at,</p> <p>11 Mr. Esmond, that made you confident that you could</p> <p>12 present a one-dimensional model in the contested case</p> <p>13 hearing to prove that the effluent isn't mitigated by</p> <p>14 any significant degree by Rucker Creek, and you made</p> <p>15 that conclusion within one day of your phone</p> <p>16 conversation with Ms. Rist?</p> <p>17 <u>A Yeah. Well, what I was telling them is that if</u></p> <p>18 <u>you want to hire me, this is what I can -- this is the</u></p> <p>19 <u>type of work that needs to be done.</u> Well, we would</p> <p>20 present a model, you know, to show the impact and so</p> <p>21 forth, and that that's not a trivial amount of work.</p> <p>22 It's not a trivial effort. Unfortunately, I wasn't</p> <p>23 hired until right at the end of December, like about a</p> <p>24 month ago.</p> <p>25 So I didn't have time to do any modeling.</p> <p>049:01 And, you know, that would have been nice if they had</p> <p>02 wanted to go down that road. <u>I understand they didn't</u></p> <p>03 <u>want to do the model, that's fine, but that that's what</u></p>

		<p>04 <u>they were going to need.</u></p> <p>05 <u>They were going to need that model that</u></p> <p>06 <u>would stand up in a contested case hearing that would</u></p> <p>07 <u>show those impacts, and so I was explaining to them the</u></p> <p>08 <u>scope and magnitude.</u> I didn't put dollars on it, but I</p> <p>09 told them it would be expensive. And, you know, that</p> <p>10 was at a time when they weren't -- they didn't know</p> <p>11 anything about the process.</p> <p>12 And so when I said we will present a one</p> <p>13 model, I'm saying that, you know, assuming you hire us</p> <p>14 to do something for you, we will present it, you know,</p> <p>15 we'll do that. If the model doesn't show any impacts on</p> <p>16 the receiving water, then fine. The model is going to</p> <p>17 show whatever it shows. But I don't think I would go to</p> <p>18 a contested case hearing with them and represent them if</p> <p>19 there wasn't any impact. Why do that? Why go and</p> <p>20 oppose something that, you know, is okay that has no</p> <p>21 impact on the receiving stream.</p> <p>22 So that's a major element. I was trying</p> <p>23 to help them understand the scope of what they were</p> <p>24 going to get into when they opposed -- when they became</p> <p>25 a party in a contested case hearing.</p>
6	052:18 - 053:01	<p>052:18 Q At the time you wrote the September 9, 2020</p> <p>19 letter here that I have in front of you on the screen,</p> <p>20 had you already made your mind up about what the impacts</p> <p>21 to the water quality in Rucker Creek from the City of</p> <p>22 Granbury application and the draft permit?</p> <p>23 A No, because I wouldn't know that until I ran</p> <p>24 the model. <u>But you're not going to go to a contested</u></p> <p>25 <u>case hearing with a model that shows everything is</u></p> <p>053:01 <u>great.</u> I would have assumed, based on the width of</p>