TCEQ INTRA-AGENCY TRANSMITTAL MEMO
Executive Director's Response to Comments

DATE: October 31, 2017

TO: FINAL DOCUMENTS TEAM LEADER
OFFICE OF THE CHIEF CLERK

FROM: **Kathy Humphreys**
ENVIRONMENTAL LAW DIVISION

1. Application Information:
Program Area: Water
Permit No. WQ0014488003
Applicant's Name: City of Dripping Springs
Docket/CID Item # (if known):

2. Application subject to SB 709 (received on or after 09/01/15): Yes_X_ No___

3. OCC Action Required *(check applicable boxes)*
Date stamp and return copy to above-noted ELD Staff Attorney *and*:

FOR ALL PROGRAM AREAS: *(required only when changes needed to official agency mailing list)*

☐ Update the mailing list in your file with the attached contact names and addresses.
Include corrected or additional names and addresses for mailing list.

☐ Other Instructions (where applicable):

FOR WASTE & WATER:

X Send Response to Comments Letter which solicits hearing requests from commenters and requests for reconsideration to the mailing list in your files.
This would occur in all circumstances when comments have been received for 801 and 709 applications.
Or

☐ Send Response to Comments Letter and Motion to Overturn Letter which solicits motions to overturn to the mailing list in your files.
This may occur when all comments have been withdrawn for 801 or 709 applications, or when comments are received for applications that will not be set for agenda.

FOR AIR (NSR only):

☐ Send RTC with OCC's response to comments letter which solicits contested case hearing requests from commenters and requests for reconsideration to the mailing list in OCC's files.
This would occur only when there are pending contested case hearing requests (except no-increase renewals).

☐ Set for commission agenda and send RTC with agenda setting letter.
This would occur when there are pending contested case hearing requests on a no-increase renewal and technical review is complete.

☐ Hold until a commission agenda date is requested and then send RTC with the Agenda Setting Letter.
This would occur when there are pending hearing requests on a no-increase renewal; but technical review is NOT complete. If this box is checked, ED staff must call the OCC Agenda Team Leader to arrange a specific agenda date.

☐ Place RTC in File - no further action required by OCC.
This would occur when the matter is uncontested but comments were received, APD will send a copy with MTO letter.

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TCEQ PERMIT NO. WQ0014488003

APPLICATION BY	§	BEFORE THE
CITY OF	§	TEXAS COMMISSION ON
DRIPPING SPRINGS	§	ENVIRONMENTAL QUALITY

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director of the Texas Commission on Environmental Quality (the commission or TCEQ) files this Response to Public Comment on the application by the City of Dripping Springs (Dripping Springs) for new Texas Pollutant Discharge Elimination System (TPDES) Permit No. WQ0014488003. As required by Title 30 Texas Administrative Code (30 TAC) Section (§) 55.156, before a permit is issued, the Executive Director prepares a response to all timely, relevant and material, or significant comments. The Office of Chief Clerk timely received timely comments from Representative Donna Howard, Hays County Commissioner Ray Whisenant, the individuals in Attachment 1, groups and organizations in Attachment 2, and a Petition from the Onion Creek Coalition (Attachment 3). Additionally, Representative Isaac requested the TCEQ hold a public meeting. The individuals that provided formal oral comment at the Public Meeting are noted in Attachment 4. This response addresses all timely public comments received, whether or not withdrawn.

This application is subject to the requirements in Senate Bill (SB) 709, effective September 1, 2015. SB 709 amended the requirements for comments and contested case hearings. One of the changes required by SB 709 is that the Commission may not find that a "hearing requestor is an affected person unless the hearing requestor timely submitted comments on the permit application." Texas Water Code (TWC) § 5.115 (a-1)(2)(B). The Executive Director received comments from over 1,000 persons; to determine which commenter made a particular comment, please see Attachments 5 through 32. Additionally, because of the length of the RTC and the number of acronyms used, the Executive Director added a list of the acronyms used in the RTC in Section I.D.

If you would like a hard copy of this RTC, please contact Kathy Humphreys, Staff Attorney at 512-239-3417 or Kathy.Humphreys@tceq.texas.gov. If you need more information about this permit application or the wastewater permitting process, please call the TCEQ Public Education Program at 1-800-687-4040. General information about the TCEQ can be found at the following website: www.tceq.texas.gov

I. BACKGROUND

A. Description of Facility

The City of Dripping Springs submitted an application to the Texas Commission on Environmental Quality (TCEQ) for a new permit, TCEQ Permit No. WQ0014488003 to authorize the disposal of treated domestic wastewater at a daily average flow not to exceed 0.995 million gallons per day (MGD) in the Interim I phase, 0.4975 MGD in the Interim II phase, and 0.995 MGD in the Final phase. The proposed wastewater treatment facility will serve the Greater Dripping Springs area.

If the Permit is issued the Dripping Springs South Regional Wastewater Treatment Facility (WWTF) will be a 4-stage Bardenpho activated sludge process plant with conventional clarification and tertiary filtration in all phases. The WWTF will be authorized to dispose of sludge at a TCEQ-authorized land application site, co-disposal landfill, or wastewater treatment facility. Treatment units will include a bar screen, two anoxic basins, two aerobic basins, a final clarifier, three sludge holding tanks, effluent filters, a chlorine contact chamber, and an effluent storage tank. The facility has not been constructed.

The effluent limitations in the Interim I phase of the draft permit, based on a 30-day average, are 5 mg/l five-day carbonaceous biochemical oxygen demand ($CBOD_5$), 5 mg/l total suspended solids (TSS), 1.9 mg/l ammonia-nitrogen (NH_3-N), 0.15 mg/l total phosphorus, 6 mg/l total nitrogen, 126 colony forming units (CFU) or most probable number (MPN) of *E. coli* per 100 ml, and 6.0 mg/l minimum dissolved oxygen (DO). The effluent limitations in the Interim II phase of the draft permit, based on a 30-day average, are 5 mg/l $CBOD_5$, 5 mg/l TSS, 1.7 mg/l NH_3-N, 0.15 mg/l total phosphorus, 6 mg/l total nitrogen, 126 CFU or MPN of *E. coli* per 100 ml, and 6.0 mg/l DO. The effluent limitations in the Final phase of the draft permit, based on a 30-day average, are 5 mg/l $CBOD_5$, 5 mg/l TSS, 1.2 mg/l NH_3-N, 0.15 mg/l total phosphorus, 6 mg/l total nitrogen, 126 CFU or MPN of *E. coli* per 100 ml and 6.0 mg/l minimum DO. The effluent shall contain a chlorine residual of at least 1.0 mg/l after a detention time of at least 20 minutes based on peak flow and shall be dechlorinated to less than 0.1 mg/l chlorine residual.

If the draft permit is issued, the treated effluent will be discharge to Walnut Springs; thence to Onion Creek in Segment No. 1427 of the Colorado River Basin. The unclassified receiving water use is minimal aquatic life use for Walnut Springs. The designated uses for Segment No. 1427 are high aquatic life use, public water supply, aquifer protection, and primary contact recreation. The effluent limitations in the draft permit will maintain and protect the existing instream uses.

The WWTF and disposal site will be located at 23127 Ranch-to-Market Road 150 in the City of Dripping Springs, Hays County, Texas 78620.

B. Procedural Background

The permit application was received on October 20, 2015 and declared administratively complete on December 7, 2015. The Notice of Receipt and Intent to Obtain a Water Quality Permit (NORI) was published on December 24, 2015 in the *Austin American-Statesman*. The NORI was published in Spanish in the *Ahora Si*, Hays County Texas, on December 24, 2015. The Combined Notice of Public Meeting and the Notice of Application and Preliminary Decision (NAPD) was published on October 6, 2016 in the *Dripping Springs Century News* and on October 11, 2016 in the *Austin American-Statesman.* The Combined Notice of Public Meeting and NAPD was published in Spanish on October 6, 2016, in the *Ahora Si* and the *Dripping Springs Century News*, Hays County Texas. A public meeting was held on November 10, 2016 at the Dripping Springs Ranch Park in Dripping Springs, Texas.

The public comment period ended at the close of the Public Meeting. Notice of the public meeting was published on October 11, 2016, in the *Austin American Statesman*, Hays County, Texas. This application was filed on or after September 1, 2015; therefore, this application is subject to the procedural requirements adopted pursuant to House Bill (HB) 801, 76th Legislature (1999), and Senate Bill (SB) 709, 84th Legislature (2015), both implemented by the Commission in its rules in 30 TAC Chapter 39, 50, and 55. The Texas Legislature enacted Senate Bill 709, effective September 1, 2015, amending the requirements for comments and contested case hearings. This application is subject to those changes in the law.

Additionally, The Executive Director forwarded the Dripping Springs draft permit to EPA on September 6, 2016. The EPA sent the TCEQ an interim Objection to the Executive Director's draft permit on December 1, 2016. The Executive Director responded to EPA's interim objections on June 1, 2017; EPA withdrew its objections on June 30, 2017.

C. Access to Rules, Laws, and Records

Please consult the following websites to access the rules and regulations applicable to this permit:

to access the Secretary of State website: www.sos.state.tx.us;

for TCEQ rules in 30 TAC : www.sos.state.tx.us/tac/ (select "TAC Viewer" on the right, then "Title 30 Environmental Quality");

for Texas statutes: http://www.statutes.legis.state.tx.us/;

to access the TCEQ website: http://www.tceq.state.tx.us/rules/index.html (for downloadable rules in Microsoft Word or Adobe PDF formats, select "Rules," then "Current Rules and Regulations," then "Download TCEQ Rules")

for Federal rules in Title 40 of the Code of Federal Regulations: http://www.epa.gov/lawsregs/search/40cfr.html; and

for Federal environmental laws: http://www.epa.gov/lawsregs/.

Commission records for this facility are available for viewing and copying and are located at TCEQ's main office in Austin, 12100 Park 35 Circle, Building F, 1st Floor (Office of Chief Clerk). The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Dripping Springs City Hall, Front Desk, 511 Mercer Street, Dripping Springs, Texas.

D. Acronyms

ASCE American Society of Civil Engineers

BAT- Best Available Treatment Technology

BOD- Biochemical Oxygen Demand

BRCCWA- Blanco River Cypress Creek Water Association

BSEACD- Barton Springs Edwards Aquifer Conservation District

$CBOD_5$- Carbonaceous Biochemical Oxygen Demand

CDC- Center for Disease Control and Prevention

CEC- Contaminants of Emerging Concern

CFR- Code of Federal Regulation

CFU- Colony Forming Unit

CID- Commissioners Integrated Database

CWA- Clean Water Act

DHCS- Driftwood Historical Conservation Society

DO- Dissolved Oxygen

DSWSC- Dripping Springs Water Supply Corporation

EARZ- Edwards Aquifer Recharge Zone

E. coli- *Escherichia Coli*

EDCs- Endocrine-Disrupting Chemicals

EPA- Environmental Protection Agency

ETJ- Extraterritorial Jurisdiction

FEMA- Federal Emergency Management Agency

GEAA- Greater Edwards Aquifer Alliance

GPM- Gallons per Minute

HCA- Hill Country Alliance

HTGCD- Hays Trinity Groundwater Conservation District

IP- Procedures to Implement the Texas Surface Water Quality Standards

LCRA- Lower Colorado River Authority

LUE- Living Unit Equivalent

MBR- Membrane Bio Reactor

MCL- Maximum Contaminant Level

MGD- Million Gallons per Day

mg/L- Milligrams per Liter

µg/L - Micrograms per Liter

MOA- Memorandum of Agreement

MPN- Most Probable Number

MSWLF- Municipal Solid Waste Landfill

NAPD- Notice of Application & Preliminary Decision

NH_3-N- Ammonia-Nitrogen

NORI- Notice of Receipt of Application and Intent to Obtain Water Quality Permit

NPDES- National Pollutant Discharge Elimination System

ONRWs- Outstanding National Resource Waters

OSSF- On-Site Sewage Facility

PBDEs- Polybrominated Diphenyl Ethers

PFOA- Perfluorooctanic Acid

PFRP- Process to Further Reduce Pathogens

POPs- Persistent Organic Pollutants

POTW- Publicly Owned Treatment Works

POW- Protect Our Water

PPCPs- Pharmaceuticals and Personal Care Products

PSRP- Process to Significantly Reduce Pathogens

RCRA- The Resource Conservation and Recovery Act

RTC- Response to Comments

SCADA- Supervisory Control & Data Acquisition System

SIC- Standard Industrial Classification

SOD- Sediment Oxygen Demand

SOPs- Standard Operating Procedures

SOS- Save Our Springs Alliance

SPIF- Supplemental Permit Information Form

SWQM- Surface Water Quality Monitoring

TAC- Texas Administrative Code

TCEQ - Texas Commission on Environmental Quality

TCLP- Toxicity Characteristic Leaching Procedure

TDS- Total Dissolved Solids

TexTox- Texas Toxicity Modeling Program

THSC- Texas Health and Safety Code

TLAP- Texas Land Application Permit

TP- Total Phosphorous

TPDES- Texas Pollutant Discharge Elimination System

TPWD- Texas Parks and Wildlife Department

TN- Total Nitrogen

TSS- Total Suspended Solids

TSWQS- Texas Surface Water Quality Standards

TWC- Texas Water Code

U.S.C. - United States Code

USCA- United States Court of Appeals

USFWS- United States Fish & Wildlife Service

USGS- U.S. Geological Survey

UV- Ultraviolet

WASP- Water Quality Analysis Simulation Program

WEF- Water Environment Federation

WET- Whole Effluent Toxicity Testing

WQD- Water Quality Division

WQMP- State of Texas Water Quality Management Plan

WWTF- Wastewater Treatment Facility

II. Comments and Responses

A. General Objections to the Draft Permit

Comment 1:

For the persons that made this comment, please see Attachment 5.

Many commenters expressed general opposition to the draft permit.

Response 1:

The Executive Director acknowledges the comment.

Comment 2:

BSEACD stated because the District has a statutory obligation to protect recharge quality, and the proposed discharge from the Dripping Springs (wastewater treatment facility (WWTF) would not be protective of recharge water quality (thus perhaps being considered a "waste") the District must take extraordinary action regarding the draft permit.

Response 2:

The Executive Director acknowledges the comment.

B. General Support for the Draft Permit

Comment 3:

For the persons that made this comment, please see Attachment 32.

Several commenters noted support of the application and draft permit.

Response 3:

The Executive Director acknowledges these comments.

C. Resolutions

Comment 4:

The Hays Trinity Groundwater Conservation District submitted a resolution opposing the issuance of the Dripping Springs permit.

Response 4:

The Executive Director acknowledges the resolution.

Comment 5:

The City of Buda submitted a resolution supporting BSEACD's opposition to the draft permit. The City of Buda noted that it does not oppose Dripping Springs discharging additional effluent to Onion Creek if it can be done without degrading the water resources in Hays County. The City of Buda requested the TCEQ to carefully consider the potential adverse impacts to the region's water resources before it reaches a final decision.

Response 5:

The Executive Director acknowledges the resolution.

Comment 6:

For the person(s) that made this comment, please see Attachment 32.

A commenter noted that the Hays Trinity Groundwater Conservation District, whose mission includes conserving, preserving, recharging and preventing waste of groundwater within Western Hays County, passed a resolution opposing the Dripping Springs permit.

Response 6:

The Executive Director acknowledges the resolution.

Comment 7:

For the person(s) that made this comment, please see Attachment 32.

A commenter noted that the Barton Springs Edwards Aquifer Conservation District issued a Resolution in opposition to the Dripping Springs application.

Response 7:

The Executive Director acknowledges the resolution.

Comment 8:

Save Baron Creek Association submitted a resolution opposing the Dripping Springs' draft permit.

Response 8:

The Executive Director acknowledges the resolution.

D. General Comments on the Application and Draft Permit:

Comment 9:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that EPA should step in.

Response 9:

The EPA has reviewed and commented on the draft permit. The State of Texas assumed the authority to administer the National Pollutant Discharge Elimination System (NPDES) program September. 14, 1998. The TCEQ has federal regulatory authority over discharges of pollutants to Texas surface water, with the exception of discharges associated with oil, gas, and geothermal exploration and development activities, which are regulated by the Railroad Commission of Texas. The Memorandum of Agreement (MOA) between the TCEQ and the EPA requires TCEQ forward certain draft wastewater discharge permits to EPA for its review. The Executive Director forwarded the Dripping Springs draft permit to EPA on September 6, 2016. The EPA sent the TCEQ an Interim Objection letter regarding the Dripping Springs draft permit on December 1, 2016. The Executive Director responded to EPA's interim objection letter on June 1, 2017; EPA withdrew its objections on June 29, 2017.

Comment 10:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the proposed permitting action is under the Clean Water Act and requires an Environmental Impact Statement. Similarly, a commenter stated that documentation regarding the National Environmental Policy Act should be completed.

Response 10:

An environmental impact statement and compliance with the National Environmental Policy Act are not required as part of the TPDES wastewater permitting process. The State of Texas assumed authority under federal mandate to administer the National Pollutant Discharge Elimination System (NPDES) program under Section 402 of the Clean Water Act in 1998. The NPDES is a federal regulatory program to

control discharges of pollutants to surface waters of the United States. The TCEQ is responsible for the protection of water quality with federal regulatory authority over discharges of pollutants to Texas surface water. The TCEQ has a legislative responsibility to protect water quality in the State of Texas and to authorize wastewater discharge TPDES permits under TWC Chapter 26.

Comment 11:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed general concerns regarding the discharge to Onion Creek. Specifically: a commenter stated that allowing a discharge to Onion Creek would set a dangerous precedent; a commenter stated that the TCEQ should not permit WWTFs that discharge to surface water; a commenter stated that the new developments should be required to treat their own wastewater; and a commenter stated that the issue of wastewater discharges to Onion Creek should be taken up by the legislature.

Response 11:

The Texas Legislature recognized the importance of maintaining water quality "consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life . . ." TWC § 26.003. To implement this policy the legislature gave TCEQ authority to issue permits for the discharge of waste or pollutants into or adjacent to water in the state. TWC § 26.027. The legislature also provided the TCEQ with authority to promulgate rules. As discussed throughout this RTC, the Executive Director prepared a draft permit for Dripping Springs that complies with all applicable statutory and regulatory requirements. TCEQ does not have statutory authority to require developments to treat their own wastewater. Additionally, as is discussed elsewhere in this RTC, the TCEQ encourages the use of regional WWTFs.

Comment 12:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed concern over the negative impact of the proposed discharge on archeological sites.

Response 12:

The Texas Historical Commission (THC) submitted a comment letter on the Dripping Springs application to both the TCEQ and Dripping Springs' representative. The THC letter recommends that the project area be surveyed to identify historic properties that may be adversely affected by the Dripping Springs activities. Dripping Springs is responsible for coordinating separately with the THC with regard to the requirements of the THC. The THC requirements do not affect the TCEQ permitting process.

Comment 13:

For the person(s) that made this comment, please see Attachment 32.

A commenter recommended that the rules need to be amended to prohibit discharges that may risk polluting an aquifer.

Response 13:

The TCEQ's Edwards Aquifer Rules (30 TAC Chapter 213) are designed to regulate activities having the potential for polluting the Edwards Aquifer and hydrologically connected surface streams in order to protect existing and potential uses of groundwater and maintain Texas Surface Water Quality Standards. The Edwards Aquifer rules include sets of effluent limits that generally apply to discharges between zero and five miles and between five and 10 miles upstream from the Recharge Zone, but also include a section (under 30 TAC § 213.6) stating that discharges within the Onion Creek watershed specifically must also comply with the Colorado River Watershed Rule requirements concerning Onion Creek and its tributaries (30 TAC § 311.43). This provision requires specific effluent limits for discharges to Onion Creek and its tributaries, regardless of distance upstream from the Recharge Zone. These limits are more stringent than the general Edwards Aquifer Rule effluent limit requirements for discharges greater than five miles (or greater than 10 miles) upstream from the Recharge Zone. The Dripping Springs outfall will be approximately 20 miles upstream from the Recharge Zone, including the Walnut Springs portion of the route, and the effluent limits included in the draft permit are consistent with all of these rules.

Comment 14:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that there should be more stringent regulations regarding wastewater permitting in Texas and not less stringent regulations.

Response 14:

The State of Texas assumed authority under federal mandate to administer the National Pollutant Discharge Elimination System (NPDES) program under Section 402 of the Clean Water Act in 1998. The NPDES is a federal regulatory program to control discharges of pollutants to surface waters of the United States. The TCEQ is responsible for the protection of water quality with federal regulatory authority over discharges of pollutants to Texas surface water, with specific exceptions for oil and gas exploration and development activities. The TCEQ has legislative responsibility to protect water quality in the State of Texas and to authorize wastewater discharge permits under the Texas Water Code and the Texas Administrative Code.

The Dripping Springs draft permit incorporates some of the most stringent effluent limits of any permit issued in the State of Texas. The effluent limits for $CBOD_5$, ammonia-nitrogen, and minimum effluent dissolved oxygen were evaluated to ensure

that instream DO concentrations will be maintained above the criteria applicable to Walnut Springs and Onion Creek, and are among the most stringent limits for these constituents assigned to any TPDES permit in the state. The draft permit also includes one of the most stringent total phosphorus limits of any permit in the state, and also includes a total nitrogen limit. It is uncommon to include total nitrogen as an effluent limit for TPDES permits that discharge into freshwater water bodies, and it is exceedingly uncommon to include in combination with a total phosphorus limit for discharges into any water body in the state (freshwater or saltwater). The total nitrogen limit is also one of the most stringent nitrogen-related effluent limits for any permit in the state. The draft permit includes both a chlorination requirement and a dechlorination requirement, the latter of which is very uncommon to include in a TPDES permit with a daily average effluent flow of less than 1 MGD. The effluent limits included in the draft permit are more stringent than those required under the Edwards Aquifer Rule (30 TAC § 213.6) and under the requirements specific to Onion Creek and its tributaries in the Colorado River Watershed Rule (30 TAC § 311.43), which are among the most stringent effluent limits prescribed by any watershed rule in the state.

Comment 15:

For the person(s) that made this comment, please see Attachment 6.

Several commenters expressed concern that the Dripping Springs WWTF will destroy the natural beauty and aesthetics of the surrounding area and Onion Creek.

Response 15:

As discussed elsewhere in this RTC, the Executive Director evaluated the Dripping Springs application and prepared a draft permit, consistent with all applicable statutory and regulatory requirements. The Texas Surface Water Quality Standards include criteria for aesthetic parameters. 30 TAC § 307.4. The draft permit incorporates the aesthetic parameters by prohibiting the discharge of floating solids or visible foam in other than trace amounts and the discharge of visible oil, and a limit for total suspended solids.

Additionally, to ensure the effluent from the Dripping Springs WWTF will not cause taste and odor issues due to an excessive accumulation of algae in Onion Creek, the Executive Director added a total phosphorus limit of 0.15 mg/l to the draft permit to preclude the excessive accumulation of algae. Additionally, the Executive Director added a total nitrogen limit of 6 mg/L to the draft permit primarily to protect drinking water; however, the total nitrogen limit will also help preclude the excessive accumulation of algae. The addition of these nutrient limits will maintain and protect the aesthetics of Onion Creek.

Comment 16:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated the TCEQ Edwards Aquifer rules prohibit direct discharge of effluent over the Edwards Aquifer Recharge Zone or within five miles of

it. They question why this discharge may be allowed within the contributing zone of the Edwards Aquifer, but not within the Edwards Aquifer Recharge Zone, proper.

Response 16:

The discharge point proposed by Dripping Springs is located approximately 20 miles upstream from the Edwards Aquifer Recharge Zone. However, the effluent limits that are included in the draft permit (for a discharge 20 miles upstream from the Recharge Zone) are more stringent than the limits required by the Edwards Aquifer Rules for a discharge located (generally) within zero to ten miles upstream of the Recharge Zone or than are prescribed by the Colorado River Watershed Rule for a discharge into Onion Creek or its tributaries.

The TCEQ has developed rules for regulated activities on the Edwards Aquifer recharge and contributing zones which are located within 30 TAC Chapter 213 (Edwards Aquifer). These rules authorize the discharge of treated wastewater within the contributing zone of the Edwards aquifer, and specify effluent limits for those facilities located within 10 miles of the recharge zone.

The TCEQ's Edwards Aquifer Rules prohibit the direct discharge of municipal and industrial wastewater discharges on the Edwards Aquifer Recharge Zone into or adjacent to water in the state that would create additional pollutant loading (30 TAC §213.8(a)(6)). However, the TCEQ has established minimum effluent treatment levels for new or increased discharges of treated wastewater into or adjacent to water in the state, other than industrial wastewater discharges, within zero to five miles upstream from the Recharge Zone (30 TAC §213.6(c)(1)) and for new or increased discharges into or adjacent to water in the state, other than industrial wastewater discharges, more than five miles but within 10 miles upstream from the Recharge Zone (30 TAC §213.6(c)(2)). The Edwards Aquifer Rules also reference the Colorado River Watershed Rule in regard specifically to Onion Creek and its tributaries (30 TAC §213.6(c)(3)). The Colorado River Watershed Rule requires specific minimum effluent treatment levels for discharges of treated wastewater directly into Onion Creek or into its tributaries, regardless of distance upstream from the Recharge Zone (30 TAC §311.43).

Comment 17:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the draft permit does not meet all state and federal legal and technical requirements. Similarly, several commenters stated that the law and rules are not being correctly applied to the Dripping Springs application.

Response 17:

The Executive Director has reviewed Dripping Springs' application for new TPDES Permit No. WQ0014488003 and determined that the draft permit meets all applicable legal and technical requirements.

The following items were considered in developing the draft permit:

- Application received from Dripping Springs on October 20, 2015, and additional information received on November 30, 2015; December 14, 2015; July 14, 2016; and August 5, 2016;
- Texas Surface Water Quality Standards, 30 TAC §§ 307.1 - 307.10, effective July 22, 2010;
- EPA approved portions of the 2014 Texas Surface Water Quality Standards, effective March 6, 2014;
- 30 TAC Chapter 311: Watershed Protection; Subchapter E: Colorado River Watershed;
- 30 TAC Chapter 213: Edwards Aquifer; Subchapter A: Edwards Aquifer in Medina, Bexar, Comal, Kinney, Uvalde, Hays, Travis and Williamson Counties;
- 30 TAC Chapter 309, Subchapter A: Effluent Limitations;
- 30 TAC Chapter 30, Subchapter J: Wastewater Operators and Operations Companies;
- 30 TAC Chapter 217: Design Criteria for Domestic Wastewater Systems;
- 30 TAC Chapter 312: Sludge Use, Disposal, and Transportation;
- 30 TAC Chapter 319, Subchapter A: Monitoring and Reporting Requirements;
- Interoffice memoranda from the Water Quality Assessment Section of the TCEQ Water Quality Division;
- Interoffice memorandum from the Stormwater & Pretreatment Team of the TCEQ Water Quality Division;
- *Procedures to Implement the Texas Surface Water Quality Standards* (IP), Texas Commission on Environmental Quality, June 2010, as approved by EPA and the IP, January 2003, for portions of the 2010 IP not approved by EPA;
- Texas 2014 Clean Water Act Section 303(d) List, Texas Commission on Environmental Quality, June 3, 2015; approved by the EPA on November 19, 2015; and
- Texas Natural Resource Conservation Commission Guidance Document for Establishing Monitoring Frequencies for Domestic and Industrial Wastewater Discharge Permits, Document No. 98-001.000-OWR-WQ, May 1998.
- Compliance history report for Dripping Springs and the proposed facility prepared on June 2, 2016.

The draft permit was reviewed internally before the draft permit was reviewed and approved by the EPA on June 29, 2017. Additionally, all procedural requirements have been met. As discussed in the procedural section above, all required notices have been mailed and published for this application. A public meeting was held November 10, 2016 in Dripping Springs, Texas. The Executive Director has made a preliminary decision that this permit, if issued, meets all statutory and regulatory requirements. The preliminary determination can be reexamined and may be modified if new information is received.

Comment 18:

For the person(s) that made this comment, please see Attachment 7.

Several commenters stated that the draft permit does not protect human health and safety, the environment, and physical property.

Response 18:

If the draft permit is issued and Dripping Springs complies with all the terms of the draft permit, human health and safety and the environment, will be protected. As discussed throughout this RTC, the Executive Director prepared a draft permit for Dripping Springs that complies with all applicable statutory and regulatory requirements.

TCEQ does not have jurisdiction to address issues regarding physical property as part of the wastewater permitting process. While the Texas Legislature has given the TCEQ the responsibility to protect water quality, the water quality permitting process is limited to controlling the discharge of pollutants into or adjacent to water in the state and protecting the water quality of the state's rivers, lakes and coastal waters.

Comment 19:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the wastewater must be treated before it is released into a creek or stream.

Response 19:

As part of TCEQ's legislative mandate to maintain the quality of water in the state, all domestic wastewater must be treated before it is discharged into water in the state. Dripping Springs applied to the TCEQ for a new permit to authorize the discharge of treated domestic wastewater. If the draft permit is issued, Dripping Springs will be authorized to discharge treated domestic wastewater at a daily average flow not to exceed 399,000 gallons per day in the Interim I phase, a daily average flow not to exceed 497,500 gallons per day in the Interim II phase, and a daily average flow not to exceed 995,000 gallons per day in the Final phase of the permit.

Comment 20:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the Corps of Engineers stated that Onion Creek is not a navigable stream.

Response 20:

Whether the stream is navigable is not the determining factor for TCEQ jurisdiction in the TPDES permitting process. The Executive Director's review of an application for a TPDES permit focuses on controlling the discharge of pollutants into water in the state, which includes both navigable and non-navigable water bodies.

The Texas Water Code defines "water" or "water in the state" to mean groundwater, percolating or otherwise, lakes, bays, ponds, impounding reservoirs, springs, rivers, streams, creeks, estuaries, wetlands, marshes,

inlets, canals, the Gulf of Mexico, inside the territorial limits of the state, and all other bodies of surface water, natural or artificial, inland or coastal, fresh or salt, navigable or non-navigable, and including the beds and banks of all watercourses and bodies of surface water, that are wholly or partially inside or bordering the state or inside the jurisdiction of the state.

TWC §26.001(5).

Comment 21:

For the person(s) that made this comment, please see Attachment 32.

Several commenters recommended the Executive Director delay action on the Dripping Springs permit until the rulemaking process to implement wastewater reuse is concluded. Similarly, a commenter stated that TCEQ should commit all its resources to fast-tracking the rule-making petition allowing credit in TLAPs for beneficial reuse.

Response 21:

As discussed elsewhere in this RTC, the Executive Director has complied with all notice and public participation requirements. The public meeting was held in November 2016, processing of the RTC was delayed for several months while the Executive Director coordinated with EPA to resolve its comments. Without a request from Dripping Springs to further delay the RTC, the Executive Director has opted to move forward.

On March 14, 2016, the Commission received a petition from the City of Austin requesting the Commission initiate rulemaking to amend 30 TAC Chapters 222 and 309. The proposed rules would allow permittees and applicants to rely on the beneficial reuse of treated wastewater when calculating the size of effluent storage and the amount of land required for disposal of wastewater, which would allow permittees and applicants to reduce the effluent storage size and dedicated land application acreage that are currently required by rule for facilities seeking a Texas Land Application Permit.

The public was invited to comment on the City of Austin petition in regard to changing the rules for the beneficial reuse of treated wastewater. The public comment period was from August 28, 2016 through October 28, 2016. At this time, the rules are in the process of being drafted. The proposed rules will be posted on the TCEQ Water Quality Advisory Work Group website when complete. For updates on the rule petition process please see visit: https://www.tceq.texas.gov/permitting/wastewater/city-of-austin-petition.

Comment 22:

For the person(s) that made this comment, please see Attachment 32.

A commenter recommended the Executive Director revise the Dripping Springs draft permit to include remedies to abate water quality degradation and nuisance

conditions if instream monitoring demonstrates that water quality or aquatic habitat is negatively impacted by the discharge.

Response 22:

Instream monitoring is not a requirement for obtaining a TPDES permit. The Executive Director has made a preliminary determination that Onion Creek will not be degraded by the proposed discharge with protective effluent requirements such as a total phosphorus limit of 0.15 mg/L and total nitrogen limit of 6 mg/L. If warranted, the Executive Director has the ability to reopen and revise the permit at any time. For a complete discussion of the Executive Director's antidegradation review, see Response 82.

Comment 23:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the use and enjoyment of properties fronting the creek will be negatively impacted by the wastewater discharged under the terms of the draft permit. Similarly, several commenters expressed general concerns regarding the use and enjoyment of property.

Response 23:

If the draft permit is issued, it will not grant Dripping Springs the right to use private or public property for conveyance of wastewater along the discharge route. This includes property belonging to any individual, partnership, corporation or other entity. The permit does not authorize any invasion of personal rights or any violation of federal, state, or local laws or regulations. It is Dripping Springs' responsibility to acquire the necessary property rights to use the site of the planned treatment facility and the discharge route. Additionally, the draft permit does not limit the ability of nearby landowners to use common law remedies for trespass, nuisance, or other causes of action in response to activities that may or actually do result in injury or adverse effects on human health or welfare, animal life, vegetation or property, or that may or actually do interfere with the normal use and enjoyment of animal life, vegetation, or property.

As discussed elsewhere in this RTC, the Executive Director has made a preliminary determination that the draft permit will not degrade water quality in Onion Creek nor adversely impact its aesthetic qualities.

Comment 24:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the Dripping Springs draft permit should be similar to the Belterra Permit (WQ0014293001). Specifically, a commenter stated that the draft permit should include: minimum creek-flow as a precondition to the direct discharge; more stringent effluent standards that maintain the oligotrophic status on Onion Creek; a requirement that the wastewater treatment facility must use a

membrane bioreactor (MBR) or comparable treatment technology; and require Dripping Springs maximize reuse of its effluent, thus reducing the volume discharged.

Response 24:

The Executive Director evaluates each application for a wastewater discharge permit individually. Permit-specific factors, such as the volume of discharge and the characteristics and quality of receiving water, are considered for each permit application. Additionally, the Belterra permit authorizes discharges to a different subwatershed than the City of Dripping Springs; therefore, it would not be appropriate to include all of the provisions in the Belterra permit in the draft permit for the City of Dripping Springs.

Both the Belterra and Dripping Springs applications were evaluated to ensure that the effluent limits are consistent with the requirements of the Edwards Aquifer Rules. The discharge point authorized by the Belterra permit is located between five and ten miles upstream of the Edwards Aquifer Recharge Zone; however, the discharge point that would be authorized by the Dripping Springs permit is located approximately 20 miles upstream of the Edwards Aquifer Recharge Zone.

Moreover, the Belterra permit is a unique permit that includes provisions from a settlement agreement and contested case hearing (i.e., requiring minimum creek flow as a precondition to the direct discharge). The Executive Director cannot require an applicant to incorporate terms from a settlement agreement on another permit application if the terms exceed the requirements of TCEQ's rules.

Discussions regarding the treatment technology, antidegradation and reuse for the Dripping Springs draft permit are discussed elsewhere in this document.

Comment 25:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the proposed permit is similar to the Liberty Hill permit which discharges into the South San Gabriel River which was ruined by the lack of oversight in the permit. The commenter also asked what the difference is between the Dripping Springs permit and the Liberty Hill permit.

Response 25:

The Executive Director evaluates each application for a wastewater discharge permit individually. Permit-specific factors, such as volume of discharge and the type and quality of receiving water, are considered for each permit application. The Liberty Hill permit is different from the Dripping Springs draft permit in that the Liberty Hill permit authorizes discharge from an existing facility at a permitted flow greater than 1 million gallons per day (MGD). Moreover, the Liberty Hill permit includes provisions from a settlement agreement. Additionally, the Liberty Hill permit authorizes discharges to a different watershed than the watershed that Dripping Springs has proposed to use.

Comment 26:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked how the Dripping Springs' proposed method of wastewater disposal compares with how other municipalities dispose of wastewater nationwide.

Response 26:

Discharges of treated wastewater to surface waters are a common method of treated wastewater disposal nationwide. These discharges are permitted either through the NPDES program or through a corresponding state-delegated program. As discussed elsewhere in this RTC, Texas implements the NPDES program through the TPDES program.

Comment 27:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that as a resident having only access to a private water well he feels like the TCEQ analysis is not protective of drinking water considering local hydrogeology, creek flow characteristics, and algae growth characteristics that were demonstrated by the Corps of Engineers and local governments for the adjacent Bear Creek during the Belterra hearings.

Response 27:

As stated elsewhere in this document, the Executive Director evaluates each permit application individually, and this draft permit does not contain all the same provisions as the Belterra permit. During an assessment of a permit application, the TCEQ considers site-specific factors reported in the permit application and independently determined from publicly available resources, such as flow characteristics, water clarity, substrate of the creek, canopy coverage, etc. These characteristics can collectively be used to inform decisions related to nutrient limits for the prevention of algae growth and the need for permit limits to protect human health and the environment. This represents a portion of the evaluation done to assess consistency with the Texas Surface Water Quality Standards.

The TCEQ's Water Quality Division has determined that the effluent limits in the draft permit are consistent with the Texas Surface Water Quality Standards and are therefore protective of surface water quality, human health, and the environment. This level of surface water protection will also ensure protection of groundwater quality and its known uses.

Comment 28:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked if the treated sewage is any different 9,500 feet downstream (less than two miles) of the outfall, because, according to the commenter it is the same ratio of treated sewage to the natural creek water. The commenter also

stated the treated sewage at 10,000 feet downstream of the outfall is the same as it was at the outfall.

Response 28:

The treated wastewater will not be the same 10,000 feet downstream of the outfall as it is at the outfall. Treated wastewater undergoes various biochemical processes and conversions as the wastewater travels downstream from the outfall. The constituents in the treated wastewater are assimilated by and interact with materials present within the water column and the underlying sediments. These materials include, plant, animal, and bacteriological components. Similarly, the effluent-creek water mix undergoes chemical changes from contact with sediments, the air-water interface, and dissolved substances present in the water column. In addition, the wastewater tends to become more dispersed and diluted as it travels away from the point of discharge, dispersing at different rates as the mixed waters flow through sections of the water body with faster, slower, deeper, and shallower hydraulic characteristics, from both an upstream-to-downstream and a cross-sectional perspective.

Because the treated effluent will be protective of human health and the environment at the outfall as well as where it first enters Onion Creek, the treated effluent will still be protective of human health and the environment 10,000 feet downstream of the outfall, even if the ratio of treated effluent to the natural creek water were to remain unchanged.

Comment 29:

For the person(s) that made this comment, please see Attachment 31.

Several commenters stated that, based on the Hays County Regional Habitat Conservation Plan, the discharge from Dripping Springs could result in primary and secondary impacts to the Golden-cheeked Warbler, Black-capped Vireo and salamander species. A commenter stated that the proposed discharge will threaten endangered species habitat. Several commenters expressed concern regarding the impacts to the Barton Springs Salamander. Several commenters stated that degraded water quality in the Edwards Aquifer is inconsistent with the protection of federally-listed endangered and threatened species that reside in the Edwards Aquifer and are dependent on high water quality.

A commenter stated that measures in its endangered-species draft habitat conservation plan requires it to minimize the amount of take of two endangered species of salamander, which in turn requires it protect the Edwards Aquifer from risk of potential contamination to the extent feasible.

Similarly, a commenter stated that Onion Creek provides recharge to the Edwards Aquifer, which is the habitat of the Barton Springs salamander (*Eurycea sosrum*) and the Austin Blind salamander (*Eurycea waterlooensis*), and noted that the Executive Director's technical review of the Dripping Springs application did not

explicitly consider impacts to the salamander populations from increasing nitrates or sulfates in Onion Creek.

A commenter stated that the endangered species review was incomplete. A commenter noted that TCEQ's 2012 guidance procedures suggest that dechlorination and Whole Effluent Toxicity are typically requested by the U.S. Fish and Wildlife Service.

Several commenters noted that endangered species could be negatively impacted by an increase in the nitrate-nitrogen concentration and the change in the trophic status of Onion Creek.

Response 29:

As provided in the *Procedures to Implement the State Surface Water Quality Standards*, the Executive Director reviewed the Dripping Springs application for potential impacts to aquatic or aquatic-dependent federally listed endangered or threatened species. The review included the Barton Springs salamander (*Eurycea sosorum*). To protect the quality of the receiving waters and its associated habitat and thereby protect endangered species, the Executive Director developed a draft permit that included stringent effluent limitations such as a total phosphorus limit of 0.15 mg/L and ammonia-nitrogen limits below 2 mg/L.

According to the Memorandum of Agreement between TCEQ and EPA, the presence of endangered species also requires EPA review and if appropriate consultation with United States Fish and Wildlife Service (USFWS). EPA provided USFWS a copy of the Dripping Springs draft permit on October 17, 2016; USFWS responded to EPA on December 22, 2016. USFWS requested EPA consider the direct and indirect effects of the proposed discharge on listed species and critical habitat, specifically mentioning the results of the City of Austin modeling. In its withdrawal of its interim objection, the EPA requested that TCEQ continue to work with USFWS (and other stakeholders) to address endangered species concerns.

The Executive Director has coordinated with USFWS and received additional information regarding protection of endangered species. Based on this information, and in response to other public comment, the Executive Director has included additional protections in the draft permit such as a 6 mg/L total nitrogen limit, dechlorination requirements, and a toxics screening requirement. Along with the other effluent limitations in the draft permit, these measures will further safeguard water quality and minimize potential threats to endangered species such as potential habitat degradation due to nutrient loading and adverse effects of chlorine, ammonia, nitrate, and other possible inputs of toxic constituents. Potential impacts to endangered terrestrial species such as the Black-capped vireo and the Golden-cheeked warbler do not specifically fall under the purview of the Executive Director's evaluation of the proposed discharge, however, the requirements included in the draft permit to protect aquatic and aquatic-dependent endangered species should also benefit terrestrial species.

Comment 30:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked about the impact of the WWTF on Camp Ben McCulloch and McKinney Falls state park.

Response 30:

As discussed elsewhere in this RTC, the Executive Director thoroughly reviewed Dripping Springs' application and prepared a draft permit. The Executive Director has determined that the draft permit will be protective of the environment, water quality, and human health in the waterbodies receiving treated effluent (Walnut Springs and Onion Creek). Therefore, the Executive Director does not anticipate any adverse impacts to Camp Ben (McCulloch) or McKinney Falls State Park from this wastewater discharge permit. Camp Ben (McCulloch) is located approximately ten miles downstream from the proposed point of discharge for Dripping Springs WWTF. McKinney Falls State Park is located approximately 48 miles downstream.

Comment 31:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated the discharge from the Dripping Springs WWTF will cause Onion Creek to flow continuously instead of having periods of intermittent flow.

Response 31:

The proposed discharge from the Dripping Springs WWTF could potentially result in more persistent flows in portions of Onion Creek during periods of extreme low-flow or no-flow conditions. The Executive Director's review of the Dripping Springs application considered the impact of the effluent from the Dripping Springs WWTF on Onion Creek, including during critical low-flow periods. The effluent limits included in the draft permit are designed to be protective of water quality during periods of critical low-flow as well as under higher flow conditions. As discussed elsewhere in this document, the Executive Director has concluded that existing uses of Onion Creek will be maintained and protected.

Comment 32:

For the person(s) that made this comment, please see Attachment 32.

Several commenters volunteered to monitor the water quality of Onion Creek.

Response 32:

The Executive Director appreciates the commenters' interest in the TPDES permitting process and in protecting the water quality of Onion Creek. If you believe there is an environmental problem or a violation of the law, you can either file a complaint with the TCEQ, or you can submit information documenting the problem. The Executive Director is authorized by statute to initiate an enforcement action based on information provided by a private individual (TWC § 7.0025; 30 TAC § 70.4). More

information on citizen-collected evidence is available on TCEQ's website at: https://www.tceq.texas.gov/compliance/complaints/protocols/evi_proto.html

Comment 33:

For the person(s) that made this comment, please see Attachment 32.

Several commenters noted that the Antioch Cave Recharge device is located below the proposed discharge location.

Response 33:

The Executive Director acknowledges that the Antioch Cave Recharge device is located within the Edwards Aquifer Recharge Zone, more than 20 miles downstream of the proposed discharge location. The proposed effluent limits in all three phases of the draft permit are more stringent than the effluent limits required by 30 TAC §213.6(c) for a wastewater discharge within zero to five miles upstream of the Edwards Aquifer Recharge Zone.

E. Comments on the WWTF and Treatment Processes

Comment 34:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked why Dripping Springs is not using its existing WWTF.

Response 34:

According to its application, Dripping Springs plans on increasing the capacity of its existing WWTF and constructing a new WWTF. In the Interim I phase, Dripping Springs will operate its new 0.4975 MGD biological nutrient removal WWTF, while retrofitting its existing WWTF to accommodate the flows in the Interim II and Final phases.

Comment 35:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked what is in the effluent discharge, and what chemicals the water is treated with. A commenter asked how much of the discharge is actually effluent.

Response 35:

If the draft permit is issued, the effluent will be composed predominantly of treated domestic wastewater. All of the discharge from any WWTF is considered effluent. According to the permit application, phosphorus in the treated effluent will be removed chemically with the addition of alum; the treated effluent will be disinfected by chlorination.

Comment 36:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked if the proposed permit is issued, will the Dripping Springs WWTF use primary, secondary, or tertiary treatment.

Response 36:

According to the application, Dripping Springs intends on using primary, secondary, and tertiary treatment of the wastewater.

Comment 37:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the effluent should meet primary and secondary drinking water standards. A commenter noted that San Antonio has a WWTF that treats its wastewater to the point it is drinkable, and recommended that Dripping Springs build the same type of facility. Similarly, a commenter stated that the TCEQ should require Dripping Springs to treat the discharge to potable standards. Another commenter noted that it would not be opposed to the direct discharge of effluent if it is treated to drinking water standards. Another commenter expressed concern that tertiary treatment is not proposed.

Response 37:

TCEQ's rules do not require that domestic wastewater be treated to potable standards before it is discharged to water in the state. State and federal regulations require that treated effluent maintain the existing uses of the receiving waters as designated within the Texas Surface Water Quality Standards at 30 TAC Chapter 307. One of the designated uses assigned to Onion Creek is Public Water Supply. Compliance with the Public Water Supply designation is evaluated by comparing laboratory analysis of the effluent with the calculated effluent limitations necessary to protect human health. The effluent limitations are calculated based upon the human health criteria to protect drinking water and fish consumption listed within Table 2 of 30 TAC Chapter 307. The human health criteria are derived in accordance with EPA guidance. However, if a calculated criterion is greater than the applicable maximum contaminant level (MCL) in 30 TAC Chapter 290 (relating to Public Drinking Water), then the MCL is used as the criterion.

As discussed elsewhere in this RTC, the draft permit complies with all applicable statutory and regulatory requirements. Additionally, the Executive Director added a total nitrogen limit of 6 mg/L to the draft permit to protect drinking water quality, and a requirement that the applicant submit laboratory analysis of the effluent for evaluating compliance with Texas Surface Water Quality Standards. Please see new Other Requirements Item No. 10 in the draft permit.

Finally, the Executive Director is not aware of any WWTFs discharging into a receiving body of water in San Antonio, or elsewhere in Texas, that treat WWTF effluent to drinking water standards.

Comment 38:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that Dripping Springs failed to demonstrate a need for the volume of effluent it requested authorization to discharge. According to the commenters, Dripping Springs did not: provide justification for the proposed flows with construction timelines; define its service area; provide information about the size of the service requests; provide information about anticipated growth rates; or provide information about the 348,500 gallons reserved. The commenters also noted that Dripping Springs seems to have chosen the phases of the WWTF to avoid providing sufficient redundancy. A commenter noted that one of the reasons Dripping Springs requested such a large discharge amount is because when the permit is renewed, with a major amendment, there is less opportunity for public comment and contesting the permit.

Response 38:

Dripping Springs applied to the TCEQ for a new TPDES permit to authorize the discharge of treated domestic wastewater at a daily average flow not to exceed 0.995 MGD in the Final phase. In its application, Dripping Springs stated that it has been receiving numerous new sewer system requests and continues to receive new additional requests and a new permit and wastewater treatment facility is needed to allow the city to grow and to provide sewer service to new and existing customers.

The preliminary engineering report from Dripping Springs provided justification for the requested flows. As part of the engineering report, Dripping Springs provided sufficient information regarding anticipated future wastewater needs. In its application, Dripping Springs explained that the timing of the proposed Final phase (0.995 MGD) was made so that the 0.995 MGD facility will have been built and in operation prior to exceeding the limits in the Interim I and II phases.

If the permit is issued, Dripping Springs would have to apply for a renewal before the expiration of the permit. 30 TAC §305.65 (a). For a renewal application, an applicant must comply with the TCEQ notice provisions at 30 TAC Chapter 39, and the TCEQ must provide an opportunity for public comment as required by 30 TAC Chapter 55. Also, the public has an opportunity to request a public meeting on a renewal application. However, TCEQ's rule at 30 TAC §55.201(i) limits the right to a contested case hearing for specific renewal and minor amendment applications.

Comment 39:

For the person(s) that made this comment, please see Attachment 8.

A commenter stated that there is existing permitted wastewater treatment capacity that could meet the need expressed by Dripping Springs. The commenter provided a list and noted the capacity of five nearby WWTFs that have TLAPs.

According to the commenters, the existing facilities may have sufficient capacity to accommodate the anticipated growth in the area. The commenters assert that TLAPs are the preferred method of wastewater disposal both in the Hill Country and in the Onion Creek watershed, and because there is sufficient existing capacity at other WWTFs, the Dripping Springs draft permit should either be denied or altered.

Several commenters noted that Dripping Springs did not justify the need for the proposed flows during the permit term. A commenter noted that Dripping Springs did not provide any justification for its need for the Final phase. Similarly, several commenters noted that the phasing of the flow volumes is not consistent with the construction phases and projected flows.

Several commenters stated that the Executive Director did not accurately consider TCEQ's regionalization policies. According to a commenter, the regionalization policy does not strictly require centralized facilities. A commenter noted that the construction of the Dripping Springs WWTF and associated infrastructure will be costly and cause ground disturbance that may adversely impact water quality and alter groundwater flow. Additionally, the length of the transmission infrastructure and increased number of lift stations would increase the risk of failure and unauthorized discharges. The commenter recommended that the TCEQ and the City of Dripping Springs reevaluate an alternative management strategy that would cost the rate payers less and pose less risk to the environment.

Similarly, according to a commenter, the Dripping Springs application acknowledges that there are WWTFs within three miles of the proposed facility or the collection system, but Dripping Springs did not provide the required certification that the facilities are not willing to provide service. Several commenters stated that the Dripping Springs application is deficient because it does not provide the information required to assess regionalization.

Response 39:

The Executive Director reviewed the information Dripping Springs submitted in its application and determined Dripping Springs provided sufficient information regarding its need for the new facility. According to the application, if issued, this permit will serve the Greater Drippings Springs area, including areas currently served by City of Dripping Springs (WQ0014488001) and Caliterra (Hays County Development District 1) (WQ0014208001).

The Texas Water Code (TWC) § 26.0282 provides that:

> in considering the issuance, amendment, or renewal of a permit to discharge waste, the Commission may deny or alter the terms and conditions of the proposed permit, amendment, or renewal based on

consideration of need, including the expected volume and quality of the influent and the availability of existing or proposed area wide or regional waste collection, treatment, and disposal systems not designated as area wide or regional disposal systems by Commission Order.

According to TWC § 26.081, the TCEQ has been mandated to "encourage and promote the development and use of regional and area-wide waste collection, treatment, and disposal systems to serve the waste disposal needs of the citizens of the state and to prevent pollution and maintain and enhance the quality of the water in the state."

The Domestic Wastewater Permit Application Technical Report requires information concerning need and regionalization for wastewater treatment plants. TCEQ uses the threshold of three miles to determine if there is another entity in the vicinity that is willing and able to accept wastewater from a proposed facility to meet the regionalization requirement in accordance with TWC § 26.0282. Applicants are required to review a three-mile area surrounding the proposed facility to determine if there is a wastewater treatment plant or sewer collection lines within the area that has sufficient existing capacity to accept the additional wastewater.

In its application Dripping Springs initially indicated that there are wastewater treatment facilities and/or collection systems located within a three-mile radius of the proposed facility. By letter dated July 14, 2016, Dripping Springs clarified that there are no wastewater treatment facilities within the three-mile radius but identified the two permitted wastewater treatment facilities that are closest to its proposed facility: (1) Arrowhead Ranch Utility Company LLC, TCEQ Permit No. WQ0014824001: an unbuilt facility permitted for 125,000 gallons per day; and (2) Dripping Springs ISD, TCEQ Permit No. WQ0013748002: a land application permit for 25,000 gallons per day with the application area being public access land located at the school. Dripping Springs noted that land is not available to increase the capacity of the Dripping Springs ISD WWTF.

Based on the information Dripping Springs provided in its application, the Executive Director has determined that Dripping Springs has complied with the regionalization policy and has demonstrated a need for the proposed WWTF.

Comment 40:

For the person(s) that made this comment, please see Attachment 9.

Several commenters noted that the phasing of the flow volumes is not consistent with the construction phases and projected flows. According to several commenters, Dripping Springs did not provide the design flow rates for units that will be constructed during the next five years. A commenter also noted that at the estimated construction start date for the Final phase, Dripping Springs will have just reached the Living Unit Equivalent (LUE) for the Interim II phase. A commenter also noted that Dripping Springs did not provide any justification for its need for the Final phase. A commenter noted that the phases in the draft permit are not protective of

Onion Creek. Similarly, several commenters stated that Dripping Springs did no justify the need for the proposed flows during the permit term.

Response 40:

The Executive Director evaluated the flow volumes and the phases Dripping Springs requested and determined the phases of the draft permit are appropriate. According to the application, Dripping Springs receives numerous new sewer connection requests and a new wastewater treatment facility is needed to accommodate projected growth and provide sewer service to new customers. Additionally, Dripping Springs' preliminary engineering report described the need for a new facility and provided sufficient information regarding anticipated future wastewater needs (Table 1 Wastewater Flow and Growth Projection and Figure 2 Wastewater Flow Projections Using LUE (Living Unit Equivalent) Projections). Dripping Springs requested its permit include three phases. Specifically: Interim phase I - flow 0.399 MGD; Interim phase II - flow 0.4975 MGD; and Final phase III - flow 0.995 MGD.

Dripping Springs requested these three phases to match as close as possible the forecasted future demand and to maximize cost savings. According to the application, Dripping Springs plans to construct a new 0.4975 MGD biological nutrient removal WWTF to serve the Interim phase I flow of 0.399 MGD. Dripping Springs then plans to take the existing WWTF out of operation. While the newly constructed plant operates under Interim Phase I, Dripping Springs will retrofit the existing plant so that it will become a second 0.4975 MGD biological nutrient WWTF.

If the permit is issued, Dripping Springs indicated it intends to request a variance to 30 TAC § 217.153(c) which requires that WWTFs over 0.400 MGD have two aeration basins and two clarifiers for redundancy. This variance, if granted, would allow Dripping Springs to provide wastewater service past the 0.399 MGD phase in the event that it needs additional capacity while the existing plant is being retrofitted. The construction dates are the same for the Interim I and Interim II phases since the newly constructed plant will have the capacity to serve up to 0.4975 MGD.

If the variance is not granted, Dripping Springs may have to limit growth such that they would not exceed the Interim I phase of 0.399 MGD, until the existing WWTF is retrofitted and in operation, which at the time would have the two WWTF facilities with a total capacity of 0.995 MGD built and in operation.

Comment 41:

For the person(s) that made this comment, please see Attachment 32.

Several commenters noted that it appears that Dripping Springs requested its permit include three phases for convenience. A commenter recommended that the draft permit include phases of 0.4 MGD, 0.5 MGD, and 1.0 MGD instead of the phases of 0.399 MGD, 0.497 MGD and 0.995 MGD the Dripping Springs requested. According to a commenter, the phases the commenter recommends will require additional reliability and testing. Similarly, a commenter asked if Dripping Springs would agree to

revise its application to request 400,000 GPD for phase 1 and 1,000,000 GPD total discharge.

Response 41:

The Executive Director cannot require an applicant to alter the flow projections and the design of the proposed wastewater treatment facilities. In its application, Dripping Springs proposed a permitted flow of 0.399 MGD for the Interim I phase, 0.4975 MGD for the Interim II phase, and 0.995 MGD for the Final phase. Dripping Springs made the flow projections based on the expected growth in the service area and the need to provide wastewater service. The proposed wastewater treatment facilities were designed with capacities to meet the proposed permitted flows.

Comment 42:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the phases in the draft TPDES permit are not consistent with Dripping Springs' construction plans. According to the commenter the draft permit should have two phases.

Response 42:

The Executive Director cannot mandate or set the timing of the phases. In the application, Dripping Springs explained that the proposed three phases were established to match as close as possible the forecasted future demand of the service area while ensuring compliance with the TCEQ Design Criteria for Domestic Wastewater Systems and maximizing cost savings.

Comment 43:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked if the TCEQ can condition the permit and phases of the permit on Dripping Springs meeting certain requirements.

Response 43:

The Executive Director can condition a wastewater permit on factors such as effluent flow, construction of an upgraded WWTF, compliance issues, or changes to permit type. The only factor applicable to this Dripping Springs draft permit is the phasing included in the draft permit, which was based on the effluent flow requested by Dripping Springs.

Comment 44:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the draft permit should be amended to require daily testing of the effluent by multiple independent monitoring entities, for organic and chemical waste. Similarly, a commenter requested third-party testing.

Response 44:

The draft permit requires daily testing for total phosphorus, weekly sampling for Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), total suspended solids, ammonia-nitrogen and total nitrogen. Additionally, the draft permit requires monthly testing for *E. coli* in the Interim I and II phases, and testing twice per month in the Final phase. The testing frequency is based on TCEQ's rules for all parameters except ammonia-nitrogen, total phosphorus and total nitrogen. The testing frequency for these two parameters is based on best professional judgement. TCEQ's rules do not require samples to be analyzed by more than one laboratory.

The effluent samples will either be tested by a third-party laboratory, or on-site or in-house environmental testing laboratory that is inspected at least every three years by the Executive Director. (30 TAC § 25.6). If Dripping Springs opts to use a third-party laboratory, it must be an accredited environmental testing laboratory. (TWC § 5.134).

Comment 45:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the draft permit should require the same standards for water quality protection that are required for large discharge permits. Similarly, a commenter expressed concern that Dripping Springs requested just under 1 MGD flow. The commenter noted that a permit with a flow of 1 MGD or more would require higher standards and oversight, including a higher quality of effluent with lower levels of nutrients like nitrates and phosphates. Several commenters stated the effluent limits in the draft permit are not appropriate.

Response 45:

The delineation between minor and major facilities is defined by both EPA and TCEQ. This permit was evaluated in accordance with existing rules and procedures based on that delineation. Consistent with the EPA and TCEQ classification of domestic wastewater treatment facilities, publicly-owned treatment works, such as the proposed Dripping Springs treatment facility, with design flows less than 1 MGD are classified as minor facilities. Facilities with a design flow equal to or greater than 1 MGD are classified as major facilities. The draft permit was sent to EPA for review and approval and, as discussed elsewhere in this RTC, TCEQ received final approval on June 29, 2017. The EPA did not raise any objections regarding the classification of the facility.

Comment 46:

For the person(s) that made this comment, please see Attachment 10.

Several commenters stated that the draft permit should include a requirement for biomonitoring to assess both acute and chronic effects of the effluent at 100% effluent. Similarly, several commenters recommended that the Dripping Springs permit include a requirement for Whole Effluent Toxicity Testing (WET). A commenter

elaborated that WET testing should be required because: the proposed discharge is in an area that recharges the Trinity Aquifer which is a drinking water supply; Onion Creek has a high aquatic life use; and Onion Creek recharges the Edwards Aquifer. Several commenters noted that WET testing would provide additional protection to sensitive and endangered species downstream from the Dripping Springs discharge.

Response 46:

In accordance with federal requirements, the TCEQ only requires WET testing for domestic wastewater dischargers that are rated as major facilities by EPA. As explained in the *Procedures to Implement the Texas Surface Water Quality Standards* RG-194 (IPs), major domestic wastewater facilities are those that have a design flow of 1 MGD or greater, or have an EPA-approved pretreatment program with significant industrial users discharging into the collection system. The Drippings Springs application requests a design flow for less than 1 MGD, and will not include any significant industrial contributors; therefore, biomonitoring was not required in the draft permit.

Comment 47:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked if Dripping Springs would be willing to add two aeration basins and two clarifiers to the WWTF in the Interim I phase.

Response 47:

Dripping Springs stated that it is not feasible to provide two aeration basins and two clarifiers for the proposed Interim I phase. According to TCEQ's rules, WWTFs that are permitted for less than 0.4 MGD are only required to have one aeration basin and one clarifier. When Dripping Springs begins construction of the WWTF for the Interim II phase it will be required to add an additional aeration basin and clarifier.

Comment 48:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed concern over the chemicals released to the atmosphere from the WWTF. The commenters expressed particular concern over the discharge of hydrogen sulfide because it is a "silent killer." Additionally, the commenters stated that they understand that facilities that release hydrogen sulfide must be equipped with audio and visual alarms and continually monitor ambient air toxicity. The commenters also expressed concern over the impact of the noise from alarms on neighboring properties.

Response 48:

WWTFs do not contribute significant amounts of air contaminants to the atmosphere, and thus, do not negatively impact human health and the environment. Air emissions from certain WWTFs, such as the one proposed by Dripping Springs, do

not have to obtain an air quality permit, rather they are permitted by rule. 30 TAC § 106.532.

Maintaining an adequate dissolved oxygen concentration in the early stages of wastewater treatment helps to minimize sulfide generation, which is the most common cause of odor. The treatment process proposed by Dripping Springs supplies oxygen from the air into the wastewater for biodegradation of the organic contaminants in the wastewater through diffused air aeration. Oxygen also turns the sulfide compounds into odorless sulfates. Because the WWTF will not release dangerous amounts of hydrogen sulfide, the WWTF will not be required to be equipped with hydrogen sulfide monitors.

Comment 49:

For the person(s) that made this comment, please see Attachment 32.

Several commenters noted that neither the application nor the draft permit addressed the potential for toxic metals in the sanitary wastewater from a metal fabricating facility. According to the commenters, the metal fabricating facility may commingle its operational wastewater with its sanitary wastewater.

Response 49:

The Executive Director does not expect that the influent to the Dripping Springs WWTF will include significant amounts of toxic metals. The application for a domestic WWTF requires applicants to provide information regarding industrial users that would discharge process wastewater to the WWTF. According to the Dripping Springs application, there is only one facility (Valli & Kim LLC) that may discharge to the City of Dripping Springs WWTF. Valli & Kim was classified in the Manufacturers Directory with a Standard Industrial Classification (SIC) code of 3499, which corresponds to "Fabricated Metal Products, NEC." In its application, Dripping Springs indicated the wastewater discharge from Valli & Kim would only be sanitary wastewater. Upon further review, the Executive Director determined that Valli & Kim is a store in the City of Dripping Springs that makes and sells quilts (i.e., woven fabrics), and does not fabricate metal products.

Further, the Executive Director added a requirement that the applicant submit laboratory analysis of the effluent for evaluating compliance with Texas Surface Water Quality Standards. This includes analysis of 13 metal pollutants. Please see new Other Requirements Item No. 10 in the draft permit.

Comment 50:

For the person(s) that made this comment, please see Attachment 11.

Several commenters expressed general and specific concerns over "emerging contaminants" in Dripping Springs' effluent discharge. Specific concerns include: adverse effects on water quality and the uses of the receiving water; adverse effects on the quality of the drinking water in Onion Creek, and the Trinity and Edwards aquifers;

adverse effects on the quality of water necessary for the habitat for sensitive and endangered aquatic species; and negative impacts on human health.

Additionally, a commenter noted that the TCEQ does not have any protocols for regulating pharmaceuticals: no testing, no monitoring, and no removal requirements at all.

Response 50:

The TCEQ has not investigated the potential effects of emerging contaminants, which includes Pharmaceuticals and Personal Care Products (PPCPs), in effluent. Neither the TCEQ nor the EPA has promulgated rules or criteria limiting emerging contaminants in wastewater. The EPA is investigating emerging contaminants, and has stated that scientists have not found evidence of adverse human health effects from emerging contaminants in the environment. Removal of some emerging contaminants has been documented during municipal wastewater treatment; however, standard removal efficiencies have not been established. In addition, there are currently no federal or state effluent limits for emerging contaminants.

The science on emerging contaminants is currently evolving, and while the EPA and other agencies continue to study the presence of emerging contaminants, there is currently no clear regulatory regime available to address the treatment emerging contaminants in domestic wastewater. Accordingly, neither the TCEQ nor the EPA has rules on the treatment of emerging contaminants in domestic wastewater.

Comment 51:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the draft permit should require Dripping Springs to perform a water balance and specify an appropriate storage volume that would maximize re-use and minimize direct discharge. Additionally, a commenter recommended Dripping Springs commit to providing storage of at least 100 days of flow.

Response 51:

Water balance studies and storage calculations are not required for wastewater discharge permits. TCEQ rules require the submission of a water balance study and storage calculations only when the effluent will be land applied or disposed of via evaporation. Additionally, TPDES permits do not require effluent storage.

F. Comments Regarding the Treatment Technology

Comment 52:

For the person(s) that made this comment, please see Attachment 12.

Several commenters stated that the four-stage Bardenpho treatment train is not designed to meet the effluent limits in the draft permit and it makes phosphorus

removal difficult. The commenters provided examples of wastewater treatment processes that achieve low phosphorus limits without treatment for nitrogen reduction. A commenter stated that the WWTF will not be able to properly treat the effluent discharge into the pristine waterways in the Hill Country.

Several commenters noted that Dripping Springs did not propose current best practice treatment technology and suggested the permit require enhanced biological nutrient removal and tertiary treatment. Other commenters stated that Dripping Springs should utilize more innovate treatment technology. Similarly, a commenter stated that the draft permit does not consider the best available science.

Response 52:

The treatment process proposed by Dripping Springs is primary treatment followed by the four-stage Bardenpho treatment. The four-stage Bardenpho treatment process is considered biological nutrient removal and is also used for nitrogen removal. The four-stage Bardenpho treatment process is a state of the art treatment process. Additionally, phosphorus will be removed by chemical (alum) precipitation and tertiary effluent filtration. Chlorination will be used for disinfection; the chlorinated effluent will be dechlorinated using an approved method in accordance with 30 TAC Chapter 217.

The Water Environment Federation (WEF) Manual of Practice No. 11 (2008) reports that the four-stage Bardenpho is capable of achieving effluent nitrogen levels less than 3 mg/L. The EPA Region 10 (2007) compiled performance from 23 municipal wastewater treatment facilities with advanced phosphorus reduction technologies. One of the observations from this evaluation was that chemical addition to wastewater with aluminum- or iron-based coagulant followed by tertiary filtration can reduce total phosphorus concentrations in the final effluent to very low levels, some of these facilities achieved total phosphorus concentrations consistently near or below 0.01 mg/L. Therefore, the proposed treatment process proposed by Dripping Springs should be able to achieve the effluent limits in the draft permit.

The term “current best practice treatment technology” is not used in municipal wastewater treatment; rather, the treatment method depends on a combination of physical, chemical, and biological treatment technologies to achieve the desired level of treatment effectively and efficiently.

Comment 53:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that dual media filters or membrane filtration are necessary to meet the proposed effluent limit for total phosphorus. The commenter noted that the application (Attachment 7, Appendix A) shows effluent total phosphorus of 0.25 mg/L for the Interim I phase, 0.1 mg/L for the Interim II phase and 0.20 mg/L for the Final phase. The commenter also noted that with some flexibility in piping, the proposed WWTF could be operated in an activated sludge mode with

nitrification with subsequent chemical treatment for phosphorus removal followed by conventional tertiary filtration.

Response 53:

Dripping Springs' concept design includes a conventional down-flow single or dual media filter for phosphorus removal. Dripping Springs proposed a four-stage Bardenpho treatment process (a modification of the activated sludge process with alternating nitrification and denitrification processes) for enhanced nitrification and nitrogen removal followed by phosphorus removal through chemical (alum) precipitation and tertiary filtration. The Executive Director has determined that Dripping Springs proposed treatment method should be able to meet the effluent limits in the draft permit, which includes a total phosphorus limit of 0.15 mg/L in all phases.

Comment 54:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the proposed treatment technology will not be able to meet a total phosphorus effluent limit of 0.15 mg/L without the addition of chemical treatment and tertiary or membrane filtration. Similarly, commenters note that without chemical addition, the proposed treatment system will not be able to meet the total phosphorus limit of 0.15 mg/L in the draft permit.

Response 54:

The Executive Director reviewed the treatment technology Dripping Springs proposed and determined that it should be able to meet the total phosphorus limit in the draft permit. In its application Dripping Springs stated that phosphorus removal will be accomplished through chemical precipitation of phosphorus utilizing alum addition, mixing, flocculation, then tertiary filtration. This proposed physical-chemical treatment process should allow Dripping Springs to meet the total phosphorous of 0.15 mg/L daily average effluent limit.

Comment 55:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that Dripping Springs should consider an alternative to gaseous chlorine disinfection, such as ultraviolet disinfection.

Response 55:

The TCEQ does not mandate the disinfection process an applicant must use. TCEQ's rules provide that "disinfection in a manner conducive to the protection of both public health and aquatic life shall be achieved on all domestic wastewater which discharges into waters in the state. Any appropriate process may be considered and approved on a case-by-case basis." 30 TAC § 309.3(g). To ensure the disinfection

process is effective, the draft permit includes an effluent limit for *E. coli* and requires a chlorine residual after a 20-minute detention time.

Comment 56:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that certain pathogenic organisms are not inactivated or destroyed by chlorine disinfection. According to the commenters, the oocysts of *Cyptosporidium parvum* and the cysts of *Giardia lamblia* are particularly resistant to chlorine disinfection.

Response 56:

TCEQ rules require disinfection of municipal wastewater treatment effluent in accordance with 30 TAC § 309.3(g) and (h) for the protection of public health and aquatic life. The rules require *Escherichia coli* (*E. coli*) be used as the indicator bacteria for discharges to freshwater. TCEQ does not have standards or effluent limits for *Giardia lamblia* or *Cryptosporidium parvum.*

Comment 57:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that if the City of Dripping Springs opts to use a treatment process other than the four-stage Bardenpho process, there should be a new notice and comment period to ensure adequate and appropriate analysis by both TCEQ and the public.

Response 57:

Treatment technology is not addressed in the notices for wastewater discharge applications and draft permit, and there is no proposed change in treatment process. It should be noted that the four-stage Bardenpho is part of the proposed total treatment process which included: coarse screening, four-stage Bardenpho, sludge holding tanks, chemical precipitation, tertiary filtration, and disinfection by chlorination with dechlorination. If Dripping Springs opts to use a treatment process other than what is represented in the application it must submit an application for a minor amendment, provided there are no other changes in the permit. For a minor amendment to a TPDES permit, mailed notice is required, providing an opportunity to submit public comments and to request a public meeting for certain entities, 30 TAC § 39.551(e)(3)(A).

Comment 58:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the City does not have adequate storage.

Response 58:

Dripping Springs has applied to the TCEQ for a TPDES permit which would, if granted, authorize the discharge of the requested maximum flow amount into Walnut Springs; therefore, effluent storage is not necessary or required.

Comment 59:

For the person(s) that made this comment, please see Attachment 32.

A commenter recommended that the appropriate bodies insist that a process known as FMEA's, which stands for Failure Mode Effects Analysis, be utilized by the engineering firms that are going to be designing and manufacturing these wastewater treatment facilities.

Response 59:

The TCEQ does not have regulatory control over the method of engineering analyses used in the design and manufacture of wastewater treatment facilities. The practice of engineering in the State of Texas is regulated by the Texas Board of Professional Engineers.

Comment 60:

For the person(s) that made this comment, please see Attachment 13.

Several commenters stated that the design of the WWTF will not adequately protect nearby landowners from odors.

Response 60:

All wastewater treatment facilities have the potential to generate odors. To control and abate odors, the TCEQ rules require that domestic wastewater treatment facilities meet buffer zone requirements for the abatement and control of nuisance odor. The regulations at 30 TAC § 309.13(e) provide three options for applicants to satisfy the nuisance odor control requirement. Permittees can comply with the rule by: 1) ownership of the buffer zone area; 2) restrictive easement from the adjacent property owners for any part of the buffer zone not owned by the permittee; or 3) providing odor control. According to its application, Dripping Springs will comply with the rule by ownership of the buffer zone area. (Item 2.b. of the Domestic Administrative Report 1.1).

Individuals are encouraged to report any concerns about nuisance odor issues or any other suspected noncompliance with the terms of the draft permit or other environmental regulation by contacting the TCEQ Region 11 office in Austin at 512-339-2929, or the statewide toll-free number at 1-888-777-3186. In addition, complaints may be filed online: https://www.tceq.texas.gov/compliance/complaints. If Dripping Springs fails to comply with all requirements of the permit, it may be subject to enforcement action. Moreover, the permit does not limit the ability of an individual to seek legal remedies against Dripping Springs regarding any potential trespass,

nuisance, or other causes of action in response to activities that may result in injury to human health or property or that may interfere with the normal use and enjoyment of property. If the City of Dripping Springs ever wants to expand the discharge beyond what is authorized in the draft permit, it would need to apply for a permit amendment and receive approval from the TCEQ.

Comment 61:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the proposed permit does not quantify or fully characterize the Lowest Practicable Limit the WWTF can achieve.

Response 61:

It is the Executive Director's understanding that the term "Lowest Practicable Limit" is related to the design of the wastewater treatment facility. The draft permit is not a design document; rather it sets, among others, the water quality requirements for a wastewater to be acceptable for discharge into a receiving body of water, including proper sludge disposal. The permittee will then design a wastewater treatment facility that will meet these requirements consistent with 30 Texas Administrative Code Chapter 217: Design Criteria for Domestic Wastewater Systems, and the conditions of the draft permit. Therefore, the draft permit does not provide the design criteria for the wastewater treatment facility. Because the proposed WWTF will use an advanced nutrient removal process, the Executive Director will evaluate the plans and specifications for the proposed wastewater treatment facility.

Comment 62:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the draft permit should require a Best Management Plan, which would limit the direct discharge of effluent.

Response 62:

The draft permit provides the terms and conditions that must be met by the wastewater treatment facility before and after wastewater is discharged into the receiving body of water. The TCEQ rules also provide the opportunity for beneficial use of reclaimed water (reuse) under 30 TAC Chapter 210. As discussed elsewhere in this RTC, the Executive Director cannot require a facility to obtain a 210 reuse authorization or require a facility to irrigate all or a portion of the flow that is proposed to be treated in compliance with the 210 rules. TCEQ's rules provide that use of reclaimed water may only be authorized for "on a demand" use, which prevents water from being provided during times it cannot be beneficially used and allows the reclaimed water user to refuse delivery of reclaimed water at any time. The option, however, to utilize the treated effluent for beneficial purposes (reclaimed water), such as irrigation of public parks, golf courses, or fire protection, is left at the discretion of the permittee, because it involves factors which are beyond the scope of the permitting

process, such as financial or economic considerations, and the presence of a provider, who is a person or entity that distributes reclaimed water to a user(s) of reclaimed water.

Dripping Springs applied for a TPDES permit to authorize the discharge of treated effluent to surface water. According to the draft permit, Dripping Springs may discharge its fully permitted volume. The term "best management plan" is not applicable to TPDES permits.

Comment 63:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked what levels of phosphorous, nitrogen and disease-causing bacteria (such as total and fecal coliform) are anticipated in the wastewater effluent.

Response 63:

The draft permit requires the treated effluent to be disinfected prior to discharge. The draft permit requires that the effluent meets the following effluent limitations on phosphorus, nitrogen and bacteria, based on a 30-day average:

Interim I Phase. 1.9 mg/L ammonia-nitrogen (NH_3-N), 0.15 mg/L total phosphorus, 6 mg/L total nitrogen, 126 colony forming units (CFU) or most probable number (MPN) of *E. coli* per 100 ml.

Interim II Phase. 1.7 mg/L NH_3-N, 0.15 mg/L total phosphorus, 6 mg/L total nitrogen, 126 CFU or MPN of *E. coli* per 100 ml.

Final Phase. 1.2 mg/L NH_3-N, 0.15 mg/L total phosphorus, 6 mg/L total nitrogen, 126 CFU or MPN of *E. coli* per 100 ml.

Comment 64:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that it is "imperative that effective management and efficient surveillance of treatment facilities coupled with state-of-the-art guidelines and monitoring compliances, are in place to prevent the risk of additional pollution to the environment and human health." The commenter provided a newspaper article regarding a treated sewage discharge in Liberty Hill and asked what assurances TCEQ will make, in writing, that the Dripping Springs WWTF will comply with the terms of its permit and not discharge unacceptable levels of ammonia nitrogen, phosphorus and *E. coli*. http://www.mystatesman.com/news/news/local/after-violations-liberty-hill-sewer-plant-seeks-ex/nZk76/

Response 64:

Dripping Springs is currently operating its existing WWTF, under TCEQ Permit No. WQ0014488001, and, therefore, has considerable experience in operating a wastewater treatment facility. To help ensure that the proposed Dripping Springs WWTF is effectively managed, the draft permit describes the conditions under which

the WWTF must operate. The proposed WWTF must be designed, operated, and maintained consistent with applicable TCEQ rules. The draft permit includes: provisions for monitoring effluent; sludge disposal; reporting requirements (including test procedures, instrument calibration, records management, and notification); and operational requirements (including process control, provision of adequate power supply, and flow monitoring). These provisions ensure that the WWTF is properly operated and maintained.

If the permit is issued, the WWTF will also be subject to routine compliance investigations, as well as other types of investigations depending on the circumstances. The TCEQ, through its Office of Compliance and Enforcement, ensures compliance with state and federal regulations and the terms and conditions of the permit by way of routine compliance investigations and complaint investigations, and review of self-reported monitoring data. The Regional Office (the TCEQ Austin-Region 11 office) conducts on-site investigations. The Central Office, through the Monitoring Division, reviews the self-reported data for compliance with the permitted effluent limits and other permit conditions. Additionally, the public may report possible violations of the permit or regulations by contacting the TCEQ Region 11 office in Austin at 512-339-2929, or the statewide toll-free number at 1-888-777-3186. In addition, complaints may be filed online: https://www.tceq.texas.gov/compliance/complaints.

Comment 65:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the proposed permit should require Best Available Treatment Technology for nutrient removal.

Response 65:

Best Available Treatment Technology is a term not associated with municipal wastewater discharge permitting. All municipal dischargers must meet the effluent limits in their permit; however, they may use any treatment technology that will meet the limit. As stated in the application, the proposed four-stage Bardenpho activated sludge process plant is an accepted biological nutrient removal process in wastewater treatment primarily for nitrogen removal. This process is supplemented by chemical precipitation for phosphorus removal and tertiary filtration to achieve the stringent effluent limits, including total phosphorus and total nitrogen effluent limits, in the draft permit. The four-stage Bardenpho process is a single-sludge activated sludge system comprised of four alternating anoxic and aerobic zones in series resulting in significant reduction of total nitrogen.

Comment 66:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked who Dripping Springs intends to use as its operator, and how it vets the qualifications and credentials of the operator.

Response 66:

According to the application the WWTF operator will be: Professional General Management Services, Inc. No. OC0000011, Curtis Brinkley WW0044842. The operator must comply with Other Requirements No. 1 of the draft permit:

> The permittee shall employ or contract with one or more licensed wastewater treatment facility operators or wastewater system operations companies holding a valid license or registration according to the requirements of 30 TAC Chapter 30, Occupational Licenses and Registrations and in particular 30 TAC Chapter 30, Subchapter J, Wastewater Operators and Operations Companies. Licensing of the wastewater treatment facility operators is administered by the TCEQ Permitting and Registration Support Division.

Comment 67:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated because of the complexity of the treatment technology chosen by Dripping Springs, a Class C wastewater treatment plant operator is not appropriate. According to several commenters, a Class C operator does not have sufficient training in tertiary treatment operations. A commenter stated that the City does not have the proper level of operator to operate the facility, and the facility will be unmanned on the weekends with reliance on alarms. Similarly, a commenter recommended that the Dripping Springs draft permit require a Class A operator for the WWTF.

Response 67:

The draft permit requires that the facility must be operated by a chief operator or an operator holding a Class C license or higher. In accordance with 30 TAC Chapter 30 Subchapter J, the proposed Dripping Springs treatment system is an activated sludge system (modes other than extended aeration) with a proposed daily average flow greater than 0.050 MGD and less than 1.0 MGD, which is classified as a Category C facility. TCEQ's rules require this type of WWTF to be operated by an operator holding a Class C license or higher. This is a minimum requirement and ultimately Dripping Springs is responsible for selection of an operator capable of proper operation of the WWTF in compliance with the permit limitations. For example, a Class C operator with experience operating a four-stage Bardenpho treatment system would likely be more capable than a Class A Operator with no four-stage Bardenpho operation experience.

The operation and maintenance manual for the WWTF will detail how the facility will be operated to ensure efficient and safe operation, maintenance, monitoring, and reporting. Further, the draft permit requires that the licensed chief operator or operator holding the required level of license or higher must operate the facility a minimum of five days per week and be available by telephone or pager seven days per week.

Comment 68:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the draft permit is non-final and avoids public participation because Other Requirement No. 9 in the draft permit allows the Executive Director to add a nitrate-nitrogen limit after the permit is issued, and a decision on any adverse effects to the groundwater supply have been deferred.

According to some of the commenters, the public and affected persons should be able to evaluate and comment on the nitrate-nitrogen limit because it is central to the issue of whether the permit will be protective of the receiving waters. Additionally, according to a commenter, Other Requirement No. 9 is inconsistent with the requirement in the Texas Water Code § 26.019 which requires a permit to include "the character and quality of the waste that may be discharged under the permit."

A commenter stated that the TEXTOX screen of nitrate degradation is not sufficient to ensure human health protection, and should be reevaluated based on the City of Austin's revised model predictions.

Response 68:

To address concerns regarding public drinking water, the nitrate-nitrogen screening requirement in Other Requirement No. 9 originally proposed has been replaced with a total nitrogen effluent limit of 6 mg/L. The original other requirement 9 has been deleted.

TCEQ's rules provide a variety of mechanisms for public involvement in the permitting of wastewater treatment plants. First, the public has an opportunity to comment on all draft wastewater permits during the public comment period according to TCEQ rules in 30 TAC § 55.152. Second, the public may request reconsideration of the commission decision or request a contested case hearing according to the rules in 30 TAC § 55.201. Third, anyone may file a complaint online https://www.tceq.texas.gov/assets/public/compliance/monops/complaints/complaints.html or by contacting the TCEQ at 1-888-777-3186. Finally, citizens may gather data to show that a permittee is not in compliance with TCEQ's rules. For more information on citizen collected evidence, please go to the TCEQ web site at http://www.tceq.state.tx.us/compliance/complaints/.

Comment 69:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the Executive Director should use extreme caution when using historical creek flow averages in determining whether to issue the permit, because Onion Creek does not always have flow.

Response 69:

The Executive Director is aware that upper Onion Creek experiences periods of very low or no flow during dry environmental conditions. While developing the draft permit, the Executive Director considered the impact the low baseflow of Onion Creek will have on dilution during typical low-flow conditions. To address potential water quality concerns during these critical periods, Onion Creek was evaluated under hot and dry, critical low-flow summertime conditions, because these conditions are typically the most restrictive for aquatic life-related water quality parameters such as dissolved oxygen concentrations. Critical low-flow conditions are developed according to agency policies and procedures and are based on or consider available flow data that can include measurements taken during drought conditions. Most effluent limits in TPDES permits are established based on these critical period analyses to ensure that permitted effluent limits will be protective under those conditions and at times when environmental conditions are less restrictive. The effluent limits in the Dripping Springs draft permit are set at levels to ensure that the water quality in Onion Creek will be protected under various conditions, including periods when Onion Creek is at critical low-flow.

Comment 70:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked what precautions Dripping Springs proposed to prevent sanitary sewer overflows and inflow and infiltration to the collection system.

Response 70:

The collection system must be designed, installed, and tested in accordance with 30 TAC Chapter 217 rules. Site requirements for lift stations are described in 30 TAC § 217.59, and requirements for lift station pumps are described in 30 TAC § 217.61. Additionally, 30 TAC § 217.63 describes emergency provisions for lift stations. In accordance with 30 TAC § 217.63, lift stations "must be designed to prevent the discharge of wastewater from the lift station and at all points in the upstream collection system during electrical power failure." Also:

> A lift station must include an audiovisual alarm system. The audiovisual alarm system must transmit alarm conditions through use of an auto-dialer system, Supervisory Control and Data Acquisition (SCADA) system, or telemetering system connected to a continuously monitored location. At a minimum, the alarm system must automatically activate to give warnings for power outages, pump failures, and high water levels. Audiovisual alarms are not required if the SCADA system alerts the operator about communication loss, in addition to the alarm conditions.
>
> 30 TAC § 217.63.

An owner is required to have an engineer design a collection system or wastewater treatment facility that meets the minimum requirements of this chapter. The Executive Director may determine that additional requirements are needed. An

owner is required to construct a collection system or wastewater treatment facility according to the plans and specifications approved by the Executive Director and reviewed by the TCEQ Water Quality Plans and Specifications Team.

If anyone experiences nuisance conditions or any other suspected incidents of noncompliance with the permit or TCEQ rules they may be reported to TCEQ by calling toll-free 1-888-777-3186 or the TCEQ Region 11 office in Austin at (512)339-2929. Citizen complaints may also be filed on-line at www.tceq.texas.gov/compliance/complaints. If Dripping Springs fails to comply with all requirements of the permit, it may be subject to enforcement action. Moreover, the permit does not limit the ability of an individual to seek legal remedies against Dripping Springs regarding any potential trespass, nuisance, or other causes of action in response to activities that may result in injury to human health or property or that may interfere with the normal use and enjoyment of property.

Comment 71:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that there have been documented WWTF accidents where untreated sewage is accidentally released, which can totally and irreversibly alter the stream. Similarly, several commenters state that the draft permit does not include provisions to prevent biological contamination of Onion Creek if the wastewater treatment plant fails.

Response 71:

The draft permit requires Dripping Springs to take certain steps to minimize the possibility of an accidental discharge of untreated wastewater or WWTF failure. For example, Dripping Springs must maintain adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, or retention of inadequately treated wastewater. In addition, the plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by TCEQ.

Also, note that Operational Requirements 8 of the draft permit states that when the flow reaches 75 percent of the permitted daily average flow for three consecutive months, Dripping Springs must initiate engineering and financial planning for expansion or upgrade of the domestic wastewater treatment or collection facilities. When the flow reaches 90 percent of the permitted daily average flow for three consecutive months, Dripping Springs must obtain authorization from TCEQ to begin constructing the necessary additional treatment or collection facilities. All of these permit provisions are designed to help prevent unauthorized discharges of raw sewage. If an unauthorized discharge occurs, Dripping Springs will be required to report it to TCEQ within 24 hours. Finally, Dripping Springs is subject to potential enforcement action for failure to comply with TCEQ rules or the permit.

Comment 72:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed concern that Dripping Springs has not complied with the terms of its existing permit. Specifically, they noted that Dripping Springs failed to report effluent flow data from January 2012 to January 2015, and had an unauthorized discharge in January 2012. Similarly, several commenters expressed concern that, based on its compliance history, Dripping Springs is not prepared or qualified to operate a large WWTF. Another commenter stated that the TCEQ should not issue a permit for a discharge of just under 1 million gallons per day without Dripping Springs having a proven track record of compliance.

Several commenters stated that Dripping Springs has been cited for spilling 46,000 gallons of sewage sludge, and now Dripping Springs wants to expand to a plant that is fifteen times the capacity of the one they are operating today. They further stated that if another incident occurs that a facility of this magnitude would greatly impact their wells.

Other commenters raised similar issues including concern over a spill at the WWTF caused by either a poor operator or a mechanical malfunction and contamination from the wastewater during flood conditions.

Response 72:

The Executive Director reviews compliance history for both the applicant and site for the five-year period prior to the date the permit application was received by TCEQ. The compliance history includes multimedia compliance-related components about the site under review. These components include the following: enforcement orders, consent decrees, court judgments, criminal convictions, chronic excessive emissions events, investigations, notices of violations, audits and violations disclosed under the Audit Act, environmental management systems, voluntary on-site compliance assessments, voluntary pollution reduction programs and early compliance.

The Executive Director reviewed Dripping Springs' compliance history according to the rules in 30 TAC Chapter 60; Dripping Springs (CN602491284) has an 11.72 rating. The Dripping Springs WWTF (RN104005434) has an 11.72 rating. Therefore, according to the classifications from 30 TAC Chapter 60, which are listed below, the City of Dripping Springs and the Dripping Springs WWTF both have satisfactory classifications.

Below are the classifications and ratings in 30 TAC Chapter 60:

1 a ***high performer classification***, has a rating of fewer than 0.10 points and is considered to have an above-satisfactory compliance record;

2 a ***satisfactory performer classification***, has a rating between 0.10 points to 55 points and is considered to generally comply with environmental regulations; or

3 an ***unsatisfactory performer classification***, has a rating above 55 points and is considered to perform below minimal acceptable performance standards established by the commission.

30 TAC §60.2.

The unauthorized discharge noted by the commenters, was the subject of an agreed order TCEQ Docket No. 2012-0801-MWD-E. The order also acknowledged that: (a) By January 3, 2012, [the City of Dripping Springs] recovered approximately 17,000 gallons of the total 46,633 gallons of wastewater sludge discharged and put the sludge back into the WWTF; (b) By January 31, 2012, submitted the noncompliance notification for the unauthorized discharge that occurred on January 2 and 3, 2012; (c) By January 31, 2012, updated operational guidance to ensure noncompliance notifications are submitted as required; (d) By late February 2012, installed flotation devices in both digesters to prevent overflows, and replaced the timer; (e) By April 10, 2012, completely removed and disposed of the dried sludge from the affected area. According to the TCEQ Central Registry, this order is now closed. TCEQ Region 11 was contacted regarding the Dripping Springs's permit application considering its compliance history; the Region indicated that it had no concern about the application.

Comment 73:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed concern over the potential for unauthorized discharges of untreated sewage onto their property and noted that during wet periods the existing WWTF has a history of discharging onto their property.

Response 73:

Dripping Springs is required to minimize the possibility of an accidental discharge of untreated wastewater. For example, Dripping Springs must maintain adequate safeguards to prevent the discharge of untreated or inadequately treated wastes during electrical power failures by means of alternate power sources, standby generators, or retention of inadequately treated wastewater. In addition, the plans and specifications for domestic sewage collection and treatment works associated with any domestic permit must be approved by the Executive Director. Additionally, the draft permit provides that when the flow reaches 75 percent of the permitted daily average flow for three consecutive months, Dripping Springs must initiate engineering and financial planning for expansion or upgrade of the domestic wastewater treatment or collection facilities. When the flow reaches 90 percent of the permitted daily average flow for three consecutive months, Dripping Springs must obtain authorization from the Executive Director to begin constructing the necessary additional treatment or collection facilities.

All of these permit provisions are designed to help prevent unauthorized discharges of raw sewage. If an unauthorized discharge occurs, Dripping Springs is required to report it to TCEQ within 24 hours. Finally, Dripping Springs is subject to potential enforcement action for failure to comply with TCEQ rules or the permit. Complaints about the facility or suspected incidents of noncompliance with the permit or TCEQ rules may also be reported to the TCEQ Region 11 Office in Austin at 512-339-2929 or 1-800-888-777-3186. Citizens may also gather data to show that a permittee is not in compliance with TCEQ rules. For more information on citizen collected evidence, please see www.TCEQ.state.tx.us/enforcement/complaints.html

Comment 74:

For the person(s) that made this comment, please see Attachment 14.

Several commenters stated that the Executive Director did not appropriately consider the extraordinary impact of an upset at the WWTF.

Similarly, several commenters stated that an unauthorized discharge or upset could have catastrophic effects on the wildlife and uses of the creek. A commenter stated that system upsets at WWTF are common.

A commenter stated that spills, accidental effluent releases, and effluent discharges that exceed the permitted value pose a threat to Onion Creek.

Several stated that they have concerns about operations and potential operating failures at the facility such as unauthorized discharges and overflows at the facility.

Another commenter stated that the proposed discharge would require unnecessary infrastructure susceptible to mechanical failure and leaks that would compromise the creek's ability to provide clean water and support aquatic life, perhaps to the detriment of Dripping Springs' drinking water.

Response 74:

To safeguard against spills, unauthorized discharge, or accidental effluent releases or upsets, Dripping Springs indicated it intends to retain the existing 333,000-gallon effluent storage tank, and will add additional storage in the Final phase. Additionally, emergency generators will be provided along with alarm features that will alert facility personnel of plant conditions, such as power outages; equipment failure; high or low water levels in the influent lift station, and blower failure; high or low chlorine residual; and high water level in the mechanical bar screen channel.

Moreover, a WWTF must include an audiovisual alarm system. The alarm system must transmit all alarm conditions through the use of an auto-dialer system, a Supervisory Control and Data Acquisition (SCADA) system, or a telemetering system connected to a continuously monitored location. (30 TAC § 217.36) Dripping Springs also proposes design features for reliability and operational flexibility for the influent lift station, bar screen, and aeration basins, and the prevention of overflows.

Comment 75.

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the effluent from the WWTF could have an unpleasant odor during a by-pass.

Response 75:

A wastewater treatment facility must be designed to prevent bypasses in accordance with 30 TAC § 217.10(g)(4), therefore, there are no provisions for bypasses in the draft permit. Additionally, Dripping Springs is subject to the buffer zone requirements in 30 TAC § 309.13. This requirement is incorporated into the draft permit as Other Requirement Item no. 4, page 34 of the draft permit.

If anyone experiences nuisance odor conditions or any other suspected incidents of noncompliance with the permit or TCEQ rules they may be reported to TCEQ by calling toll-free 1-888-777-3186 or the TCEQ Region 11 Office in Austin at (512) 339-2929. Citizen complaints may also be filed on-line at http://www.tceq.state.tx.us/compliance/complaints/index.html. If Dripping Springs fails to comply with all requirements of its permit, it may be subject to enforcement action. Moreover, the permit does not limit the ability of an individual to seek legal remedies against Dripping Springs regarding any potential trespass, nuisance, or other causes of action in response to activities that may result in injury to human health or property or that may interfere with the normal use and enjoyment of property.

Comment 76:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed concerns over flooding. Similarly, a commenter asked if the TCEQ has performed a comprehensive study in conjunction with FEMA to assure all downstream landowners that the proposed discharge from the Dripping Springs WWTF will not impact flooding on Onion Creek. The commenter stated that there should be "absolute proof backed by a comprehensive, cooperative study with FEMA, that this discharge will not, in fact, increase any likelihood of flooding or place human life at risk." The commenter provided a link to an article related to the City of Buda's discharge: http://kxan.com/2016/06/07/kyle-residents-blame-city-of-buda-for-flooding/.

Response 76:

TPDES permits establish terms and conditions that are intended to provide water quality pollution control, therefore, the Executive Director's review of an application for a TPDES permit focuses on controlling the discharge of pollutants into water in the state. The TCEQ does not have jurisdiction to address flooding in the wastewater permitting process, unless there is an associated water quality concern. Dripping Springs' draft permit includes effluent limits and other requirements that it must meet even during rainfall events and periods of flooding. Additionally, the draft

permit does not authorize any invasion of personal rights nor any violation of federal, state, or local laws or regulations.

G. Comments Suggesting Alternatives to a TPDES Permit

Comment 77:

For the person(s) that made this comment, please see Attachment 15.

Representative Howard suggested that Dripping Springs should request a Texas Land Application Permit (TLAP). Similarly, many commenters stated that Dripping Springs should find an alternative to direct discharge. Specific suggestions that were raised include requiring Dripping Springs to: obtain a TLAP; integrate wastewater reuse into developments; use a disposal well rather than discharging to Onion Creek; use irrigation so that it can be absorbed and processed naturally by grasses, shrubs, plants and trees; and other proven alternatives available to reduce the potential volume of water required to be directly discharged.

Some commenters noted that best available technology for wastewater treatment to protect the sensitive Hill Country streams is via land application of the treated effluent. According to the commenters, discharges via a TLAP permit provide several advantages over discharges to surface water.

Several commenters stated that Dripping Springs should have applied for a land application permit instead of a discharge permit.

A commenter stated that the proposed discharge should be moved somewhere else.

A commenter asked if Dripping Springs would consider permaculture.

Response 77:

The Texas Water Code § 26.121, authorizes discharges into waters of the state, provided the discharger obtains a permit from the Commission. The Executive Director does not have the authority to mandate a different discharge location or different type of wastewater treatment plant. The Executive Director evaluates applications for wastewater treatment plants based on the information provided in the application. As discussed elsewhere in this RTC, the Executive Director evaluated the Dripping Springs application according to all applicable statutory and regulatory requirements and determined that, if properly operated, the Dripping Springs WWTF will not negatively impact human health or the environment.

Comment 78:

For the person(s) that made this comment, please see Attachment 16.

A commenter stated that the draft permit authorizes the direct discharge of the entire volume of effluent, therefore, any reuse under a Chapter 210 authorization

would be discretionary. Similarly, several commenters stated that the permit should require the effluent be reused.

Several commenters stated that the frequency and volume of direct discharge could be minimized if the draft permit required firm-demand beneficial reuse as a permit condition. A commenter stated that the facility needs to establish a minimum usage before discharging. A commenter stated that Dripping Springs needs to ask the TCEQ to request that the permit contain a requirement that some percentage of the total annual effluent volume be required to be disposed of through no-discharge actions like land irrigation and purple pipe reuse.

A commenter stated that if Dripping Springs opts to discharge its effluent under a Chapter 210 authorization, it would be required to obtain a TLAP permit.

Response 78:

Before Dripping Springs can obtain authorization for the use of reclaimed water, often referred to as a "210 authorization" for the proposed amended flow, Dripping Springs must have a TPDES permit. 30 TAC § 210.5(a). TCEQ's rules provide that use of reclaimed water may only be authorized for "on a demand" use, which prevents treated water from being provided during times it cannot be beneficially used and allows the reclaimed water user to refuse delivery of reclaimed water at any time. 30 TAC § 210.7. All reclaimed water transferred to a user must be of at least the treatment quality for the use specified in 30 TAC §210.32.

If the TPDES permit is issued, Dripping Springs will have to notify the Executive Director that it intends on using the reclaimed water and obtain approval to provide reclaimed water. 30 TAC § 210.4. Treated effluent that is used for irrigation under a 210 authorization must meet the appropriate effluent limits as required by 30 TAC Chapter 210.

Comment 79:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that all the homes in the Sierra West subdivision are served by on-site sewage facilities (OSSFs), which must be inspected and the effluent tested every four months. The commenter notes that the OSSFs are a three-phase aerobic septic tank; the effluent from the OSSF must be sprayed on the land in a manner that prevents it from entering a stream or creek. The Commenter recommends that the Dripping Springs WWTF should be required to meet the same standards as the OSSFs in the Sierra West POA.

Response 79:

The quality of effluent from an individual anaerobic OSSF and from a WWTF is significantly different. An OSSF treats a limited volume of domestic wastewater to primary treatment standards. Additionally, the owner of the OSSF is responsible for

ensuring that the sprayed effluent is chlorinated, but there is no regular oversight of the performance of the OSSF.

If the permit is issued, the effluent from the proposed Dripping Springs WWTF will be treated to effluent limits designed to protect the Edwards Aquifer, a much higher level of treatment than the effluent from an OSSF using primary treatment. The operator of the WWTF must be at the WWTF at least five days a week, and must ensure the effluent is properly disinfected. Additionally, the draft permit includes a limit for *E. coli* in order to maintain the uses of the receiving water for primary contact recreation.

Comment 80:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that "increased volumes of sewage and associated pressure on wastewater treatment plants can exacerbate nutrient and microbiological loads on downstream ecosystems, as well as degrade the quality of down gradient groundwater supplies. Increased pressure on the existing infrastructure, coupled with the use of outdated guidelines for disposal of effluent can further complicate these issues."

Response 80:

The Dripping Springs WWTF must be constructed according to the rules in 30 TAC Chapter 217 and must comply with all applicable requirements in its draft permit. Although the draft permit authorizes the treatment and discharge of up to 0.995 MGD of treated effluent in the final phase, the Dripping Springs draft permit includes a requirement that states that when influent flow reaches 75 percent of the permitted daily average flow for three consecutive months, Dripping Springs must initiate engineering and financial planning for expansion or upgrade of the domestic wastewater treatment or collection facilities. When the flow reaches 90 percent of the permitted daily average flow for three consecutive months, Dripping Springs must obtain authorization from the Executive Director to begin constructing the necessary additional treatment or collection facilities. The incorporation of this requirement is designed to address any increase in pressure on the existing infrastructure.

Comment 81:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the Highland Lakes discharge ban means that those communities have developed wastewater treatment facilities that do not incorporate a direct discharge.

Response 81:

The commenters are correct that TCEQ's rules essentially prohibit the discharge of pollutants directly into or within 10 stream miles upstream of certain waterbodies, and potentially farther upstream depending on individual circumstances. The outfall location proposed by Dripping Springs is not within one of these prohibited areas and

there is no regulatory requirement that Dripping Springs develop effluent disposal strategies commensurate with those communities that fall under the dictates of those watershed rules. However, the limits in the draft permit are consistent with the rule requirements specific to Onion Creek and its tributaries that are stipulated in the Edwards Aquifer Rules and the Colorado River Watershed Rule.

The Edwards Aquifer Rules (30 TAC § 213.6) specifically include a section stating that discharges into the Onion Creek watershed must comply with the Colorado River Watershed Rule requirements concerning Onion Creek and its tributaries (30 TAC § 311.43). This provision requires specific effluent limits for discharges to Onion Creek and its tributaries, regardless of distance upstream from the Edwards Aquifer Recharge Zone. These limits are more stringent than the general Edwards Aquifer Rules regarding effluent limit requirements for discharges greater than five miles (or greater than 10 miles) upstream from the Recharge Zone. The Dripping Springs outfall will be approximately 20 miles upstream of the Edwards Aquifer Recharge Zone, and the effluent limits included in the draft permit are consistent with all of these rules.

H. Comments Regarding the Executive Director's Antidegradation Reveiw

Comment 82:

For the person(s) that made this comment, please see Attachment 17.

The TCEQ received many comments regarding the Executive Director's antidegradation review.

Several commenters stated that the Executive Director did not properly apply the law and the rules, including the Texas Water Quality Standards and IPs in his evaluation of the Dripping Springs application or the development of the draft permit. A commenter stated that the Executive Director's antidegradation review was inadequate. Specifically, according to the commenter, a properly conducted Tier 1 review would have shown that the uses of Onion Creek would be significantly and unnecessarily impaired by the effluent from the Dripping Springs WWTF. Additionally, according to the commenter, a proper Tier 2 review would have revealed the adverse effects of discharging effluent to Onion Creek.

Several commenters stated that the Tier 2 antidegradation policy was either not applied or was applied incorrectly, and the proposed discharge will cause more than de minimis degradation to Onion Creek. Several commenters also noted that degradation more than a de minimis extent requires the applicant to demonstrate that the degradation is necessary for important economic or social development. A commenter stated that there is a lack of justification for important social and economic development.

Several commenters commented that a discharge under the terms of the draft will cause degradation of Onion Creek by more than a de minimis extent. A commenter

stated that the effluent from the Dripping Springs WWTF will not protect the designated uses for Segment No. 1427.

A commenter expressed concern that the effluent will substantially impair the water quality of Onion Creek. A commenter stated that as currently drafted the effluent from the Dripping Springs WWTF will substantially degrade the water quality in Onion Creek. A commenter asked if any "contaminants, chemicals, pollutants, hazardous waste or any other harmful substance" could degrade water quality.

A commenter stated that if the Dripping Springs permit is granted as proposed, it will set a new precedent for discharge directly into creeks in the area. According to the commenter, any discharge permit is likely to cause a domino effect where the aggregate impacts will significantly degrade water quality in Onion Creek, Barton Springs Pool, and Lady Bird Lake, possibly making them unsafe for recreation, drinking water and ecosystems. Similarly, several commenters expressed concern over the impact of the proposed discharge on Barton Springs and Emerald Springs on South Onion Creek.

Several commenters stated that the potential of dumping large volumes of wastewater, treated or otherwise, in Onion Creek is not a good idea and will alter wildlife in the area. Several commenters expressed concern that the effluent will negatively impact aquatic life in Onion Creek. Several commenters stated that the proposed discharge would impact the fish and other aquatic life in Onion Creek.

Response 82:

The Executive Director's Tier 1 and Tier 2 antidegradation review complied with all the applicable statutory and regulatory requirements. Additionally, because of the location of the discharge, the Executive Director performed screening for nutrients and sulfates.

Overview. New TPDES permits, as well as amendments to TPDES permits, that allow increased pollution loading are subject to review under Tier 1 of the antidegradation policy; all pollution that could cause an impairment of existing uses is included in the evaluation. The Executive Director's Tier I antidegradation review ensures that existing water quality uses are not impaired by increases in pollution loading. Numerical and narrative criteria necessary to protect existing uses will be maintained.

New TPDES permits, as well as amendments to TPDES permits, that allow an increase in loading are also subject to review under Tier II of the antidegradation policy. A Tier II antidegradation review generally applies to water bodies that have existing, designated, or presumed uses of intermediate, high, or exceptional aquatic life uses. The Executive Director's Tier II antidegradation review ensures that where water quality exceeds the normal range of fishable/swimmable quality, the water quality will be maintained, unless lowering it is necessary for important economic or social development.

Executive Director's Tier I Review. According to the Dripping Springs application, the receiving waters are Walnut Springs and Onion Creek. Walnut Springs is an intermittent stream with existing uses of minimal aquatic life use and primary contact recreation. The dissolved oxygen criterion of 2.0 mg/L, associated with a minimal aquatic life use, dictates the effluent limits necessary to maintain instream dissolved oxygen levels necessary to support a minimal aquatic life use. The draft permit requires disinfection of the treated effluent, and includes bacteria limits, to maintain and protect the primary contact recreation uses. The Executive Director's Tier I antidegradation review of the Dripping Springs application preliminarily determined that existing water quality uses will not be impaired by the permit, if it is issued. Numerical and narrative criteria to protect existing uses will be maintained.

Executive Director's Tier II Review. Onion Creek is listed in Appendix A of 30 TAC Chapter 307 (site-specific uses and criteria for classified segments). As provided in Appendix A, Onion Creek has the designated uses of high aquatic life use, primary contact recreation, public water supply and aquifer protection. Due to its high aquatic life use, Onion Creek exceeds fishable/swimmable quality and, therefore, must undergo a Tier 2 review as well as a Tier I review. The designated high aquatic life use has an associated dissolved oxygen criterion of 5.0 mg/L. The proposed discharge has been modeled to develop the necessary effluent limits to maintain instream dissolved oxygen levels above the dissolved oxygen criterion necessary to protect the high aquatic life use in Onion Creek. A primary contact recreation use will also be protected by disinfection and dechlorination requirements in the permit, as well as bacteria limits. The Executive Director's Tier II review of the Dripping Springs application preliminarily determined that no significant degradation of water quality is expected in Onion Creek, which has been identified as having high aquatic life uses.

A demonstration that the degradation of Onion Creek is necessary for important economic or social development is only required if the discharge is expected to cause a lowering of water quality. 30 TAC § 307.5(b)(2). The Executive Director has made the determination that no lowering of water quality by greater than a de minimis amount is expected from the proposed Dripping Springs discharge. Additionally, the Tier 2 review indicates existing uses will be maintained and protected. The Executive Director may reexamine and modify the preliminary antidegradation determination if new information is received.

Executive Director's Nutrient Screening. Narrative criteria to prevent the excessive accumulation of algae, and taste and odor issues were also considered for Onion Creek. Therefore, a nutrient screening was performed which resulted in effluent limits for total phosphorus. To develop the total phosphorus limit, the Executive Director considered typical effluent limits for total phosphorus, the Colorado River Watershed Rules and the Edwards Aquifer Rules. Typically, effluent limits for total phosphorus as a daily average concentration range from 1.0 mg/L to 0.5 mg/L. The Colorado River Watershed Rule (30 Chapter 311, Subchapter E) and Edwards Aquifer Rule (30 TAC Chapter 213), require an effluent limit of 1.0 mg/L total phosphorus.

After considering all site-specific screening factors, the Executive Director determined that a more stringent limit of 0.15 mg/L total phosphorus is needed to preclude degradation of the receiving waters.

The Executive Director also added a total nitrogen limit of 6 mg/L to the draft permit to protect the public water supply use and aquifer protection. The total nitrogen limit will also help to prevent the excessive accumulation of algae and the associated taste and odor issues.

Executive Director's Sulfate Screening. Onion Creek is listed in the 2014 CWA § 303 (d) list of Critically Impaired Waterbodies for Sulfate. Therefore, to ensure the permitted discharge would not cause or contribute to the impairment, the Executive Director screened the concentration of sulfate in the effluent from Dripping Springs' existing permit against the sulfate criteria for the segment. The screening indicated a sulfate limit is not necessary and the segment criterion would be maintained.

Protection of Wildlife. The extensive technical reviews performed resulted in permit limits to ensure the permitted discharge is consistent with applicable laws, rules, and procedures and protective of the Texas Surface Water Quality Standards which includes the antidegradation policy, designated and presumed uses. Therefore, the permit is expected to be protective of aquatic-dependent species that reside in the receiving streams and other wildlife that utilize the receiving streams.

Comment 83:

For the person(s) that made this comment, please see Attachment 18.

A commenter stated that Onion Creek at Camp Ben McCulloch is a Tier 3 outstanding national resource waters. According to the commenter, Camp Ben McCulloch precisely meets the definition of other designated areas of exceptional recreational significance. Similarly, several commenters stated that Onion Creek is considered a "pristine creek;" however, the discharge will lower the water quality causing Onion Creek to lose its pristine designation.

Response 83:

Onion Creek is designated as having a high aquatic life use that exceeds fishable and swimmable quality. TCEQ does not have a designation of "pristine;" however, TCEQ recognizes outstanding national resource waters (ONRWs), which are waters that have unique characteristics that must be preserved. 30 TAC § 307.5(b)(3). Outstanding national resource waters are defined as high quality waters within or adjacent to national parks and wildlife refuges, state parks, wild and scenic rivers designated by law, and other designated areas of exceptional recreational or ecological significance. 30 TAC § 307.5(b)(3). Degradation is generally prohibited for ONRWs. Currently, there are no designated ONRWs in Texas.

Comment 84:

For the person(s) that made this comment, please see Attachment 32.

A commenter noted that it is unclear if the impact of contaminants of emerging concern are considered in the Executive Director's antidegradation analyses.

Response 84:

The TCEQ has not investigated the potential effects of "emerging contaminants" in the effluent, nor directly considered them in the antidegradation review. As discussed elsewhere in this RTC, neither the TCEQ nor the EPA has promulgated rules or criteria limiting emerging contaminants or Pharmaceuticals and Personal Care Products (PPCPs) in wastewater.

Comment 85:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the criteria the TCEQ applied to the antidegradation review are too lax and the agency should change its policy so more exacting requirements are included.

Response 85:

TCEQ's antidegradation policy meets the requirements of the Clean Water Act (CWA § 303; 33 USCA § 1313) as well as the federal regulatory requirements (40 CFR § 131.12). 40 CFR § 131.12 requires states adopt an antidegradation policy and defines the requirements of a state's antidegradation policy.

TCEQ's antidegradation policy, found at 30 TAC § 307.5, establishes protection for water bodies that are defined in the standards as being of intermediate, high, or exceptional quality. Specific numerical criteria for 42 toxic pollutants (expressed as maximum instream concentrations) protect aquatic life (30 TAC §307.6). Human consumption of fish and drinking water is protected by numerical criteria for 100 toxic pollutants.

Public participation in the rulemaking process, including development of the antidegradation policy, is encouraged. To find ways to participate, please visit https://www.tceq.texas.gov/rules/participate.html.

Comment 86:

For the person(s) that made this comment, please see Attachment 19.

Representative Howard expressed concern that the nitrates and phosphates from the Dripping Springs WWTF will cause algal blooms which will deplete the oxygen that is needed for fish and the general ecology.

Several commenters stated that drinking water sourced from Onion Creek, and wells in the Trinity and Edwards Aquifers, could have unpleasant taste and odor because of the increase of nutrients and algae in the effluent from the Dripping Springs WWTF.

Several commenters stated that fishing, swimming, boating, contact and non-contact recreation may be negatively impacted by the additional algae (and resultant algal die-off), odors and reduced clarity of Onion Creek.

Several commenters stated that decaying benthic algae could cause odors. Several commenters noted that neither the application nor the draft permit address odor mitigation from decaying benthic algae.

Several commenters commented that the nutrient loads will not only change the total mass of algae, but *Cladophora* and *Spirogyara* will become more dominant. According to the commenters, *Cladophora* grows in strands, which may impede contact recreation and boating. Several commenters expressed concern that the effluent from the Dripping Springs WWTF may impact recreational uses of Onion Creek. Similarly, a commenter stated that "certain species of algae have the potential to contribute various toxins to the water during a bloom which can pose health risks to people in contact with affected waters especially during the warmer summer months when recreation tends to be highest and base flow may be lower."

Several commenters stated that the proposed discharge would have high levels of phosphates and nitrates impacting Onion Creek.

Several commenters stated that they have concerns about algae blooms in the creek. Several commenters stated that the additional nutrients in Onion Creek will cause excessive algal growth and degrade Onion Creek. A commenter expressed concern that nitrates in the Dripping Springs effluent will create algae and moss growth. A commenter stated that the high nitrogen levels will case algae blooms which will change the temperature in the water.

Several commenters stated that the increased algae blooms may make Onion Creek aesthetically unpleasing.

A commenter stated that the effluent will cause algal growth, which in turn will cause a change in the trophic status of Onion Creek.

Several commenters stated that the modeling performed by the City of Austin indicates that the discharge will cause excessive algae, thus negatively impacting existing primary contact recreation uses, aquifer protection use, aquifer protection use and public water supply use.

Several commenters commented that nutrient pollution is a leading cause of water quality impairment in the United States. The commenters provided examples of impairments caused by nutrient pollution including: negative impacts to human health; increased costs to treat water to potable standards; reduced aesthetics, recreation and tourism; impaired navigation; algal blooms; depressed dissolved oxygen concentrations; fish kills; property value; and commercial fisheries. To address its concern, the commenters recommended that the draft permit include effluent limits for both nitrogen and phosphorus.

Response 86:

The Executive Director recognizes the potential for increased algal growth in Onion Creek. To ensure the effluent from the Dripping Springs WWTF will not cause an excessive accumulation of algae, the Executive Director performed a nutrient screening which indicated that because of the high clarity of the water column, lack of shade along the banks, and minimal dilution, a total phosphorus limit is needed in the draft permit. The Executive Director included a total phosphorus limit of 0.15 mg/L to preclude the excessive accumulation of algae. Additionally, the Executive Director added a total nitrogen limit of 6 mg/L to the draft permit primarily to protect drinking water; however, the total nitrogen limit will also help preclude the excessive accumulation of algae.

Because the Executive Director has added effluent limits for total phosphorus and total nitrogen, there should not be an accumulation of excess algae in Onion Creek.

Comment 87:

For the person(s) that made this comment, please see Attachment 32.

Several commenters commented that the City of Austin's WASP model indicates that the trophic status of Onion Creek would change from oligotrophic to mesotrophic for 9 to 12 miles downstream. According to a commenter, this will result in algae blooms and stream channels choked with aquatic plant growth. The increase in biomass is correlated with larger swings in diurnal dissolved oxygen regimes, which can lead to fish kills and alteration of the native biological community. Similarly, according to several commenters, Onion Creek will be degraded by more than a de minimis amount if the trophic state of Onion Creek is changed from oligotrophic to mesotrophic.

A commenter stated that TCEQ's preliminary Tier II anti-degradation analysis was not sufficient to ensure compliance with water quality standards for high quality water bodies like Onion Creek. The commenter also requested that TCEQ reexamine its Tier II antidegradation review using the WASP model.

Response 87:

There is a considerable degree of uncertainty inherent in this WASP model calibration. In order to properly calibrate a model, there must be a gradient in water quality to analyze. If water quality in the data samples shows no trends because it contains no significant wastewater discharges or other point-source inputs, the validity of the calibration becomes uncertain, as does the value of the model's predictive capabilities. This point is especially true in regard to conclusions based on extrapolating results to represent possible future discharge conditions.

To put the conclusions of the City of Austin modeling report in perspective, the report cautions that the model is most appropriately used to make general assumptions about the effects of the discharge. The assertion that there will be a

change in trophic status, which is tied to a definitive numeric threshold due to the discharge, are speculative since the model is not based on the actual quality of the discharge or the addition of nitrogen limits included in the draft permit.

The nutrient screening procedures in the *Procedures to Implement the Texas Surface Water Quality Standards* RG-194 (2010) (IPs) constitute the basis for the Executive Director's antidegradation review for nutrients. To assess the local effects of the proposed discharge under the narrative nutrient provisions of the Texas Surface Water Quality Standards, the TCEQ evaluated site-specific screening factors to assess eutrophication potential in Onion Creek. The following factors were considered and rated: size of discharge, instream dilution, stream substrate, stream depth, water clarity, presence of aquatic vegetation, shading, stream flow characteristics, presence of on-channel impoundments and pools, and consistency with other permits. The individual screening factors establish the basis for an overall "weight-of-evidence" assessment to identify the need for a nutrient effluent limit.

An effluent limit for total phosphorus is typically indicated when a significant number of screening factors are rated in the moderate and high categories. In the case of the proposed discharge, the majority of factors ranked indicated a high potential for eutrophication. When an effluent limit for total phosphorus is indicated, then screening factors and levels of concern can also be considered in determining the specific concentration limit for total phosphorus. Initial assessments can be improved upon and reconsidered in light of additional site-specific data and/or more extensive evaluations. Typical effluent limits for total phosphorus, as a daily average concentration, generally fall into the 1.0 to 0.5 mg/L range. Per the Colorado River Watershed Rule (30 TAC Chapter 311, Subchapter E) and Edwards Aquifer Rule (30 TAC Chapter 213), the proposed discharge would be required at a minimum to meet a limit of 1.0 mg/L total phosphorus. Due to the high clarity of the water column, lack of shade along the banks, and minimal dilution, a total phosphorus limit of 0.15 mg/L was added to the draft permit to protect Onion Creek from accumulation of excessive algae. Furthermore, the Executive Director has determined that the inclusion of a 6 mg/L total nitrogen limit in the draft permit will further limit algal growth in Onion Creek.

Comment 88:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the effluent will cause algal growth, which in turn will cause a change in the trophic status of Onion Creek.

According to the commenter, "a Water Quality Analysis Simulation Program (WASP) model indicates the effluent quality as proposed will degrade the trophic classification of Onion Creek, which would impair the ability of the stream to meet the water quality criteria life and, therefore, will not meet the applicable water quality and anti-degradation standards."

According to a commenter, benthic periphyton would degrade from an oligotrophic condition to a mesotrophic condition for nine to 12 miles downstream of the outfall. Similarly, several commenters stated that the increased nutrient load could alter the trophic nature of Onion Creek.

Response 88:

There are currently no numerical or narrative criteria in the TSWQS or the IPs designed to meet trophic threshold boundaries. According to the IPs, the general applicability of the Executive Director's nutrient screening is to evaluate applications for new or expanding domestic discharges to reservoirs, streams, and rivers to determine if an effluent limit is needed for total phosphorus or, in appropriate situations, total nitrogen to prevent violation of numerical and/or narrative nutrient criteria and/or preclude excessive growth of aquatic vegetation. To assess the local effects of discharges under the narrative nutrient provisions of the Standards, the Executive Director evaluates site-specific screening factors to assess eutrophication potential rated in terms of low, moderate, or high.

The Executive Director's narrative nutrient screening indicated a total phosphorus limit is required in the Dripping Springs draft permit. Due to the high clarity of the water column, lack of shade along the banks, and minimal dilution, a total phosphorus limit of 0.15 mg/L was added to the draft permit to protect Onion Creek from accumulation of excessive algae.

Comment 89:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the draft permit should include a limit for nitrate-nitrogen, which is a key nutrient which affects algae growth and human health.

Response 89:

The Executive Director has included a total nitrogen limit of 6 mg/L in the draft permit to provide protection of drinking water and meet the drinking water standard of 10 mg/L nitrate-nitrogen. Total nitrogen comprises total Kjeldahl Nitrogen, which is ammonia, organic and reduced nitrogen, nitrate, and nitrite. Since nitrate is a component of total nitrogen, and the total nitrogen limit is 6 mg/L, the discharge will meet the drinking water standard of 10 mg/L nitrate-nitrogen. Additionally, the total nitrogen limit will further minimize the potential for eutrophication.

Comment 90:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the flows in Onion Creek are often too low to buffer potential nutrient loadings, especially during dry central Texas summers.

Response 90:

It is typical for streams to temporarily accumulate algae in early spring when nutrients leached from natural leaf litter deposited in fall becomes bioavailable as water temperature and photoperiod become conducive to algal growth, and as the baseflow of the creek slows during dry central Texas summers. This occurs in streams with or without a direct discharge. The accumulated algae will eventually be scoured out by storm events. Additionally, due to the high clarity of the water column, lack of shade along the banks, and minimal dilution, a total phosphorus limit of 0.15 mg/L and total nitrogen limit of 6 mg/L were added to the Dripping Springs draft permit to protect Onion Creek from accumulation of excessive algae.

Comment 91:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the effluent must not alter nutrient concentrations in the receiving water during non-storm conditions beyond de minimis levels.

Response 91:

The Executive Director performed a nutrient screening to evaluate the impact of nutrients from the Dripping Springs effluent on Onion Creek. Narrative criteria to prevent the excessive accumulation of algae, taste, and odors were also considered for Onion Creek. The nutrient screen resulted in effluent limits for total phosphorus. To develop the total phosphorus limit, the Executive Director considered typical effluent limits for total phosphorus, based on the Colorado River Watershed Rules and the Edwards Aquifer Rules. Typically, effluent limits for total phosphorus as a daily average concentration range from 1.0 mg/L to 0.5 mg/L. The Colorado River Watershed Rules (30 TAC Chapter 311, Subchapter E) and Edwards Aquifer Rules (30 TAC Chapter 213), require an effluent limit of 1.0 mg/L total phosphorus. After considering all site-specific screening factors, the Executive Director determined that a more stringent limit of 0.15 mg/L total phosphorus is needed to preclude degradation of the receiving waters. The Executive Director also added a total nitrogen limit of 6 mg/L to the draft permit to protect the public water supply use and provide aquifer protection. The total nitrogen limit will also help to prevent the excessive accumulation of algae and the associated taste and odor issues.

Comment 92:

For the person(s) that made this comment, please see Attachment 20.

Several commenters stated that the phosphorus limit in the Dripping Springs draft permit will not be protective of water quality. Similarly, several commenters stated that the effluent limit for total phosphorus is substantially higher that the background concentrations in Onion Creek. A commenter recommended that the daily average total phosphorus limit in the draft permit should be 0.10 mg/L. Several commenters stated that the effluent from Dripping Springs will degrade the quality of

water in Onion Creek. A commenter noted that historically the background concentrations of nitrogen and phosphorus in Onion Creek have been low.

Several commenters stated that the total phosphorus limit in the draft permit will increase the phosphorus load in Onion Creek and degrade the water quality.

A commenter also stated that because some effluent limits for nutrients are either inadequate or unlimited, the effluent will cause degradation of Onion Creek which is currently fishable/swimmable.

A commenter recommended that the daily average total phosphorus limit in the draft permit should be 0.10 mg/L.

A commenter stated that the additional phosphorus will cause eutrophication in Onion Creek.

Response 92:

To ensure the effluent from the Dripping Springs WWTF will not cause eutrophication of Walnut Springs or Onion Creek, the Executive Director performed a nutrient screening which indicated that a total phosphorus limit is needed in the draft permit. The Executive Director's nutrient screening factors incorporates concerns such as the instream dilution, substrate, depth, amount of shading, stream type, impoundments, and consistency with other similar permits. An effluent limit for total phosphorous is typically indicated when a significant number of screening factors are rated in the moderate and high categories for the potential to cause or contribute to eutrophication in the receiving water bodies. In the case of the proposed Dripping Springs discharge, the majority of factors ranked indicated a high potential for eutrophication.

To determine the appropriate limit for total phosphorus in the Dripping Springs draft permit, the Executive Director considered: the results of the nutrient screen, the limits typically incorporated in similarly situated TPDES permits, and TCEQ rules that require a total phosphorus limit. The typical permit limit for total phosphorus, as a daily average concentration, is between 1.0 to 0.5 mg/L. The Colorado River Watershed Rules (30TAC Chapter 311, Subchapter E) and Edwards Aquifer Rules (30 TAC Chapter 213), require effluent limits of 1.0 mg/L total phosphorus. Additionally, the total phosphorus limit was included in consideration of other similar facilities located within the Onion Creek watershed. Based on the available information, and precedent, the Dripping Springs draft permit includes an effluent limit of 0.15 mg/L (daily average). The Executive Director has determined that the total phosphorus limit will protect the water quality in Onion Creek.

Comment 93:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated the total phosphorus limit in the draft permit should be based on critical, quantitative analysis to ensure that existing uses are maintained.

According to the commenter, the long-term average is not enforceable and is not likely to be achievable based on the proposed measurement methodology. Finally, the commenter recommends the daily average total phosphorus limit in the draft permit be 0.10 mg/L calculated as an average.

Response 93:

As discussed elsewhere in this RTC, a nutrient screening was performed to ensure the permit is consistent with narrative nutrient criteria. The results of the screening indicated that limits for total phosphorus were needed. The total phosphorus limit in the draft permit was derived by performing a nutrient screening in accordance with the IPs and by considering the effluent limits permitted for similarly situated wastewater facilities. The daily average 0.15 mg/L total phosphorus limit is enforceable. However, the long-term average of 0.1 mg/L total phosphorus footnoted in the Dripping Springs draft permit is not a permit limit and therefore not enforceable. The footnote is provided to clarify that the daily average is intended to be protective of the long-term average in a manner similar to permit limits for toxic pollutants which are based on a lognormal probability distribution that is known to describe treatment system performance.

Comment 94:

For the person(s) that made this comment, please see Attachment 32.

Several commenters commented that a total nitrogen limit of 6 mg/L should be added to the draft permit for consistency with other permits in the area and to protect public health, aquatic life and the environment.

A commenter noted that the draft permit does not include an effluent limit for total nitrogen.

Several commenters stated that the draft permit should include a limit for nitrate-nitrogen, which is a key nutrient which affects algae growth and human health.

Commenters also stated the draft permit has a limit on ammonia-nitrogen, which is not a sufficient proxy for total nitrogen because that finding is based on outdated science and it does not take into account the pristine oligotrophic nature of Hill Country streams. A commenter stated that the ammonia-nitrogen concentration in the effluent will be about 300 times greater than background levels and will cause eutrophication in Onion Creek. Similarly, a commenter expressed concern that the draft permit does not have a limit for nitrogen, and thus will cause eutrophication of Onion Creek.

Response 94:

The Executive Director added a total nitrogen limit of 6 mg/L to all three phases of the draft permit to protect the public water supply use and provide aquifer protection. The total nitrogen limit will also help to prevent the excessive accumulation of algae and any associated taste and odor issues.

Comment 95:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that during drought conditions, there would be virtually no dilution of the effluent nitrate load. Similarly, a commenter expressed concern that Onion Creek is seasonal and can be dramatically affected by periods of low rainfall. The commenter noted that the creek does not flow for long periods each year, and at times, the effluent will concentrate in standing pools. A commenter stated that she is concerned about the effluent discharge level during periods of drought when flow is slowed and levels are low. The discharge will only increase the concentrations of contaminates in the wastewater effluent.

Response 95:

Low Flow. The Executive Director is aware that upper Onion Creek experiences periods of very low or no flow during dry environmental conditions. While developing the draft permit, the Executive Director considered the impact the low baseflow of Onion Creek will have on dilution during typical low-flow conditions. To address potential water quality concerns during these critical periods, Onion Creek was evaluated under hot and dry, critical low-flow summertime conditions, because these conditions are typically the most restrictive for aquatic life-related water quality parameters such as dissolved oxygen concentrations. Critical low-flow conditions are developed according to agency policies and procedures and are based on or consider available flow data that can include measurements taken during drought conditions. Most effluent limits in TPDES permits are established based on these critical period analyses to ensure that permitted effluent limits will be protective under those conditions and at times when environmental conditions are less restrictive.

The effluent limits in the Dripping Springs draft permit are set at levels to ensure that the water quality in Onion Creek will be protected under various conditions, including periods when Onion Creek is at critical low-flow.

Dilution of Nitrate Load. The trend in nitrate concentration in a drying pool is difficult to quantify. Mechanisms can be present that cause the concentration to increase or decrease. Evaporation can cause the concentration to increase while mechanisms such as denitrification and plant uptake can cause the concentration to decrease. The trend in nitrate concentration is the net effect of all the relevant processes acting on the nitrogen present in the pool.

Comment 96:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated "the TCEQ (2012) screening procedures and permit limits for total dissolved solids, also applicable to sulfates as a component, were not applied to the draft permit. This screening would be required for major discharges greater than or equal to 1 MGD. This screening should be applied to the Dripping Springs proposed permit action to ensure that the existing impairment is not exacerbated."

A commenter noted that the draft permit does not include effluent limits for total Dissolved Solids.

A commenter stated that the Executive Director's assessment of the sulfate concentration in the influent water and the need for a sulfate limit in the permit was inadequate. According to the commenter, some of Dripping Springs' drinking water comes from the Middle Trinity Aquifer, which can have elevated sulfate concentrations. Additionally, according to the commenter, sampling of the influent on a single day may not be representative of the overall influent with respect to sulfate.

A commenter stated that the addition of sulfate from the Dripping Springs WWTF will exacerbate the sulfate impairment in Onion Creek and contribute to increased sulfate levels in Barton Springs.

Several commenters stated that the draft permit should include an effluent limit for sulfate because the average sulfate concentration in the effluent currently discharged from the Dripping Springs WWTF is higher than the stream standard, and the proposed treatment process will increase the concentration of sulfate in the effluent. One commenter noted that Onion Creek (Segment 1427) is listed on the State of Texas inventory of impaired waters for elevated sulfate levels.

A commenter stated the treatment method proposed by Dripping Springs will exacerbate the sulfate impairment in Onion Creek and contribute to increased sulfate levels in Barton Springs. The commenter noted that the sulfate is a component of total dissolved solids, but since Dripping Springs requested a final discharge of less than 1 MGD the screening was not performed.

Several commenters stated that the treatment processes may cause exceedance of the sulfate and sodium standards for Onion Creek because sulfate assists in oxidation of rocks within the creek and could, in certain instances, turn the creek white due to the limestone creek beds.

Response 96:

The Executive Director's sulfate screening indicated that the discharge will not contribute to the impairment of the segment from sulfate.

The IPs require that concentrations and relative ratios of dissolved minerals such as chloride and sulfate that compose total dissolved solids (TDS) be maintained to protect existing and attainable uses. The TDS screening procedures are only required for discharges that have an average permitted flow of more than one million gallons per day; however, because Onion Creek is listed in the 2014 303 (d) list of Critically Impaired Waterbodies for Sulfate, the Executive Director screened the effluent concentration of sulfate in the Dripping Springs application. A full discussion of the TDS screen procedures can be found in the IPs (RG-194)(2010) on page 175. (https://www.tceq.texas.gov/assets/public/permitting/waterquality/standards/docs/june_2010_ip.pdf).

Because the Dripping Springs discharge will be to Onion Creek, which is a classified stream, the Executive Director followed the procedures described on page 178 of the IPs. The Executive Director screened the effluent sulfate concentration provided by Dripping Springs in its application (24.1 mg/L) against the more stringent sulfate criterion for the aquifer protection reach of Onion Creek (50 mg/L). The rules prohibit additional TDS, in this case sulfate loadings, when the loading would cause further increases in ambient sulfate concentrations in the receiving waters that are already at or above standards. The Executive Director's sulfate screening indicated that the discharge will not contribute to the impairment of the segment from sulfate. Applicants for TPDES permits are not required to provide sampling information for the influent.

The draft permit was developed to meet the Texas Surface Water Quality Standards (TSWQS) and protect aquatic life and human health in accordance with the TSWQS, provided Dripping Springs operates and maintains the facility according to TCEQ rules and the requirements in the draft permit. The TSWQS do not include criteria for sodium. The Executive Director's review of a TPDES application does not include an evaluation of the effects of a proposed discharge on the stream bed.

Comment 97:

For the person(s) that made this comment, please see Attachment 32.

According to a commenter, sampling of the influent on a single day may not be representative of the overall influent with respect to sulfate.

Response 97:

The permit application does not require influent sampling for sulfate. Item 8, page 11 of the Domestic Technical Report 1.0 requires Dripping Springs to provide an analysis of the effluent for the listed constituents.

Comment 98:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the degradation of Onion Creek caused by the effluent from the Dripping Springs WWTF will adversely impact the City of Austin's conservation easement.

Response 98:

The Executive Director does not anticipate any degradation of Onion Creek from the Dripping Springs draft permit. As discussed elsewhere in this document, the Executive Director has determined that the draft permit is in accordance with the TSWQS, which ensures that the effluent discharge is protective of aquatic life, human health, and the environment. The Executive Director's Tier I and Tier II antidegradation review complied with all the applicable statutory and regulatory requirements. TCEQ does not have jurisdiction to enforce the City of Austin's conservation easement as part of the wastewater permitting process.

Comment 99:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the proposed discharge would impact the fish and other aquatic life in Onion Creek.

Response 99:

The draft permit was developed to protect aquatic life and human health in accordance with the Texas Surface Water Quality Standards and was established to be protective of human health and the environment, provided that Dripping Springs operates and maintains the facility according to TCEQ rules and the requirements in the draft permit. As part of the permit application process, TCEQ must determine the uses of the receiving water and set effluent limits that are protective of those uses. The effluent limits in the draft permit are set to maintain and protect the existing instream uses. Onion Creek has been assigned a High Aquatic Life Use and corresponding 5.0 mg/L dissolved oxygen (DO) criterion in the Texas Surface Water Quality Standards. These criteria are designed to ensure that aquatic life will be protected. TCEQ staff performed a DO modeling analysis of the proposed discharge using an uncalibrated QUAL-TX model. Based on model results, the effluent limits included in the draft permit for $CBOD_5$, ammonia-nitrogen, and minimum effluent DO for the three proposed flow phases are predicted to be adequate to ensure that instream DO levels will be maintained consistent with these established criteria. The effluent limits in the draft permit also comply with the requirements of the Colorado River Watershed Protection Rule (30 TAC Chapter 311, Subchapter E) and with the requirements of the Edwards Aquifer Rules (30 TAC Chapter 213, Subchapter A).

Staff also performed a nutrient screening of the proposed discharge which resulted in stringent permit limits of 0.15 mg/L total phosphorus to preclude impacts from excessive algal growth. To further protect against excessive algal growth, and protect drinking water uses, a total nitrogen limit of 6 mg/L was also included in the permit. Controlling excessive algal growth will ensure protection of fish and other aquatic life in Onion Creek. The Executive Director also screened the concentration of sulfate in the effluent from the applicant's existing permit against the sulfate criteria for the segment. The screening indicated a sulfate limit is not necessary and the segment criterion would be maintained and consequently, protective of fish and other aquatic life. Furthermore, in response to comments expressing concerns that chlorine in the discharge would negatively affect aquatic life downstream of the discharge, dechlorination requirements have been added to the draft permit in all flow phases.

Comment 100:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the effluent must not contribute to adverse toxic effects on aquatic life in the receiving water, on human health resulting from aquatic

recreation or on human health resulting from the consumption of aquatic organisms from the receiving water.

A commenter stated that the proposed discharge may have adverse impacts to the flora and fauna in Onion Creek.

Response 100:

As specified in the TSWQSs, water in the state must be maintained to preclude adverse toxic effects on aquatic life, terrestrial life, livestock, and domestic animals resulting from contact, consumption of aquatic organisms, consumption of water, or any combination of the three. Water in the state must be maintained to preclude adverse toxic effects on human health resulting from contact recreation, consumption of aquatic organisms, consumption of drinking water, or any combination of the three. The draft permit includes provisions to ensure that these surface water quality standards will be maintained.

Conventional domestic sewage does not typically contain toxic compounds in measurable quantities that might result in toxic effects in the receiving waterbodies, unless there are significant industrial users contributing to the wastestream. The Executive Director conducted a comprehensive review to determine if there were any industrial contributors to the Dripping Springs wastewater treatment plant, none were found.

To address the concern expressed by the commenters, if an industrial user were to discharge process wastewater to any of the City of Dripping Springs' WWTFs, the industrial user would be subject to the requirements set forth in the City of Dripping Springs Pretreatment Ordinance (Chapter 20 Utilities, Article 20.04 Pretreatment of Wastewater), which includes prohibited discharges (i.e., local limits for metals). The industrial user would also have to comply with any applicable federal categorical pretreatment standards. An industrial user subject to one or more categorical pretreatment standards that discharges to the Dripping Springs WWTF would have to submit notifications and reports as specified in 40 CFR §403.6 to the Executive Director to demonstrate compliance with applicable categorical pretreatment standard until such time as Dripping Springs is required to develop and implement a pretreatment program.

Comment 101:

For the person(s) that made this comment, please see Attachment 21.

Several commenters recommended that the Dripping Springs draft permit include a dechlorination requirement. According to several commenters, chlorine from wastewater effluent disinfection has been documented to adversely impact aquatic life. Several commenters noted that dechlorination would reduce the toxic effects of the effluent on aquatic life.

Response 101:

In response to comments expressing concerns that chlorine in the discharge would negatively affect aquatic life downstream of the discharge, the Executive Director added dechlorination requirements to the draft permit in all flow phases. Specifically, the draft permit requires that Dripping Springs dechlorinate the chlorinated effluent to less than 0.1 mg/L chlorine residual and monitor chlorine residual five times a week, by grab sample, after the dechlorination process.

I. Comments on the Executive Director's Modeling

Comment 102:

For the person(s) that made this comment, please see Attachment 32.

A commenter requested TCEQ staff evaluate a document, *WASP Model Analysis of a City of Dripping Springs Proposed Wastewater Treatment Plant Discharge.* According to the City of Austin, the WASP Model indicates that the effluent from the proposed Dripping Springs WWTF would substantially degrade the water quality in Onion Creek. Specifically, according to the City, the "benthic periphyton would degrade from an oligotrophic condition to a mesotrophic condition of 9 to 12 miles of Onion Creek downstream of the proposed effluent outfall." According to the City of Austin, the "annual mean benthic chlorophyll *a* in the main stem of Onion Creek downstream of the confluence with the Walnut Springs Tributary will remain in a degraded mesotrophic condition for a distance up to approximately 2.5 to 3 miles depending on the flow of Onion Creek each year."

Response 102:

The Executive Director has seen the summary WASP modeling report developed by the City of Austin staff. There is a considerable degree of uncertainty inherent in this model calibration. In order to properly calibrate a model, there must be a gradient in water quality to analyze. If water quality in the data samples shows no trends because it contains no significant wastewater discharges or other point-source inputs, the validity of the calibration becomes uncertain, as does the value of the model's predictive capabilities. This point is especially true in regard to conclusions based on extrapolating results to represent possible future discharge conditions.

The initial City of Austin WASP modeling report (April 2016) indicated that benthic periphyton would change the trophic status of Onion Creek from oligotrophic to mesotrophic status 9 to 12 miles downstream of the outfall using the total phosphorus limit of 0.5 mg/L that was included in the permit application. A revised City of Austin WASP modeling report (November 2016) included the total phosphorus limit of 0.15 mg/L in the draft permit which decreased the mesotrophic status to a distance to 2.5 to 3.0 miles downstream of the outfall. The Executive Director has determined that the inclusion of a 6 mg/L total nitrogen limit in the draft permit will further limit algal growth in Onion Creek.

Comment 103:

For the person(s) that made this comment, please see Attachment 32.

A commenter requested TCEQ staff evaluate a document, *An Analytic Water Quality Model of Onion Creek Examining Impacts from a Proposed Wastewater Point Source Discharge.* Additionally, a commenter noted the results of the City of Austin's modeling.

Response 103:

The model being referenced in this document is described as a parsimonious model developed by Chapra et al. (2014) applied to the evaluation of a potential wastewater discharge from the Dripping Springs WWTF to Onion Creek. This modeling approach, despite its much simpler nature, has at its core the same basic issues that hamper the use of either a QUAL-TX or a WASP model to predict the potential nutrient-related impacts of this proposed wastewater discharge on Onion Creek. Sufficient site-specific information is essential in order to develop a meaningful predictive tool for the evaluation of potential nutrient impacts to a water body, and considerable uncertainty is inherent in extrapolating model predictions to represent possible future discharge conditions from a model developed under no-discharge conditions. As stated in the City's report, the rates used in this modeling analysis are important parameters that require further investigation, and results exhibit a considerable level of uncertainty. The nutrient screening procedures in the *Procedures to Implement the Texas Surface Water Quality Standards* RG-194 (2010) (IPs) constitute the basis for the antidegradation review for nutrients.

To assess the local effects of the proposed discharge under the narrative nutrient provisions of the TSWQS, the TCEQ evaluated site-specific screening factors to assess eutrophication potential in Onion Creek. The following factors were considered and rated: size of discharge, instream dilution, stream substrate, stream depth, water clarity, presence of aquatic vegetation, shading, stream flow characteristics, presence of on-channel impoundments and pools, and consistency with other permits. The individual screening factors establish the basis for an overall "weight-of-evidence" assessment to identify the need for a nutrient effluent limit. The Executive Director has determined that the inclusion of a 6 mg/L total nitrogen limit in the draft permit will further limit algal growth in Onion Creek.

An effluent limit for total phosphorus is typically indicated when a significant number of screening factors are rated in the moderate and high categories. In the case of the proposed discharge, the majority of factors ranked indicated a high potential for eutrophication. When an effluent limit for total phosphorus is indicated, then screening factors and levels of concern can also be considered in determining the specific concentration limit for total phosphorus. Initial assessments can be improved and reconsidered in light of additional site-specific data and/or more extensive evaluations. Effluent limits for total phosphorus, as a daily average concentration, generally fall into the 1.0 to 0.5 mg/L range. Per the Colorado River Watershed Rules

(30 Texas Administrative Code (TAC) Chapter 311 Subchapter E) and Edwards Aquifer Rules (30 TAC Chapter 213), the proposed discharge would be required at a minimum to meet a limit of 1.0 mg/L total phosphorus. However, a more stringent nutrient limit was included due to the nutrient screening results.

Comment 104:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that TCEQ's steady-state model is not adequate to determine if the discharge from Dripping Springs would cause degradation of Onion Creek. Similarly, several commenters stated that the QUAL-TX model is inadequate, was run with inappropriate parameters, and failed to accurately predict seasonal flows over gaining and losing stretches of Onion Creek. A commenter noted that the QUAL-TX model is a steady-state model with limitations on assessment of dynamic nutrient loading over time.

A commenter recommended the Executive Director use the calibrated dynamic model used by the City of Austin. Similarly, several commenters stated that TCEQ's use of an uncalibrated version of the QUAL-TX model is not justified.

Several commenters specifically noted that the flows TCEQ staff used for Onion Creek in the model were too high because they were higher than the TCEQ critical low flow value; staff assumed sediment oxygen demand was lower than the stipulated value; and in one of the model runs staff assumed algae was present even though stream monitoring indicated concentrations of algae are less than the detection limit.

Response 104:

A steady-state QUAL-TX model was used by the Executive Director to assess the potential impact of the proposed discharge on instream daily average dissolved oxygen levels. These modeling results are used as a component of the anti-degradation review, but they do not cover the full spectrum of the review. QUAL-TX modeling is performed only for major DO-related effluent limits. It is not used for analysis of the potential for nutrients to affect aquatic plant growth. The Executive Director performs an analysis of nutrients and recommends applicable nutrient limits when warranted, according to the nutrient screening procedures in the *Procedures to Implement the Texas Surface Water Quality Standards* RG-194 (2010).

QUAL-TX is the standard model used for DO modeling of wastewater discharge permits in streams and rivers throughout Texas. It has a long history of accepted use for instream DO modeling, includes rates that have been negotiated with EPA, and has established modeling protocols for its use in the analysis of permit effluent limits of oxygen-demanding constituents. The referenced 'calibrated dynamic model used by the City of Austin' is a Water Quality Analysis Simulation Program (WASP) model. WASP is used in only a very few cases for the analysis of DO for wastewater permit limits in Texas. The WASP model developed by City of Austin staff was not calibrated to be used for the analysis of direct instream DO impacts of the major DO-related effluent

limits that the QUAL-TX model is intended to evaluate, specifically $CBOD_5$ and ammonia-nitrogen.

QUAL-TX is a steady-state model, and is set up to evaluate the potential DO impact of wastewater discharges during the most critical, hot and dry, conditions. As such, it requires much less data than would a dynamic WASP model. WASP is a more complex model than QUAL-TX that requires more data to create a meaningful predictive tool. Without sufficient data, its predictions are no better than those of QUAL-TX.

There is a considerable degree of uncertainty inherent in this WASP model calibration. In order to properly calibrate a model, there must be a gradient in water quality to analyze. If water quality in the data samples shows no trends because it contains no significant wastewater discharges or other point-source inputs, the validity of the calibration becomes uncertain, as does the value of the model's predictive capabilities. This point is especially true in regard to conclusions based on extrapolating results to represent possible future discharge conditions.

The QUAL-TX model used by TCEQ staff to assess the potential impact of the proposed discharge on instream DO levels also includes site-specific stream transect data collected by the applicant's representatives for the pond portion of Onion Creek into which the discharge would first enter via Walnut Springs. This section of Onion Creek is predicted to be the most potentially impacted by the major DO-related components of the proposed discharge, specifically $CBOD_5$ and ammonia-nitrogen. The City of Austin's WASP model does not appear to include this level of hydraulic detail for this portion of Onion Creek.

Various aspects of the QUAL-TX model submitted by Dripping Springs' representatives were modified by TCEQ staff in order to make the model consistent with TCEQ DO modeling Standard Operating Procedures (SOPs) for evaluation of effluent limits to be included in the draft permit.

Comment 105:

For the person(s) that made this comment, please see Attachment 32.

Several commenters noted that according to staff, the QUAL-TX model was run with adjusted parameters, but staff has not provided a written description of the adjusted parameters.

Response 105:

The dissolved oxygen (DO) QUAL-TX model developed and submitted by the applicants representatives had a number of aspects that were not consistent with TCEQ DO modeling Standard Operating Procedures (SOPs) and the Memorandum of Agreement (MOA) between TCEQ and EPA concerning the use of uncalibrated (default) QUAL-TX modeling in freshwater streams for analysis of TPDES permit DO-related effluent limits. The MOA-denoted parameters and rates are generally applicable in receiving waters such as the portions of Walnut Springs and Onion Creek that are

advective (free-flowing), but not all aspects of the MOA apply in portions of the model representing ponds and pooled stream reaches. In order to make the modeling analysis consistent with TCEQ SOPs and the MOA, the model originally submitted by the applicant was modified by TCEQ technical review staff. The effluent limits for $CBOD_5$, ammonia-nitrogen, and minimum effluent DO contained in the draft permit are based on results of the modeling analysis performed using this modified version of the QUAL-TX model.

Attachment 33 is a general summary comparing the QUAL-TX model originally developed and submitted by the applicant's representatives with the modified version of the QUAL-TX model used by TCEQ staff for review of the permit application.

Comment 106:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the lowered dissolved oxygen in the creek may negatively impact the wildlife habitat.

Response 106:

The Executive Director has determined that if the Dripping Springs WWTF is operated according to the requirements in the draft permit, wildlife habitat in the area will be protected.

Onion Creek has been assigned a high aquatic life use and corresponding 5.0 mg/L dissolved oxygen (DO) criterion. 30 TAC § 307.10. The DO criterion ensures that aquatic life will be protected. The Executive Director's staff performed a DO modeling analysis of the proposed discharge using an uncalibrated QUAL-TX model. Based on model results, the effluent limits included in the draft permit for 5-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), ammonia-nitrogen, and minimum effluent DO for the three proposed flow phases are predicted to be adequate to ensure that instream DO levels will be maintained consistent with these established criteria, and will therefore protect wildlife habitat.

Comment 107:

For the person(s) that made this comment, please see Attachment 22.

A commenter stated that it appears that there are factors that the Executive Director did not consider in determining if the proposed permit would adequately protect human health and environmental values. Similarly, several commenters expressed concerns regarding whether the proposed discharge will adversely impact human health. Additionally, several commenters stated that the draft permit does not protect human health and safety, the environment, and physical property.

Response 107:

The draft permit was developed to protect aquatic life and human health in accordance with the TSWQS, provided Dripping Springs operates and maintains the facility according to TCEQ rules and the requirements in the draft permit.

The TSWQS, found at 30 TAC Chapter 307, designate criteria for the protection of aquatic life and human health in water in the state. 30 TAC § 307.4(d) states that, "surface waters will not be toxic to man from ingestion of water, consumption of aquatic organisms, or contact with the skin, or to terrestrial or aquatic life." The methodology outlined in the IPs is designed to ensure compliance with 30 TAC Chapter 307. Specifically, the methodology is designed to ensure that no source will be allowed to discharge any wastewater that: (1) results in instream aquatic toxicity; (2) causes a violation of an applicable narrative or numerical state water quality standard; (3) results in the endangerment of a drinking water supply; or (4) results in aquatic bioaccumulation that threatens human health. The Executive Director has determined that the draft permit complies with TSWQS.

As part of the permit application review process, TCEQ must determine the uses of the receiving water and set effluent limits that are protective of those uses. The effluent limits in the draft permit are set to maintain and protect the existing instream uses. In this case, the receiving stream uses are minimal aquatic life use for Walnut Springs, and the designated uses are primary contact recreation, public water supply, aquifer protection, and high aquatic life use for Onion Creek (Segment 1427). The Executive Director determined that these uses should be protected if the facility is operated and maintained as required by the draft permit.

J. General Concerns Regarding Drinking Water

Comment 108:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked what the TCEQ is going to do to protect his drinking water from total coliform and fecal coliform contamination. Similarly, a commenter expressed concern over microbial pollution and the associated risk of human and animal related illnesses after exposure to contaminated water sources. A commenter stated that communities “downstream of municipal sewage outfalls or contaminated water sources are at the highest risk of illness due to increased microbial (bacterial and viral) pathogens, in addition to health hazards associated with chemical contamination and disease-transmitting organisms, including infectious diseases contracted either by ingestion of contaminated water or through body contact (swimming, etc.).” The commenter also stated that if a WWTF is not properly managed, a community’s vulnerability to waterborne disease, or waterborne-disease-related deaths increases.

Several commenters stated concerns regarding the proposed discharge and impacts on human health and aquatic recreation on the creek.

Response 108:

To ensure that public health and safety and the environment are protected, TCEQ's rules require treated effluent to be disinfected prior to discharge, 30 TAC § 309.3(g)(1). To reduce pathogenic organisms in its effluent, Dripping Springs has chosen to use chlorination as a means of disinfection. To ensure the effluent will be properly disinfected, the draft permit requires that Dripping Springs must chlorinate its effluent. Furthermore, in order to provide additional protection for aquatic life, Dripping Springs must dechlorinate its effluent to less than 0.1 mg/L chlorine residual. Dripping Springs has indicated that the disinfection will be effected in a chlorine contact chamber. The chlorine residual after the chlorine contact chamber must be at least 1.0 mg/L after a minimum detention time of 20 minutes. To ensure the effluent has been properly disinfected, the draft permit also includes an effluent limit for bacteria of 126 CFU or MPN of *E. coli* per 100 ml as a daily average.

Comment 109:

For the person(s) that made this comment, please see Attachment 32.

A commenter expressed concern that pollutants could concentrate in front of a dam about 10,000 feet from the Dripping Springs proposed outfall. A commenter requested medically-supported proof that there are absolutely zero risks of any human health hazards to individuals, including children, who recreated near the dam.

Response 109:

The effluent limits and other measures contained in the draft permit are established to ensure the protection of human health, aquatic life, and the environment, throughout the discharge route, including in the immediate vicinity of the discharge and in the many downstream ponds and pooled reaches that characterize Onion Creek.

Furthermore, wastewater discharges into surface waters tend to become increasingly dispersed and diluted as they travel farther away from the point of discharge, as well as undergoing various other processes that break down and assimilate the constituents present in the treated effluent. In the case of Onion Creek, the waters become more dispersed as they proceed through a series of on-channel ponds and pooled reaches interspersed with free-flowing reaches. It is not clear precisely which dam is being referred to in the comment, depending whether the distance downstream of the outfall as cited is intended to include the distance traveled in Walnut Springs or just the distance in Onion Creek itself. Regardless, the wastewater would travel through, and be further dispersed as a consequence of, at least two and possibly more other ponds/dams prior to reaching the stated downstream distance, including the large pond on Dripping Springs property.

Comment 110:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed concern that the following compounds will negatively impact human health: persistent organic pollutants (POPs), such as polybrominated diphenyl ethers (PBDEs used in flame retardants, furniture foam, plastics, etc.); perfluorooctanoic acid (PFOA - i.e. Teflon); pharmaceuticals and personal care products (PPCPs), including a wide suite of human-prescribed drugs (e.g., antidepressants, blood pressure), over-the-counter medications (e.g., ibuprofen), bactericides (e.g., triclosan), sunscreens, synthetic musks; veterinary/agricultural medicines such as antimicrobials, antibiotics, antifungals, growth promoters and hormones; endocrine-disrupting chemicals (EDCs) capable of modulating normal hormonal functions and steroidal synthesis in aquatic organisms; microbeads.

A commenter stated that if the Executive Director cannot guarantee that the water will have zero impact on human health, the commenter wants the TCEQ to admit the discharge from Dripping Springs will pollute Onion Creek and recommend that the creek not be used for aquatic recreation.

A commenter also stated that since the draft permit does not require limits for antibiotics and other personal care products, this may lead to algae blooms in the receiving waters, and lack of oxygen in drinking water.

Similarly, several commenters stated that microbeads from beauty products, nutrients, emerging contaminants, oil and grease, untreated bacteria, algae, and anaerobic ponding may contaminate their water supply.

Response 110:

As discussed elsewhere in this RTC, the EPA has not promulgated rules or criteria limiting Pharmaceuticals and Personal Care Products (PPCPs) in wastewater. The Executive Director understands the EPA is researching PPCPs and has stated that scientists have not found clear evidence of adverse human health effects from PPCPs in the environment. However, the science on PPCPs is evolving, and while the EPA and other entities continue to study the subject, there is currently no clear regulatory regime available to address the treatment of PPCPs in domestic wastewater. PPCP removal during municipal wastewater treatment has been documented in scientific literature, but standard removal efficiencies have not been established. In addition, there are currently no federal effluent limit requirements for PPCPs. Accordingly, the TCEQ has not reviewed the proposed discharge for the presence of PPCPs and their potential effect on the aquatic environment.

Bacteria

The draft permit contains a requirement to disinfect the effluent and includes effluent limits for bacteria (*E. coli*). The *E. coli* limit in all three phases of the draft permit is 126 colony forming units per 100 ml.

Algae

As discussed elsewhere in this document, the Executive Director has included nutrient limits in the draft permit to minimize the possibility of algal growth. To

ensure the effluent from the Dripping Springs WWTF will not cause an excessive accumulation of algae, the Executive Director performed a nutrient screening, which indicated that because of the high clarity of the water column, lack of shade along the banks, and minimal dilution, a total phosphorus limit is needed in the draft permit. The Executive Director determined that a total phosphorus limit of 0.15 mg/L will preclude the excessive accumulation of algae. Additionally, the Executive Director added a total nitrogen limit of 6 mg/L to the draft permit primarily to protect drinking water, however, the total nitrogen limit will also help preclude the excessive accumulation of algae.

Comment 111:

For the person(s) that made this comment, please see Attachment 23.

Several commenters cited to studies performed by BSEACD and HTGCD. BSEACD stated that it has conducted scientific investigations with Hays Trinity Groundwater Conservation District that produced "new data and provides compelling evidence indicating that at least two segments of Onion Creek actively recharge the Trinity Aquifer; this includes the stream segment of Onion Creek immediately downstream of the proposed outfall location." BSEACD also stated that further studies are being planned. The commenter asserts that the results of the studies "will be critical to determining what public and private drinking water supplies would be potentially at risk of being adversely affected by the proposed discharge, the magnitude of the risk and whether the Segment Use of "Aquifer Protection" is being maintained. A commenter provided an Abstract of its investigation, entitled *Surface-Water and Groundwater Interactions Along Onion Creek, Central Texas*.

Similarly, several commenters stated that there are studies that support the conclusion that the water from Onion Creek interfaces with the Trinity Aquifer and Barton Springs Aquifer and the proposed discharge of a million gallons a day into the same creek would potentially degrade the aquifers.

A commenter stated that, based on the BSEACD study, pollutants entering the Edwards and Trinity aquifers can infiltrate public and private wells in LCRA's watershed and reemerge in springs that discharge to the Colorado River.

Several commenters stated the Dripping Springs permit provisions should ensure the quality of effluent will not degrade surface and groundwater quality or impair the designated uses of Onion creek.

Several commenters recommend the TCEQ delay issuance of the final Wastewater Treatment Plant permit approval until the results of the Onion Creek Project Phase II is completed. A commenter further stated that Phase II of the Onion Creek Project is underway and will include a hydrogeological and geochemical focus on the Dripping Springs area. According to the commenters, a dye trace study will consolidate the technical effort to identify groundwater flow paths and recharge of the Trinity Aquifer.

Several commenters questioned TCEQ's rationale for not providing equal protection for the public health and safety of everyone who is served by the Trinity Aquifer.

Response 111:

The Water Quality Division staff reviewed the BSEACD study.[1] The study concludes that Onion Creek appears to have flow loss along the stretch of the creek underlain by the Upper Glen Rose Formation with implications of recharge to the Trinity Aquifer. Of the 30 major and minor aquifers in Texas, only the Edwards Aquifer has dedicated rules due to the recognized potential sensitivity of this aquifer to contamination, and its significance as the only source of drinking water for 1.7 million Texans. The other designated aquifers in the state are conferred protection from point source discharges through the application of the TSWQS.

Though the proposed outfall for Dripping Springs is located approximately 20 miles upstream of the Edwards Aquifer recharge zone, the effluent set in the draft permit is more stringent than what the rules generally require for a facility located between zero and five miles upstream from the Edwards Aquifer recharge zone. 30 TAC § 213.6(c)(1) requires that effluent limitations for a wastewater permit located between zero and five miles upstream from the Edwards Aquifer Recharge Zone boundary meet a minimum level of treatment of 5 mg/L $CBOD_5$, 5 mg/L TSS, 2 mg/L ammonia-nitrogen, and 1 mg/L total phosphorous. This same effluent set is required by the Colorado River Watershed Rule at 30 TAC §311.43 for discharges to Onion Creek or its tributaries, regardless of distance upstream from the Edwards Aquifer Recharge Zone. This Colorado River Watershed Rule requirement is also referenced within the Edwards Aquifer Rules (30 TAC § 213.6(c)(3)). The draft permit for Dripping Springs contains proposed effluent sets in all three phases with lower concentrations of ammonia-nitrogen and total phosphorous, and also includes a total nitrogen limit. Permit limits given in the draft permit, which are intended to maintain the existing uses of the surface waters and preclude degradation, should also protect groundwater quality for both the Trinity and Edwards aquifers.

As discussed elsewhere in this RTC, the draft permit includes some of the most stringent effluent limits of any TPDES permit in the state of Texas, and complies with the TSWQS. This level of surface water protection will also ensure protection of groundwater quality and its known uses.

Comment 112:

For the person(s) that made this comment, please see Attachment 24.

A commenter stated that a TPDES permit should not be issued to Dripping Springs until an additional study delineating the potential risks and likely impacts to the Trinity Aquifer is completed. Similarly, several commenters requested the TCEQ

[1] Hunt, et. al., 2016, Surface-Water and Groundwater Interactions along Onion Creek, Central Texas: Gulf Coast Association of Geological Societies Transactions, V. 66, p. 261-282.

delay action on the application to allow time to conduct the scientific investigations necessary to better understand the influence of surface water from Onion Creek on the Middle Trinity Aquifer and nearby water supply wells. According to a commenter, the second phase of the Onion Creek Project may not be completed until mid-2017. A commenter stated that the TCEQ should require thorough scientific research regarding the effect of the proposed Dripping Springs discharge on the aquifers and Onion Creek.

Several commenters stated that a groundwater impact analysis must be performed; and without a groundwater impact analysis, the permit cannot be issued.

Several commenters stated that dye testing for the Trinity and Edwards Aquifers should be required. The commenters stated that the testing should start at the point of discharge and end in Kyle, TX. Several commenters stated that the TCEQ should direct Dripping Springs do a radioactive dye test at the discharge point to determine where the water is going and where it will end up.

Response 112:

TCEQ does not have any rules that require groundwater studies, including dye traces, to be completed prior to the issuance of TPDES permits. As discussed in the Antidegradation section of this document, the Executive Director has determined that the draft permit is protective of the uses of the receiving streams, including public water supply and aquifer protection. The Executive Director has determined that if the surface water quality and its assigned uses are protected, then the groundwater quality in the vicinity will not be negatively impacted by the discharge.

Comment 113:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that documentation regarding the losing reaches of Onion Creek, its tributaries and the Trinity Aquifer would be welcome. The commenter also asked what documentation the Executive Director and Dripping Springs used in evaluating the requirements of 30 TAC § 309.12. A commenter noted that 30 TAC § 309.12 prohibits the TCEQ from issuing a discharge permit that would contaminate surface and groundwater sources. Similarly, a commenter asserted the draft permit does not comply with 30 TAC § 309.12.

Response 113:

It has been the long-standing practice of the Executive Director that 30 TAC § 309.12 is applicable to the evaluation of unlined or alternatively-lined wastewater holding or treatment ponds at TPDES and TLAP facilities, and to TLAP irrigation fields. The geologists and agronomists evaluate a TLAP application or a pond-lining proposal and prepare an evaluation of the surface geology, soils, depth to groundwater (usable and unusable), and potential for rainfall runoff or erosion, as applicable. At the conclusion of the evaluation, the geologist or agronomist may include

recommendations for special provisions added to a permit to ensure protection of groundwater.

Domestic wastewater discharges are regulated through the TPDES program, and it has been the policy of the Executive Director that the application of the TSWQS is protective of surface and groundwaters in the state. No evaluation is performed by the geologists or agronomists at these sites and consequently, no recommendations are made by the geologists or agronomists.

Comment 114:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked if 30 TAC § 309.13 (c), which states "A wastewater treatment plant unit may not be located closer than 500 feet from a public water well as provided by § 290.41(c)(1)(B) of this title (relating to Ground Water Sources and Development) nor 250 feet from a private water well," applies to the Dripping Springs permit. According to the commenter, the effluent from the outfall is much more dangerous than the general location of the treatment plant. Also, according to the commenter, if issued, the permit would be illegal because the Dripping Springs Water Supply Corporation's wells are less than 500 feet from Onion Creek.

Response 114:

TCEQ's rules do not require a separation distance between a water well, private or domestic, and a creek receiving treated effluent that complies with TSWQS. Specifically, 30 TAC § 309.13(c) establishes a setback distance from a wastewater treatment plant unit and a public or private water well. The rules define a wastewater treatment plant unit as "any apparatus necessary for the purpose of providing treatment of wastewater (i.e., aeration basins, splitter boxes, bar screens, sludge drying beds, clarifiers, overland flow sites, treatment ponds or basins that contain wastewater, etc.) 30 TAC § 309.11(9). For purposes of compliance with the requirements of 30 TAC § 309.13(e) of this title (relating to Unsuitable Site Characteristics), this definition does not include off-site bar screens, off-site lift stations, flow metering equipment, or post-aeration structures needed to meet permitted effluent minimum dissolved oxygen limitations: 30 TAC § 309.11(9). This definition intends to provide separation distances from untreated wastewater contained in the wastewater treatment plant unit and water wells. The TCEQ does not require a separation distance between a water well, private or domestic, and a creek receiving treated effluent that complies with TSWQS.

K. General Concerns Regarding Drinking Water – Onion Creek and Aquifers

Comment 115:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that that to ensure protection of the groundwater, the TCEQ should include very stringent limits in the draft permit.

Response 115:

The proposed effluent limits for all three phases in this draft permit represent some of the most stringent effluent limits that have been incorporated into TPDES permits state-wide. The effluent limits include a total nitrogen limit of 6 mg/L in all three permit phases, which will ensure that nitrate-nitrogen is below the EPA maximum drinking water limit of 10 mg/L in the receiving stream. Additionally, the Executive Director added a requirement that Dripping Springs submit laboratory analysis of the effluent for evaluating compliance with the designated public water supply use within 120 days of its initial discharge (See Dripping Springs draft permit Other Requirement Item No. 10).

As discussed elsewhere in this document, the Executive Director has determined that the draft permit's effluent limitations are consistent with the TSWQS and are therefore protective of surface water quality, human health, and the environment. This level of surface water protection will also ensure protection of groundwater quality and its known uses.

Comment 116:

For the person(s) that made this comment, please see Attachment 25.

Several commenters expressed concern that the effluent will negatively impact the use of Onion Creek as a source of drinking water. A commenter commented that the effluent limits in the draft permit may not be sufficient to maintain Onion Creek's aquifer protection use. Similarly, several commenters stated the proposed discharge would affect drinking water sources in the area.

A commenter stated that the City of Austin's dynamic model indicated that the concentration of nitrate as nitrogen will be more than 10 mg/L at the western Edwards Aquifer recharge zone boundary for prolonged periods of time. Several commenters noted that a concentration of nitrate as nitrogen of 10 mg/L is above the federal safe drinking water standard and would be inconsistent with the designated uses of Onion Creek for Public Drinking Water Supply and Aquifer Protection and recommended that an effluent limit for total nitrogen be added to the draft permit. A commenter stated that total nitrogen limit of 5 mg/L would help resolve its concern regarding nitrate levels in the Edwards Aquifer.

Several commenters expressed concern that the effluent will not meet the effluent limit of 10 mg/L nitrogen, thus water from wells could be unsafe and negatively impact their health. A commenter stated that there is no limit in the draft permit for total nitrogen.

Several commenters stated that the Dripping Spring discharge could cause health problems because the City of Austin's model indicates that the discharge will increase the level of nitrates in Onion Creek at the Edwards Aquifer recharge zone to a level that exceeds the federal drinking water standards.

Response 116:

The Executive Director has determined that the effluent from the Dripping Springs WWTF will not negatively impact the uses of Onion Creek as a source of drinking water. To ensure Onion Creek will not be negatively impacted by additional nitrogen loading, the TCEQ has included a total nitrogen limit of 6 mg/L to all three phases of the draft permit, which is consistent with other permits in the Onion Creek watershed. Compliance with this effluent limit will ensure that nitrate-nitrogen concentrations discharged to water in the state will be below the drinking water standard of 10 mg/L. The TCEQ has determined that with the total nitrogen limit, the proposed discharge would be protective of water quality and drinking water.

Comment 117:

For the person(s) that made this comment, please see Attachment 26.

Representative Howard expressed concern that because Onion Creek flows over the Edwards Aquifer, without additional provisions the Dripping Springs discharge will negatively impact water quality.

Several commenters expressed concern that the discharge from the Dripping Springs WWTF would adversely impact groundwater supplies, including drinking water wells. Similarly, several commenters stated that the proposed discharge is a risk to contaminating groundwater in the area.

A commenter noted that the City of Dripping Springs' water supply comes from wells right off of Onion Creek and only approximately 10,000 feet from the proposed discharge point. Similarly, several commenters stated that the many groundwater wells in the area that draw water from the Trinity Aquifer. Additionally, a commenter stated that the Executive Director should have considered the potential impact of the Dripping Springs discharge on the aquifers that serve as drinking water supplies. A commenter asked if the wastewater that is discharged into Walnut Springs, then subsequently into Onion Creek, will show up in any of the downstream wells or the Dripping Springs Water Supply Corporation's wells. A commenter stated that the Dripping Springs Water Supply Corporation (DSWSC) will be located one mile downstream of the proposed discharge, and that the proposed discharge would pose a threat to the quality of not only Onion Creek but to the quality of drinking water provided DSWSC. HCGCD expressed concern that there is direct surface discharge to the DSWSC wells.

A commenter stated that drinking water wells could exceed the drinking water standard for nitrogen.

A commenter stated that the discharge as proposed could degrade groundwater resources within LCRA's watershed.

A commenter noted that the Edwards Aquifer is an invaluable and irreplaceable water source for Buda, and is therefore concerned over the potential negative impacts

to the Edwards formation. Similarly, several commenters expressed general concerns regarding the negative impact to the Edwards Aquifer.

Several commenters stated that the proposed discharge would adversely impact groundwater wells in the area.

Several commenters expressed concern that the discharge could enter the Trinity Aquifer and potentially adversely impact water quality. Similarly, a commenter noted that some Hays County residents depend on water from the Trinity as their sole source of potable water.

Response 117:

The Executive Director has determined that the draft permit's effluent limitations are consistent with the Texas Surface Water Quality Standards and are therefore protective of surface water quality, human health, and the environment. This level of surface water protection will also ensure protection of groundwater quality and its known uses.

The draft permit for Dripping Springs contains proposed effluent limits in all three phases with lower concentrations of ammonia-nitrogen and total phosphorous than are generally required for facilities discharging within zero to five miles upstream from the Edwards Aquifer Recharge Zone per 30 TAC § 213.6(1) and lower than those required under the Colorado River Watershed Rule's specific requirements pertaining to Onion Creek and its tributaries (30 TAC § 311.43(a)). Additionally, the draft permit contains a total nitrogen limit of 6 mg/L in all three phases. These permit limits, which are intended to maintain the existing uses of the surface waters and preclude degradation of surface water quality, should also protect groundwater quality for both the Trinity and Edwards aquifers.

Comment 118:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that any reduction in water quality could have serious consequences to the volume of available groundwater for its users.

Response 118:

The TCEQ does not anticipate a reduction in groundwater quality as result of the proposed discharge. The proposed discharge was assessed according to Water Quality Division procedures and it was determined that the draft permit, if complied with, will be protective of surface water quality. The Executive Director has determined that the draft permit is in accordance with the TSWQS, which ensure that the effluent discharge is protective of aquatic life, human health, and the environment. This level of surface water protection will also ensure protection of groundwater quality and its known uses.

Comment 119:

For the person(s) that made this comment, please see Attachment 27.

Several commenters noted that thousands of residents could be impacted if the water wells are contaminated by fecal coliform or total coliform. Similarly, several commenters stated because of the porosity of the limestone in the area the impact of fecal coliform contamination could impact thousands of people, especially during droughts.

Response 119:

To ensure the effluent will be properly disinfected, the draft permit requires Dripping Springs to chlorinate its effluent. Further, the draft permit contains permit limits of 126 CFU or MPN of *E. coli* per 100 ml of treated effluent. This limit has been found to be protective of human health in primary contact recreation uses which includes incidental ingestion from activities such as swimming.

Public water supply systems in Texas are regulated by the TCEQ's Water Supply Division. Public water supply systems, including those using groundwater as their sole source of supply, are required to ensure that the water is free from bacteria. Please see the website https://www.tceq.texas.gov/drinkingwater/microbial/gwr_main.html for more information on the requirements for public supply systems or contact the Water Supply Division at 512-239-4691 for more information.

In Texas, private water wells are largely unregulated with regard to testing water quality from the well or any treatment to improve water quality. It is the responsibility of the private well owner to take steps to have his or her water quality tested at least annually for possible constituents of concern—or more often if the well is thought to have a surface water connection. The Centers for Disease Control and Prevention (CDC) and National Ground Water Association recommend that owners of private water wells test the water quality of their well water at least annually for bacteria, nitrate (as nitrogen) and any other constituents that may be of concern. The EPA has developed drinking water standards for certain criteria. The drinking water maximum contaminant level (MCL) for nitrate (reported as nitrogen) is 10 mg/L. The MCL goal for bacteria is zero. Please see http://wellowner.org/water-quality/water-testing/ for more information about testing private water wells.

If your well tests positive for fecal coliform bacteria, please see the Texas A&M AgriLife Extension publication titled "What to Do About Coliform Bacteria in Well Water" at http://twon.tamu.edu/media/619641/what-to-do-about-coliform-in-well-water.pdf or the TCEQ publication titled "Disinfecting Your Private Well" at https://www.tceq.texas.gov/publications/gi/gi-432.html for more information.

Comment 120:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that piezometers should be used to improve the groundwater modeling and reassure the public.

Response 120:

Piezometers are devices used to measure the pressure or depth of groundwater at a location. TCEQ does not have any rules that require applicants or permit holders to install piezometers or perform groundwater modeling as a condition for obtaining a TPDES permit.

Comment 121:

For the person(s) that made this comment, please see Attachment 32.

Several commenters expressed concern over the cumulative impacts on the Edwards Aquifer from future permitted discharges along with the increased development in the area. Similarly, a commenter noted that the additional development will increase the amount of non-point source pollution, erosion and sedimentation.

Response 121:

The Executive Director evaluates each permit application and action individually to ensure the permits are protective of surface water quality. TCEQ's rules prescribe that new industrial and municipal wastewater discharges into or adjacent to water in the state that would create additional pollutant loading are prohibited on the Edwards Aquifer Recharge Zone. 30 TAC § 213.6(a)(1). The Dripping Springs draft permit would authorize discharge into Walnut Springs thence to Onion Creek approximately 20 miles upstream of the Edwards Aquifer recharge zone. The draft permit contains an effluent set more stringent than the effluent set required in 30 TAC Chapter 213 for a facility located from zero to five miles upstream of the recharge zone. The Executive Director does not anticipate any impacts on the Edwards Aquifer from the permitted discharge.

The Dripping Springs WWTF is located within the Edwards Aquifer contributing zone, and the draft permit contains a provision requiring Dripping Springs to comply with 30 TAC Chapter 213, Subchapter B - relating to the Contributing Zone of the Edwards Aquifer. Requirements in this subchapter are intended to prevent pollution of any of the streams that recharge the Edwards Aquifer by means of best management practices. Any new development in the City of Dripping Springs area will be required to submit a contributing zone plan to the TCEQ's Edwards Aquifer Protection Program for review and comment.

Comment 122:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the elevated nitrate as nitrogen concentrations at the Edwards Aquifer Recharge Zone boundary will enter the Edwards Aquifer as direct recharge and put the Edwards Aquifer at risk. A commenter noted that "more than 60,000 Central Texans within the District rely upon the Edwards as a water

supply and value its high quality, and many consider that groundwater is a property right to be protected. The lack of a total nitrogen limit, even with (and perhaps because of) a lower ammonia-N limit, will increase the nitrate-N concentrations to levels that exceed safe drinking water standards in the receiving stream and in the aquifer that it recharges within the District."

Similarly, a commenter asked under what conditions the nitrate in the effluent from the Dripping Springs WWTF could be more than 10 mg/L at the western Edwards Aquifer recharge zone boundary. According to the City of Austin, this nitrate concentration is inconsistent with TCEQ's Edwards Aquifer rules.

Response 122:

TCEQ's rules governing the Edwards Aquifer do not include any regulations limiting the total nitrogen or nitrate-nitrogen in wastewater effluent. The rules address ammonia-nitrogen limits for wastewater discharge permits within zero to five miles and five to 10 miles upstream from the Edwards Aquifer recharge zone (in general) and, per reference in these rules to the Onion Creek watershed requirements under the Colorado River Watershed Rule (30 TAC §311.43), for Onion Creek and its tributaries specifically, regardless of distance upstream from the Edwards Aquifer recharge zone. The Executive Director has added a total nitrogen limit of 6 mg/L to all three phases of the draft permit during times when the permittee would discharge to water in the state. Compliance with this effluent limit will ensure that nitrate-nitrogen concentrations discharged to water in the state will be below the drinking water standard of 10 mg/L.

Comment 123:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated it is concerned over the impact of treated effluent on Comal Springs.

Response 123:

The draft permit will not have any impact on Comal Springs. Comal Springs is located in Landa Park within the City of New Braunfels. These springs receive their flow primarily from the portion of the Edwards Aquifer located to the south and west of Comal Springs. This portion of the Edwards Aquifer is sometimes referred to as the San Antonio Segment of the aquifer in literature. The San Antonio Segment of the Edwards Aquifer is thought to roughly begin in Kinney County and flow east and north towards a groundwater divide that is believed to be near the Blanco River. The Onion Creek watershed is not currently thought to provide any recharge to the San Antonio Segment of the Edwards Aquifer or to Comal Springs.

L. Notice and Legal Concerns

Comment 124:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked why TCEQ's fines are not larger. According to the commenter, a larger fine would put the permittee on notice of the seriousness of the consequences of not complying with its permit.

Response 124:

The TCEQ has the authority to assess administrative penalties for discharge violations under a number of statutes located in Chapter 7 of the TWC. These statutes give the commission the authority to assess penalties and set forth the factors that it must consider in determining the amount of the penalty to assess. These statutory factors are incorporated into the TCEQ's penalty policy, which is available on its website at:
https://www.tceq.texas.gov/assets/public/comm_exec/pubs/rg/rg253/penaltypolicy2014.pdf

As described in the policy, the actual penalty assessed an entity is based on a variety of factors including the harm and severity of the violation, the impact of the violation, the duration of the violation, the size of the regulated entity, and the actions of the alleged violator. After the Executive Director evaluates the available evidence regarding the violation, then the penalty policy is utilized to ensure that the penalties are appropriately and consistently assessed.

Comment 125:

For the person(s) that made this comment, please see Attachment 32.

A commenter noted that in 2007, the 80th Texas Legislature passed Senate Bill 3 (SB3) relating to the development, management, and preservation of the water resources of the state. The commenter stated that the Dripping Springs permit prevents land owners from carrying out the State's legal encouragement to be land stewards of Onion Creek.

Response 125:

SB3 does not apply to the TPDES permits. Senate Bill 3, passed in 2007, was enacted to provide certainty concerning environmental provisions that would be placed in new appropriations of water rights. The changes to the Water Code in the bill affected only the appropriation of new water resources and culminated in the TCEQ enacting environmental flow standards that would be placed in new water rights appropriations.

Comment 126:

For the person(s) that made this comment, please see Attachment 32.

A commenter asked who would be legally responsible for the cleanup and personal injuries if the creek becomes polluted.

Response 126:

If Dripping Springs violates a provision of its permit, it may be subject to administrative, civil or criminal penalties. Additionally, if an individual believes they have been harmed by the discharge in a manner not related to provisions in the permit, the individual may bring a civil suit in district court against Dripping Springs.

Comment 127:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the state is using eminent domain if the permit is issued without assurances that there will not be any negative impact to: the receiving waters, groundwater, human health, recreation, property values, use and enjoyment of adjacent property, aesthetics of the area, fish or wildlife, odor, and water clarity. The commenter asserted that affected parties should have a say and get paid.

Similarly, a commenter stated that she has allergies and health issues; if authorized, the discharge would prevent her from using part of her property, resulting in a taking.

Response 127:

Dripping Springs has applied for authorization to discharge wastewater under the TPDES program. TPDES permits establish terms and conditions that are intended to provide water quality pollution control, as directed by federal law, state law, and the TAC. The Texas Water Code provides that the TCEQ is the agency primarily responsible for "implementing the constitution and laws for this state relating to the conservation of natural resources and the protection of the environment." TWC § 5.012. The TWC prohibits the discharge of waste or pollution into or adjacent to water in the state without authorization from the Commission. TWC § 26.121.

To implement this policy the TCEQ was given the authority to issue TPDES permits for the discharge of waste or pollutant into or adjacent to water in the state. TWC § 26.027. If the permit is issued, it does not grant the permittee the right to use private or public property for the conveyance of wastewater along the discharge route. Also, the permit does not authorize any invasion of personal rights or any violation of federal, state, or local laws or regulations. It is the responsibility of the permittee to acquire all property rights necessary to use the discharge route. Also, the draft permit does not limit the ability of nearby landowners to use common law remedies for trespass, nuisance, or other causes of action in response to activities that may or actually do result in injury or adverse effects on human health or welfare, animal life, vegetation, or property, or that may or actually do interfere with the normal use and enjoyment of animal life, vegetation, or property.

Because the State is authorized to use the bed and banks to transport water, and the TCEQ has authority to authorize a discharge of treated domestic wastewater into water in the state through a TPDES permit, the applicant for a TPDES permit does not need permission from downstream landowners to use the watercourse running through their property, nor do downstream landowners have to be paid because of a permitted discharge. Domel v. City of Georgetown, 6 S.W. 3d 349, at 358 (Tex. App. – Austin 1999).

Comment 128:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the Notice of Receipt of Application and Intent to Obtain Water Quality Permit (NORI) and the Notice of Application and Preliminary Decision (NAPD) are deficient because the discharge route is not sufficiently described. According to the commenter, the NORI and NAPD are deficient because they do not sufficiently describe the discharge point. The discharge route in the NORI is described as "from the plant site via pipe to Walnut Springs; thence to Onion Creek." The discharge route described in the NAPD is "from the plant site via pipe to Walnut Springs; thence to Onion Creek in Segment No. 1427 of the Colorado River Basin." According to the commenter the description of the discharge route is not sufficient to provide notice of the location of the outfall.

Response 128:

The Executive Director has evaluated the proposed discharge route and determined that the discharge route is properly described in the Combined Notice of Public Meeting and NAPD. The Notice of Receipt of Application and Intent to Obtain a Water Quality Permit (NORI) states that the discharge route is from the plant site via pipe to Walnut Springs; thence to Onion Creek. TCEQ rules require that the NORI must contain the text as required by §39.411(b)(1)-(9) and (11), which includes a brief description of the location and nature of the proposed activity (§39.411(b)(3)). The NORI provides a brief description of the proposed activities as described in the application received by the agency on October 20, 2015.

Once the NORI is published, technical staff begins the technical review of the application. This includes review by the permit writer, water quality assessment, and water quality standards. The technical review includes a more detailed review of the proposed outfall and discharge route, including the determination of the segment name and number. After technical review is complete, the Executive Director files the preliminary decision and the draft permit with the chief clerk. The technical review for the Dripping Springs' application was completed on July 25, 2016. The Combined Notice of Public Meeting and Notice of Application and Preliminary Decision (NAPD), was published after the completion of the technical review. The combined Notice of Public Meeting and NAPD states that the discharge route is to Walnut Springs; thence to Onion Creek in Segment No. 1427 of the Colorado River Basin. TCEQ rules require for TPDES permits, the text of the NAPD must contain the text required by

§39.411(b)(1)-(3), (5)-(7), (9), and (11) and (c)(2)-(6).The description of the discharge route in the NAPD is based on the technical review of the application by the TCEQ Water Quality Assessment and Standards Implementation teams. Also, the description of the discharge route is supported by the technical memorandums that are included as part of the permit file.

Comment 129:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the NORI and NAPD are insufficient because CAT Solutions, LLC (CAT) owns the land where the discharge point is located and is, therefore, not an adjacent or affected landowner. According to the commenters, because CAT owns the land where the outfall is, it should have been included as an owner in the application. CAT was listed as a property owner for the WWTF, as well as an adjacent landowner. According to a commenter, Dripping Springs should have provided notice to all landowners for one mile downstream of property owned by CAT.

Response 129:

For new permit and major amendment applications, the Applicant must provide a list of affected landowners and a map showing their location(s). Affected landowners are landowners located adjacent to the wastewater treatment plant site and landowners with property on either side of the receiving stream for approximately one mile downstream from the point of discharge. The applicant is required to certify that the submitted application is accurate. The TCEQ mails notice of the application to the affected landowners and others on the mailing list for the application, which is maintained by the Office of Chief Clerk.

In this case, Dripping Springs indicated that the City owns the property where the facility is located and applied for the application as owner of the facility. (Application, Domestic Admin. Report, pg. 2). In the application, the City identified Development Solutions CAT LLC (CAT LLC) as an adjacent/downstream landowner to the facility. Since CAT LLC was listed as adjacent landowner, that entity did receive mailed notices for the application. Since CAT LLC's property is adjacent to the facility, the Executive Director has determined that Dripping Springs has properly identified CAT Solutions, LLC as an adjacent landowner.

Comment 130:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the Lowest Practicable Limit, the Best Management Plan, the facility location, and other relevant factors should be part of the public participation process.

Response 130:

The TPDES permitting process for a domestic wastewater treatment facility does not require the inclusion of a lowest practicable limit, or best management plan. The

draft permit includes effluent limitations and monitoring requirements for 5-day Carbonaceous Biochemical Oxygen Demand ($CBOD_5$), Total Suspended Solids (TSS), Dissolved Oxygen, Ammonia Nitrogen, total nitrogen, total phosphorus, *E. coli,* chlorine residual, and pH to ensure that the proposed wastewater treatment plant meets water quality standards for the protection of surface water quality, groundwater, and human health according to TCEQ rules and policies. The draft permit includes additional requirements for the wastewater treatment system to ensure the protection of water quality and human health. The draft permit includes requirements for the disposal of domestic sludge generated from the wastewater treatment facility based on TCEQ rules. Additionally, Dripping Springs is required to publish two notices prepared by the agency (the Notice of Receipt and Intent to Obtain a Water Quality Permit (NORI) and the Notice of Application and Preliminary Decision for a Water Quality Permit (NAPD) in a local newspaper and to provide a copy of the application, draft permit and Executive Director's Preliminary Decision in a public place for viewing and copying. Both notices properly identify the location of the proposed facility as presented in the application. The Executive Director has determined that the draft permit is protective of the environment, water quality, and human health and that it meets TCEQ rules and requirements.

As discussed elsewhere in this RTC, TCEQ's rules provide a variety of mechanisms for public involvement in the permitting of wastewater treatment plants. First, the public has an opportunity to comment on all draft wastewater permits during the public comment period according to TCEQ rules in 30 TAC § 55.152. Second, the public may request reconsideration of the commission decision or request a contested case hearing according to the rules in 30 TAC § 55.201. Third, anyone may contact the TCEQ either at 1-888-777-3186 to reach the appropriate TCEQ region office. In addition, complaints may be filed online: http://www.tceq.state.tx.us/compliance/complaints/. Finally, citizens may gather data to show that a permittee is not in compliance with TCEQ's rules. For more information on citizen collected evidence, please go to the TCEQ web site at http://www.tceq.state.tx.us/compliance/complaints/.https://www.tceq.texas.gov/compliance/complaints/protocols/evi_proto.html.

Comment 131:

For the person(s) that made this comment, please see Attachment 32.

Several commenters requested a second public meeting closer to Austin. Similarly, several commenters also requested that the public comment period on this application be extended.

Response 131:

The public comment period for this application began when Dripping Springs submitted its application on October 20, 2015. Pursuant to 30 TAC §55.152 (b), the comment period for Dripping Springs' permit application was extended until the close of the public meeting on November 11, 2016 in Dripping Springs, Texas. The Executive

Director has not extended the comment period, because based on the number of written comments and the participation at the public meeting, it is evident the individuals that could potentially be affected by the permit, if it is issued, are aware of Dripping Springs' application.

M. Concerns that are Outside of TCEQ's Jurisdiction

Comment 132:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the Dripping Springs permit does not comply with the guiding principles of the "Regional Water Quality Protection Plan for the Barton Springs Segment of the Edwards Aquifer and Its Contributing Zone," which was sponsored by several cities and governmental entities. According to the commenter, one of the guiding principles is that developers should bear the responsibility for the costs and impact of their activity. The commenter stated that the proposed 995,000 gallons a day of sewage effluent discharge into Onion Creek does not comport with the Guiding Principles.

Response 132:

The TCEQ's jurisdiction over the permitting process is established by the Texas Legislature and is limited to controlling the discharge of pollutants into and protecting the quality of water in the state. The Executive Director reviewed the Dripping Springs application and determined that the draft permit meets all applicable legal and technical requirements. The Executive Director does not have authority to consider agreements made between other entities in the permitting process.

Comment 133:

For the person(s) that made this comment, please see Attachment 28.

A commenter urged TCEQ to consider revising the permitting process to consider fiscal, societal and environmental factors that are in the public interest.

Similarly, several commenters stated that the local economy will be impacted from the proposed discharge authorized by the draft permit.

Response 133:

The TCEQ's jurisdiction over the permitting process is established by the Texas Legislature and is limited to controlling the discharge of pollutants into and protecting the quality of water in the state. Fiscal and societal factors are not considered as part of the wastewater permitting process. As stated in Texas Water Code, Section 26.003, it is the policy of this state and the purpose of this subchapter to maintain the quality of water in the state consistent with the public health and enjoyment, the propagation and protection of terrestrial and aquatic life, and the operation of existing industries, taking into consideration the economic development of the state; to encourage and promote the development of the state; to encourage and promote the development and

use of regional and areawide waste collection, treatment, and disposal systems to serve the waste disposal needs of the citizens of the state; and to require the use of all reasonable methods to implement this policy.

Comment 134:

For the person(s) that made this comment, please see Attachment 32.

A commenter requested all directives from the TCEQ as well as all amendments to the Dripping Springs application. Similarly, a commenter requested to be added to the distribution of comments list.

Response 134:

The permit application, Executive Director's preliminary decision, and draft permit are available for viewing and copying at Dripping Springs City Hall, Front Desk, 511 Mercer Street, Dripping Springs, Texas. Additionally, Commission records for this facility are available for viewing and copying at TCEQ's main office in Austin, 12100 Park 35 Circle, Building F, 1st Floor (Office of the Chief Clerk), for the current application until final action is taken. For any additional information regarding this application, please visit the TCEQ's website at www.tceq.texas.gov.

The TCEQ's Commissioners' Integrated Database (CID) is located at http://www14.tceq.texas.gov/epic/eCID/. The CID allows the public to track the status of matters pending or that have gone before the Commission for approval and associated documents. The CID also includes public comments, hearing requests, and requests for public meetings that have been filed on an application. According to the TCEQ's Office of Chief Clerk, every person who has submitted a comment on this application was automatically added to the mailing list to receive all filings related to this permit application. Any persons interested in this application, who did not submit a comment during the public comment period, can also request to be added to the mailing list by submitting a request to the TCEQ's Office of the Chief Clerk, MC 105, TCEQ, PO Box 13087, Austin, Texas 78711-3087.

Comment 135:

For the person(s) that made this comment, please see Attachment 30.

Several commenters expressed concern that the discharge will negatively impact property values of downstream landowners.

Response 135:

The TCEQ does not have jurisdiction to review the effect, if any, the discharge might have on property values of downstream landowners in reviewing a domestic wastewater discharge permit application. 30 TAC § 305.122(d) states that the issuance of the permit does not authorize any injuries to persons or property, an invasion of other property rights, or any infringement of state or local statutes or regulations. Also, 30 TAC § 305.122(d) and 30 TAC § 305.125(16) states that the issuance of a

permit does not convey any property right or exclusive privilege. The draft permit incorporates those rules in the draft permit.

Moreover, the permit does not limit the ability of an individual to seek legal remedies against Dripping Springs regarding any potential trespass, nuisance, or other causes of action in response to activities that may result in injury to human health or property or that may interfere with the normal use and enjoyment of property.

Comment 136:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that Dripping Springs should advocate for "sensible reductions" in TCEQ effluent storage and land application area requirements and firm-demand types of beneficial reuse within the City and ETJ. Similarly, a commenter stated that Dripping Springs should consider water recycling.

Response 136:

The TCEQ does not have the authority to mandate that an applicant advocate for reductions in the TCEQ effluent storage and land application area requirements, firm-demand types of beneficial reuse within a city and ETJ, or consider water recycling, if the applicant's proposed disposal method complies with the TWC and TCEQ's rules regarding effluent limitations in the draft permit.

Comment 137:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that replacing the existing system of small package plants with a relative large-scale centralized regional wastewater treatment plant would minimize the impacts of wastewater treatment. Similarly, a commenter asked if a larger, state-of-the-art wastewater treatment facility is cost-justified at this time, given that the additional capacity might encourage more growth to further exacerbate problems later.

Response 137:

The Executive Director relies on the information contained in the application when conducting a review and does not mandate the treatment technology that the permittee uses, provided the treatment technology will be able to produce effluent that conforms to the effluent limits in the permit. Moreover, TCEQ is not authorized to mandate that Dripping Springs install an alternate large-scale centralized regional wastewater treatment plant.

Comment 138:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that Dripping Springs should work with Hays Trinity Ground Water Conservation District to determine the potential impacts of the direct discharge on drinking water supply wells in the Trinity Aquifer.

Response 138:

The TCEQ does not have jurisdiction to require coordination efforts between the City and Hays Trinity Groundwater Conservation District to determine potential impacts of the direct discharge on drinking water supply wells in the Trinity Aquifer.

Comment 139:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that land where the existing WWTF is located was donated to help the City of Dripping Springs grow and provide space for land disposal of treated effluent, it was not donated to allow the direct discharge of effluent to Onion Creek.

Response 139:

The TCEQ does not have jurisdiction over land use issues when reviewing an application for a wastewater discharge permit. It is the applicant's responsibility to acquire the property rights necessary to operate the facility in accordance with the draft permit.

Comment 140:

For the person(s) that made this comment, please see Attachment 32.

Several commenters provided a list of documents that they relied on in forming their opinion on the draft permit.

Response 140:

The Executive Director notes the submission of the documents this group of individuals relied on in forming their opinion on the draft permit.

Comment 141:

For the person(s) that made this comment, please see Attachment 32.

Several commenters stated that the negative impacts to Onion Creek could negatively impact ecotourism as well as the economies of Buda, Kyle, Dripping Springs, and Wimberley.

Response 141:

The TPDES permitting process is limited to controlling the discharge of pollutants into water in the state and protecting the water quality of the state's rivers, lakes, and coastal waters. The potential negative impact on ecotourism and the economies of Buda, Kyle, Dripping Springs, and Wimberley is outside the scope of the evaluation of a wastewater discharge permit application.

Comment 142:

For the person(s) that made this comment, please see Attachment 32.

Several commenters asserted that the Dripping Springs permit will lower the overall quality of life in the Onion Creek Valley.

Response 142:

The TCEQ was charged by the Texas Legislature to maintain the quality of water in Texas, consistent with public health and enjoyment; thus, TCEQ's jurisdiction in a wastewater permit application is limited to water quality issues, and it does not have authorization to consider quality of life, as long as water quality is maintained. The wastewater permit, however, does not allow the permit holder to create or maintain a nuisance that interferes with a landowner's use and enjoyment of his or her property. The permit does not limit the ability of a landowner to seek relief from a court in response to activities that interfere with a landowner's use and enjoyment of his or her property.

Comment 143:

For the person(s) that made this comment, please see Attachment 32.

A commenter expressed concern over noise and traffic caused by 18-wheelers. Similarly, several commenters expressed concern over noise from the facility.

Response 143:

The TCEQ does not have the authority to address these types of issues as part of the wastewater permitting process. While the Texas Legislature has given the TCEQ the responsibility to protect water quality, the water quality permitting process is limited to controlling the discharge of pollutants into or adjacent to water in the state and protecting the water quality of the state's rivers, lakes, and coastal waters. The TCEQ cannot consider issues such as noise and traffic. The TCEQ does not have any jurisdiction to address possible conflicts of interest for private attorneys retained by an applicant during the permit review process.

Comment 144:

For the person(s) that made this comment, please see Attachment 29.

A commenter stated that Dripping Springs should promote innovative and thoughtful growth. A commenter stated that Dripping Springs should stop approving irresponsible growth. Many commenters expressed concern that the Dripping Springs application is being driven by money and the City officials' desire to bring more subdivisions to the area.

A commenter stated that the proposed discharge would allow the city to have all the benefits of a cheap and easy way to dispose of its wastewater, enabling the growth that it wants, while passing the impacts and costs on to others who now enjoy the creek and the recharge it provides. A commenter stated that the TCEQ is a party to causing harm to the citizens of Texas, by allowing a tiny municipal government, accountable to almost none of its neighboring communities, to pollute, degrade and

create a regional health crisis. A commenter stated that this application is the result of poor planning on behalf of Dripping Springs.

A commenter expressed concern that the officials of the City of Dripping Springs are not listening to the citizens. A commenter also expressed concern that the attorney for the City of Dripping Springs also represents developers in the area, specifically the developer for the Caliterra subdivision.

Several commenters questioned whether there is a conflict of interest for the city's lawyer to also be a lawyer for local developers.

Response 144:

The TCEQ may not prohibit an applicant from receiving authorization if it complies with all statutory and regulatory requirements. Further, the TCEQ does not consider a company's profit motive in determining whether a wastewater discharge permit should be issued. Additionally, the TCEQ does not have any jurisdiction to address possible conflicts of interest for private attorneys retained by an applicant during the permit review process.

Comment 145:

For the person(s) that made this comment, please see Attachment 32.

A commenter questioned who is responsible for the costs associated with cleaning the aquifer and private wells impacted by the proposed discharge.

Response 145:

The TCEQ's jurisdiction over the permitting process is established by the Texas Legislature and is limited to controlling the discharge of pollutants into and protecting the quality of water in the state. The allocation of costs associated with cleaning an aquifer or private wells is a civil matter that is outside of the TCEQ's limited jurisdiction in the wastewater permitting process.

Comment 146:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the City of Dripping Springs and the TCEQ do not have the right to pollute shared water resources in the area. The commenter also stated that the proposed permit would authorize things that would ordinarily be illegal.

Response 146:

It is illegal for any entity to discharge wastewater into water of the state without a wastewater discharge permit approved and issued by the TCEQ. The State of Texas assumed authority under federal mandate to administer the National Pollutant Discharge Elimination System (NPDES) program under Section 402 of the Clean Water Act in 1998. The NPDES is a federal regulatory program to control discharges of pollutants to surface waters of the United States. The TCEQ is responsible for the protection of water quality with federal regulatory authority over discharges of

pollutants to Texas surface water, with specific exceptions for oil and gas exploration and development activities. The TCEQ has legislative responsibility to protect water quality in the State of Texas and to authorize wastewater discharge TPDES permits under the Texas Water Code and the Texas Administrative Code. The TWC § 26.121, authorizes discharges into waters of the state, provided the discharger obtains a permit from the Commission. The City of Dripping Springs has applied to the TCEQ for a new TPDES permit. The Executive Director has completed the technical review of the application and prepared a draft permit. The Executive Director has made a preliminary determination that the draft permit, if issued, meets all statutory and regulatory requirements.

Comment 147:

For the person(s) that made this comment, please see Attachment 32.

Several commenters questioned TCEQ's rationale for not providing equal protection for the public health and safety of everyone who is served by the Trinity Aquifer.

Response 147:

The Executive Director has determined that the draft permit meets all regulatory and statutory requirements for the protection of human health and the environment. As previously discussed, the draft permit was developed to protect aquatic life and human health in accordance with the Texas Surface Water Quality Standards and was established to be protective of human health and the environment provided the Applicant operates and maintains the facility according to TCEQ rules and the requirements in the draft permit.

Comment 148:

For the person(s) that made this comment, please see Attachment 32.

A commenter questioned whether the cost-benefit in the long-term accounts for possible future damage.

Response 148:

The TCEQ does not have the authority to address these types of issues as part of the wastewater permitting process. While the Texas Legislature has given the TCEQ the responsibility to protect water, the water quality permitting process is limited to controlling the discharge of pollutants into or adjacent to water in the state and protecting the water quality of the state's rivers, lakes and coastal waters. The TCEQ does not require or consider a cost-benefit analysis to be submitted as part of a domestic wastewater permit application.

Comment 149:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that the agency does not consider input from conservation districts. The commenter also stated there is a disconnect in interagency communication.

Response 149:

The agency considers and reviews all public comments received on an application. The Executive Director has received comments on the Dripping Springs application from the Hays County Groundwater Conservation District, Driftwood Historical Conservation Society, Barton Springs/Edwards Aquifer Conservation District, and Hays Trinity Groundwater Conservation District. This document, the Executive Director's Response to Public Comments, responds to all timely relevant and material comments made on the application by the City of Dripping Springs. This includes comments from the aforementioned conservation districts.

Also, TCEQ rules requires that all applications for wastewater discharge permits include mailed notice of both the NORI and the NAPD to the entities listed at 30 TAC §39.413, which includes government agencies such as the Texas Department of Health, the Texas Parks and Wildlife Department, and the Texas Railroad Commission. As part of the TPDES permitting process, the Applicant must submit a Supplemental Permit Information Form (SPIF). This completed form is subsequently sent to the Texas Historical Commission, Texas Parks and Wildlife Department, U.S. Fish and Wildlife Service, and the U.S. Army Corps of Engineers. The application and the draft permit were also reviewed by the U.S. Environmental Protection Agency (EPA).

Comment 150:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that there is need for more educational information being provided to the community, residents, schools, etc. regarding conservation and water usage.

Response 150:

The TCEQ initiates community outreach to educate the general public about pollution prevention and conservation. This information can be found at the TCEQ's website at www.tceq.texas.gov or the Take Care of Texas Program at http://takecareoftexas.org/.

Comment 151:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that Dripping Springs is convincing the local developers to abandon their current TCEQ permits and is attempting to persuade the local developers that they could gain more density if they abandon those permits and hook up to the city's discharge.

Response 151:

TCEQ does not have jurisdiction to address these types of issues as part of the wastewater permitting process. While the Texas Legislature has given the TCEQ the responsibility to protect water quality, the water quality permitting process is limited to controlling the discharge of pollutants into or adjacent to water in the state and protecting the water quality of the state's rivers, lakes and coastal waters.

Comment 152:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that Dripping Springs has a unique and strategic opportunity to take control of its own destiny, shaping new development around the enabling framework of a recognizable town, and the expansion of the South Regional Water Treatment System is a critically needed tool in the City's efforts to ensure that the growth we have and will continue to experience is shaped in a responsible way.

Response 152:

The Executive Director acknowledges the comment.

Comment 153:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that that EPA should finalize the methane pollutions standard.

Response 153:

TCEQ does not have jurisdiction to address these types of issues as part of the wastewater permitting process. Concerns regarding the finalizing of EPA methane pollution standards should be directed to the EPA.

Comment 154:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that he does not believe "the solution to pollution is dilution."

Response 154:

There are many factors that can contribute in varying degrees to the ability and capacity of a water body to assimilate and diminish levels of pollutant constituents from a point-source discharge. These include various physical and biochemical processes that break down and reduce the concentrations of these constituents in the receiving waters. Dilution can be a significant factor in some water bodies, such as large rivers, but plays a relatively minor role in this case during dry-weather conditions, due to Onion Creek's low natural baseflow. Dispersion is likely to exhibit a more pronounced impact, due in part to the alternating pooled and free-flowing character of this portion of Onion Creek. A further key element to protecting water

quality in this particular situation is the high level of treatment that is required by this draft permit.

Comment 155:

For the person(s) that made this comment, please see Attachment 32.

A commenter noted that studies have demonstrated that exposure to WWTF sludge can cause long-lasting health damage.

Response 155:

Any TDPES-permitted wastewater treatment facility must comply with the sludge use and disposal requirements of 30 TAC Chapter 312 that are standard for all domestic wastewater treatment facilities. These standards require that the permittee shall handle and dispose of sewage sludge in accordance with 30 TAC Chapter 312 and all other applicable state and federal regulations in a manner that protects public health and the environment from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the sludge.

According to Dripping Springs' application, the resulting sludge at the facility will be hauled-off site, by a licensed hauler, to another permitted WWTF in the initial phase, and potentially dewatered on site in future phases. The Executive Director does not anticipate any adverse effects to human health from the handling of sludge at the facility as long as the City complies with the terms of the draft permit.

Comment 156:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that future residents of Dripping Springs do not have legal standing to comment on the proposed discharge, even though it may impact their property.

Response 156:

The public has an opportunity to comment on all draft wastewater permits during the public comment period according to TCEQ rules in 30 TAC Section 55.152. The rules do not require that an individual establish any type of legal standing in order to comment on an application. Any interested person has the right to comment on an application during the public comment period.

Comment 157:

For the person(s) that made this comment, please see Attachment 32.

A commenter noted that future City Councils will not be bound by the decisions of the current City Council.

Response 157:

TCEQ does not have jurisdiction to address issues regarding city council decision-making in the wastewater permitting process.

Comment 158:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that homes should not be built before comprehensive plans have been approved for the sewage.

Response 158:

TCEQ does not have jurisdiction to address these types of issues as part of the wastewater permitting process. Any questions regarding development activities should be directed to local officials.

Comment 159:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that stormwater discharges from a facility with a design flow of 1.0 million gallons per day must either be permitted by an individual TPDES or permit or via TPDES permit TXR05000 (Multi-Sector General Permit).

Response 159:

The Executive Director acknowledges the comment.

Comment 160:

For the person(s) that made this comment, please see Attachment 32.

A commenter stated that "[c]urrent regional water supplies must be maintained at a quality protective of designated stream segment uses, including public water supply and aquifer protection, before advancing the benefits of the proposed effluent as an augmented downstream water supply."

Response 160:

The Executive Director acknowledges this comment.

III. Changes Made to the Draft Permit in Response to Comments:

In response to Public Comments, the Executive Director has made the following changes to the draft permit: 1) removed Other Requirements Item 9 which required effluent analysis for nitrate-nitrogen at Outfall 001; 2) added effluent limits, monitoring and reporting requirements for total nitrogen; 3) added new Other Requirement 10 which requires Dripping Springs to analyze its effluent for the water quality parameters listed in Domestic Worksheet 4.0 of the permit application for toxic pollutant screening; and 4) added a requirement that Dripping Springs dechlorinate its effluent to less than 0.1 mg/l residual chlorine.

IV. Other Changes Made to the Draft Permit:

The Executive Director also updated the expiration date of permit (if it is issued) to September 1, 2022 in accordance with 30 TAC § 305.71 and § 305.127 and clarified that the facility is located in the Edwards Aquifer Contributing Zone and is therefore subject to 30 TAC § 213, Subchapter B. This is included as Other Requirements Item 9, page 35 of the draft permit.

Respectfully submitted,

Texas Commission on Environmental Quality

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REPRESENTING THE EXECUTIVE DIRECTOR OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

V. Attachments 1 through 33

A
Abel, Melissa
Abernathy, Don
Abernathy, Miles
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Belo, Patt
Belote, David
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Berkholz, Leigh
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Till, Mary Ann
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Trotter-Weynandt, Cynthia
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Turney, Jackson
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Varteressian, Chris
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Vasquez, Christian

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Vaughn, Cayce
Vela, Memo
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Vinson, Barbara

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Waley, Roy
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Walsh, Jeri
Warchol, Kasia
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Watts, Rebecca
Weaver, Wyatt
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Weems, Denese
Weinand, Rod
Weitzman, Craig
Wells, Kathy
Wells-Barrettt, Dana
Wesson, Jan
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Westwood, Lisa
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Wheaton, Merry
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White, David
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Whiting, Alyssa
Whitworth, Kai's
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Wiggins, Beverley
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Williams, Annelia
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Williamson, Courtney
Willis, Lloyd
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Wilson, Alyson
Wilson, Lexi
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Winkler, Hugh
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Wittenberg, Peter M
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Wood, Nathan
Wottrich, Jerel
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Casey Cutler	Save Our Springs Alliance
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John Dupnik Blayne Stansberry	Protect Our Water
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Charlie Flatten	Clean Water Action
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Brian Lillibridge	City of Austin
Patricia Link	Lower Colorado River Authority
Susan Meckel Karen Bondy	Austin Sierra Club
Craig Nazor	Ruby Ranch Neighborhood
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Compton IV, Miles
Comstock, Tessa
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Davis, Larry
Davis, Sarah
Davison, Anne
Dawdy, Morgan
DeBerry, Victoria
Deckard, Deborah
Decker, Lori
Degante, Lizeth
Delgado, David
Delgado, Lori
Dement, Ali
Derouen, Shellie
Dewease, Anita
Diaz, Edgar
Diaz, Ivan
Dickerson, Laura
Dickey, Frank
Dieringer, Jeffrey
Dill, Scott
Dingman, Adriana
Dobbertin, Courtney
Dodson, Vickie
Dollard, Joe
Dollinger, Sonya
Donnelly, Baker
Donnelly, Joe
Donnelly, Lisa
Dowden, Abby
Dowling, Tim
Doyle, Jennifer
Dreyer, Russell
Driggers, Jennifer
Driver, Stefanie
Drogosch, Zach
Drosos, Mark
Dudley, Colin
Duff, Stac
Duffee, Mike
Dunn, Anita
Dunn, Janie
Dunn, Susan
Duos, Julie
Duran, Lori
Durbin, Lee
Dure, Frederick
Duvall, Chris
Dvorken, Suzann

E

Earls, Deirdre
Eason, Sharell

Eastes, Alicia
Eblen, Diana
Eckols, Nica
Eckols, Shelby
Edl, Angelique
Edwards, Abbey
Eichelberger, Jeff
Eicher, Jordan
Ellis, Clay
Ellis, Deborah
Ellis, Dodi
Elmore, Jontrea
Elsner, Glenna
Engel, Melanie
Ergo, Mike
Ergo, Phyllis
Erwin, Charlotte
Eskew, Shari
Espen, Nathan
Esquivel, Amanda
Esquivel, Oscar
Estrello, Brenda
Evenides, Ellen

F
Fannin, Linda
Farmer, Charlene
Farrell, Hollie
Faulkner, Jody
Fedorko, Elizabeth
Feeler, Dodge
Felps, James
Felps, Jennifer
Fernandez, Mary
Finder, Shannon
Flanegan, David
Fleck, Sean
Fleming, Lila Virginia
Flemons, Gayle
Flemons, Lindsey
Floerke, Neal
Flood, Steven
Flores, Christine
Flurry, Dinah
Fogle, Daiza
Foreman, Betina
Foreman, Cindy
Foreman, Jeff
Foster, Niki
Fowler, Cara
Fowler, Mike
Fox, Anne
Frazier, Charlotte
Frazier, Donald L.
Freeborg, Gary
Freeland, John
Frias, Michelle
Friedrich, Tammy
Frolova, Svetlana
Fry, Kim

G
Gage, Bradley
Gallimore, Lynn M.
Galvin, Mike
Gamble, Celeste
Gamble, Marianne
Gammon, Jarred
Gantt, Brian
Garcia, Christopher
Garcia, Jackie
Gardner, Christy
Gatch, Christopher
Gatlin, Shelby
Gautreau, Jade
Gehrke, Kathy
Geismar, Ellen
Genevie, Jean
Giles, Keith
Gillis, Mary
Gilroy, Dan
Gitlin, Leslie
Glass, Tommy
Goad, Dana
Goad, Michael
Gomez, George
Gomez, Sheri
Gonzales, Eric
Gonzalez, Carlos
Gonzalez, Melissa
Goode, Elenore
Goulart, Melinda
Grady, Kellye
Graf-White, Tiffany
Gram, Mark
Granger, Garrett
Graves, Catherine
Graves, Nicole
Gray, Clark
Gray, Tonya
Green, Joanna
Green, Zachary
Greene, Tom
Gregory, April
Gremillion, Barbara
Gremillion, Kandice
Gremillion, Steve
Griffin, G. G.
Griffin, Julie
Griffith, Allen
Griffith, Kippi
Griffith, Laura
Grimes, Sharon
Grizzle, Sandra
Grizzle, Sara
Grohman, Holly
Grosvenor, Robert
Grunwaldt, Dawn
Guajardo, Mary
Gullo, Emily
Guthrie, Mark
Gutierrez, Linda
Gutierrez, Mica
Gutierrez, Micaela
Guysinger, Amy

H
Hald, Susan
Haley, Bambi
Hall, Amber
Hall, Calvin
Hall, Jessica
Hall, Larry
Hall, Laurel
Hallmark, Leticia
Halverson, Chad
Hamilton, Lee
Hampton, Rachel
Hancock, Clark
Hancock, Rory
Hanson, Donna
Haralson, J.
Hardin, Andrew
Hardison, Ethan
Hargraves, Gary
Hargraves, Lisa
Harkavy, Hal

Harmon, Mitch
Harper, Christi
Harper, Joshua
Harper, Tana
Harris, Marilyn
Harris, Wiley
Harvey, Sherry
Hastings, Brian
Hatcher, Reva
Hatheway, Rosanne
Haynes, Lori
Healy, Kathleen
Hearne, Ryan
Hearon, Brian
Heitzman, Kelsey
Helburn, Audry
Hendrikz, Pam
Henika, Lori
Henry, Richard
Herald, Scott
Herbin, Jennifer
Herd, Janis
Hernandez, Cynthia
Hernandez, Gabe
Hershberger, Amie
Hess, Jayne
Hetrick, Beverly
Hewitt, Laymee
Hibler, Bryan
Hickman, Michael
Higginbotham, Tol s 'TJ'
Hightower, Brandon
Hill, Kathy
Hill, Lindsey
Hillan, Aaron
Hilton, James
Hodges, Carolyn
Hodges, Dixie
Hodgkins, Sherra
Hoenninger, Vanessa
Holden, Chris
Holden, Nichole
Holden, Stefani
Holder, Kathleen
Holdridge, Sherry
Hollub, Jr., G. H. Sonny
Holms, Kamrie
Hooton, Jason
Hopper, Zach
Hornyak, Amanda
Horsey, Michelle
Hostettler, Karen
Hough, Ryan
Houser, Holly
Houser, Patrick
Houston, Carrie
Hovey, Lauren
Howard, Wayne
Howell, Marcie
Hubbell, Steven
Hudson, Ann
Hudson, Barbara
Hudson, Bodie
Hudson, Chad
Hudson, Tom
Hughes, Cindy
Hughes, Lilia
Huisman, Elena
Huisman, Matthew
Hunt, Ryan
Hunter, Meg
Huston, Janet

I

Ice, Lauren
Ilkenhans, Susan
Inderman, John
Inscore, Joanne
Isaacs, Amy

J

Jackson, Amber
Jackson, Melinda
Jacobs, Fleetwood
Jacques, Sally
Janda, Steve
Janek, Johnthan
Janek, Susan
Jannett, Marian
Jarnigan, Stephanie
Jarrett, Michael
Jarvis, Alicia
Jenkins, Cecil
Jenkins, David
Jesmer, Jeremy
Jill, Jill
Johanson, Jennifer
Johnson, Beth
Johnson, David
Johnson, Elena
Johnson, Janice
Johnson, Robert
Johnston, La
Johnston, Michael
Jones, Cathy
Jones, Clifford
Jones, J.
Jones, J. P.
Jones, Kayleigh
Jones, Mary
Jones, Patty
Jones, Theresa
Joscelyne, Janet

K

Kahle-Hollenback, Claudia
Kane, Beth
Kane, Thomas
Kanetzky, Case
Kanetzky, Marty
Kappler, Gerri
Karp, Betty
Kathen, Charmaine
Kaura, Jana
Kee, Brenda
Keech, Walter
Kelley, Jason
Kelley, Julie
Kelly, Kara
Keltner, Lisa
Kettl, Chase
Key, Corynn
Kiewlich, Matthew
Kimbell, Callie
Kimbrough, John
Kimmell, Barbara
Kincheloe, James
King, Alma
King, Mary Ellen
Kinley, Crissy
Kinstler, Leah
Kirchner, Penny
Kircus, Kris
Kirk, Cory
Kirk, Laura
Kirkdendall, Terry
Kirkendall, Laura

Kirkendall, Sara
Kitzul, Patrick
Klava, Joyce
Klingensmith, Jessica
Klingensmith, Paul
Kloppe, Chris
Kluth, John
Knepp, Michelle
Knight, Heidi
Knight, Heidi
Knuppel, Chelsi
Kocher, Karen
Koen, Sally
Konkle, Emily
Korns, Danielle
Kowalski, Megan
Kowalski, Michelle
Kramer, Vikki
Krause, Jerisa
Krause, Ryan
Kuhn, Susan
Kukol, Jacqueline
Kuykendall, Betty
Kuykendall, Steve
Kyle, Nelda

L
LaCaze, Katie
Lacker, Ann
Lacker, Steve
Lai, Tonya
Lally, Joyce
Lander, Jeremy
Lander, Kristen
Landis, Monica
Larsen, Andrea
Lateur, Sally
Laura, Ivy
Lawrence, Patty
Lawrence, Randy
Lawson, Christina
League, Karrie
Leal, Kathleen
Lecca, Vincent
Lee, Roxanne
Leggett, Albert
Lehman, Catherine
Lehr, Ted
Lemley, Melissa
Levy, Elana & Avner
Lewis, Tom
Lightfoot, Julie
Limon, Maria
Linde, Courtney
Lindemann, Elizabeth
Lindquist, Courtney
Lingo, Randy
Little, Carma
Lobdell, Jacquelynn
Lomas, Carissa
Longman, Laurie
Lopez, Brittany
Lopez, Miranda
Lovelace, Christina
Lowe, Brian
Lowe, Lori
Lowe, Marcia
Lulfs, Tina
Lyday, Jenny
Lyle, Natalie
Lynch, Mercedes
Lyons, Debbie

M
M., Donna
MacDonald, Zachariah
Madden, Matt
Maddux, Peggy
Maddux, Shane
Maddux, William
Magruder, Lea
Malina, Ashley
Malish, Keane
Maloney, Roy
Mancha, Rosa
Mann, Jayme
Manoguerra, Sal
Marek, Rebekah
Marks, Autumn
Marks, Denise
Maroni, Darin
Marshall, Derek
Martin, Evelyn
Martin, Kelsey
Martin, Norah
Martin, Ray
Martinez, Jennifer
Martinez, Marsha
Martinez, Melissa
Marvin, Flora
Mason, Brenda
Mason, Susanne
Mason, William
Massey, Cynthia
Massey, John
Massman, Pam
Masters, Kurt
Matchell, Lisa
Matheney, Paul
Mathews, Vicky
Mathis, Bettina
Mathys, Nike
Maxwell, Dana
Maxwell, Sam
Mayes, Kathleen
McBride, Jane
McCall, Lila
McCarter, Dan
McCarthy, Brenna
McCaughan, John
McClain, Ivy
McConahay, Valerie Phillips
McCormack, Kimberly
McGlasson, Elizabeth
McIntyre, Lance
McKaskle, Angela
McKenzie, Martha
McKeon, Julie
McKeon, Michael
McMahon, Cissy
McMahon, Vicki
McManus, Will
McMillan, Kay
McNair, Shelley
McNamara, Tim
McNeely, Tiffany
Meadows, Misty
Means, Jamie
Meitz, Kim
Merlo, Jason
Mertz, Laura
Messinger, John
Metzger, Kelley
Michaud, Paula
Mickey, Sharon
Middleton, Keith
Mietus, Christopher

Milam, Kim
Miller, Julie
Millican, Matthew
Milligan, Melissa
Mills, Billy
Mitchell, Scott
Mixon, David
Moeller, Lorinda
Mollica, Karen
Mommaerts, Roger
Moncrieff, Bradford
Monjaras, Jonathan
Monroe, Clayton
Monroe, Rosemary
Montgomery, Roger
Montgomery, Timothy
Montoya, Edgardo
Moody, Jennifer
Moog, Cindy
Moore, Joe Grady
Moore, Rosemary
Moore, Sharon
Morgan, Colin
Morris, Manda
Morton, Devra
Morton, Robert
Muelle, Rachel
Munevar, Michelle
Murchisom, Estelle
Muse, Lindsay
Musgrove, Elizabeth
Mutschler, Elizabeth
Mutschler, Jeff
Myers, Karysa
Myers, Merlene
Myers, Michael
Myers, Sancha
Myers, Stephanie
Myhand, Shayne

N
Naidoo, Udbhav
Napiorkowski, Carrie
Naslund, Annie
Navarro, Leslie
Neel, Pamela
Neffendorf, Craig
Nelson, Daniel
Nelson, Gordon
Nelson, Leslie
Nemec, Ellen
Newdick, Vivian
Newton, Christopher
Newton, Douglas
Newton, Thomas
Nguyen, Cap
Nguyen, Kim
Nice, Yvonne
Nicholes, Laura
Nichols, Brenda
Nichols, Shirley
North, Sarah
Nutt, Karen

O
O'Boyle, Robert
O'Brien, Jennifer
O'Brien, Melissa
Odell, Margie
O'Donnell-Hintz, Maureen
Ogas, Jeremy
Oglesby, Susan
O'Keeffe, Susan
O'Leary, William
Olsen, Jeffrey
Olson, Catherine
Olson, Faith
Onion Creek Petition,
Orr, Jill
Ort, Kim
Ortegon, Raul
Ortegon, Yvonne
Ortiz, Robert
Osborn, Dakota
Ottenbacher, Ron
Owensby, Gretchen
Oyler, Michelle

P
Paige, William
Paluch, Jeffery
Papp, Amanda
Parker, Amanda
Parker, Ron
Partain, Katie
Pascoe, Neil
Passernig, Mollie Bea
Passernig, Ruth
Passino, Audrey
Passino, Morgan
Passino, Skyler
Patoski, Jake
Patterson, David
Patton, Jeffrey
Paulson, Kim
Payne, Donna
Payne, Laura
Peabody, Shelley
Penney, Tonya
Pennington, Carol
Pennington, Paul
Perez, Alicia
Pesoli, Monica
Petrillo, Kristen
Pettit, Jamie
Pharis, William
Phelan, Michele
Phillips, Cindy
Phillips, Hailey
Phillips, Wendy
Picotte, Jennifer
Pierce, Janet
Pierce, Julia
Pierce, Lorelei
Pierce, Travis
Piland, Scott
Pinkerton, Mary Beth
Pitts, Cameren
Pitts, Cristal
Pitts, Don
Pitts, Wes
Plassmann, Charles
Polk, Kenny
Pope, Stephanie
Porter, MaryClare
Portillo, Allyson
Portillo, Theresa
Powell, Judy
Prendergast, Ashley
Price, James
Prins, Marisol
Proud, Amy
Pruitt, Lisa
Pruitt, Mike
Pryor, Ana
Pryor, Dayne

Pryor, Katie
Pryor, Peggy Davis
Purcell, Susan
Puryear, David
Pyka, Jerra

R
Raesz, G. W.
Ragland, Denton
Ramirez, Christina
Ramirez, Stacy
Ramos, Laurie
Ramseur, Loren
Ramsey, Daryl
Ramsey, Travis
Ranch, Montesino
Ranno, Russell
Rapp, Lee
Rawlings, Cristi
Ray, Charles
Reddy, Joesph
Reenalda, Betty
Reeves, Katy
Reeves, Mary
Reeves-Goff, Penny
Reid, James
Reilly, John
Reilly, John
Reimers, Tara
Reinhardt, Jessica
Renfro, Julie
Renner, Debi
Renner, Michael
Reyes, Angelia
Rhodes, James
Rienstra, Kathy
Riordan, Mandy
Rios, Jaimr
Rios, Valerie
Rippy, Laura
Roach, Hayden
Roach, Kasey
Roberts, Cheryl
Roberts, Loren
Roberts, Rebecca
Roberts, Tim
Robins, Susan
Robinson, Barbara
Robinson, Mary
Robinson-Gardner, Stacey
Rocha, David
Rodrighez, Marisela
Rodriguez, Millie
Rodriguez, Stephanie
Roelofs, Melanie
Rogers, Christopher
Rogers, Kary
Rogers, Russell
Roginson, Jess
Rolfes, Kevin
Root, Jeff
Ross, Andrew
Ross, Audrea
Ross, Janet
Rossi, Kathy
Rothe, Barbara
Rothe, Juliet
Rothe, Pamela
Rothwell, Tina
Rougeux, Chris
Rowe, Dan
Rowlett, Rose Ann
Ruiz, James J.
Ruskin, Richard
Rutledge, Barbara
Rutledge, Mark
Ryan, Debbie

S
Saenger, Jane
Salazar, Steven
Sample, Chrissy
Sanborn, Rachel
Sandler, Dan
Sanford, Rhianna
Savioli, Ralph
Scallon, Chris
Schaertl, Connie
Schnabel, Andreas
Schneider, Linda
Schreck, John
Schreck, Page
Schubnell, Sally
Schulze, Kari
Scott, Chris
Scott, Janie
Scott, John
Scott, Lauger
Scott, Paul
Scroggins, Kelly
Seekatz, Lori
Self, J. P.
Sellman, Branda
Senibaldi, Lauren
Serafine, David
Sevon, Katie
Sewell, Jolie
Shahan, Brian
Shaktman , Diane
Shannon, Sara
Sharp, Kimberly
Shaw, Ashley
Shaw, Jeff
Shaw, Kara
Shelton, Bob
Shelton, Clay
Shelton, Kari
Shelton, Trace
Sherrill, Peggy
Shields, Duane
Siebert, Andrea
Siebert, Terry
Siegwalt, Michelle
Sigman, Cypress
Silcox, Karen
Simmons, Kathy
Simmons, Sheryse
Simon, Danny
Simoneau, Greg
Simpson, S.
Sinks, Journey
Sitton, Cate
Slaughter, Bob
Slocum, Jeff
Smethers, Derek
Smith, Allison
Smith, Becki
Smith, Bill
Smith, Brian
Smith, Daniel
Smith, G. W.
Smith, George
Smith, Jeff
Smith, Kalli
Smith, Kellie
Smith, Kelly

Smith, Lacey
Snowden, Laurie
Snyder, Gabrielle
Solner, Keri
Sorrell, Cliff
Soto, Sandra
Spain, Diana
Spence, Fred
Spencer, Beverly
Spicer, Diane
Springer, Derek
Spry, D. J.
Spytek, Jenny
Standefer, Hou
Stanford, Shannon
Stansfield, Juliana
Starr, Darlene
Steele, Ashley
Stehlin, Christy
Steinbrueck, Diane
Steinman, Jessica
Sternberg, Ric
Stevens, DorRae
Stinsmuehlen, Dean
Stoldt, Jayme
Stone, Mary
Strain, Christine
Straube, Melissa
Strub, Daniel
Strub, Larry
Stryker, Ashley
Stuart, Anne
Sturrock, Jason
Sturtz, Amber
Sturtz, Laura
Suggs, Adrian
Swafford, Leilani
Swannaxk, Shawntel
Swett, John
Swift, Melissa
Swindle, Aaron
Swindle, Cathy
Swindle, Robert
Swing, Jeni Bolton
Swing, Nick

T
Tait, Grant
Tait, Kirsten
Tansey, Laura
Tate, Damoris
Taylor, Deborah
Taylor, Gregory
Taylor, Ron
Tedhams, Arwen
Tejada, Suzanne
Tenney, Julie
Terry, Tray
Teshera, Suzanne
Tetreault, Tara
Tharp, Brenda
Thomas, Kathleen
Thomas, Ryan
Thornton, Aaron
Thornton, Nancy
Thorp, Mike
Tidwell, Jodi
Tod, Valerie
Tong, Stephanie
Torres-Mejia, Veronica
Torrey, Kathy
Torrez, Paul
Tracy, Mark
Trapp, Sally
Trejo, Aaron
Troppy, Susan
Trotter, Starla
Trotter-Weynandt, Cynthia
Truxillo, Terrance
Tull, Terrence
Turbow, Bruce
Turner, Brent
Turner, John
Turner, Susie
Turney, Jackson
Tyler, Megan
Tyree, Diane

U
Ulrich, Alison
Urban, Carl
Urban, Elizabeth
Urban, Megan
Urban, Stahl

V
Vacek, Debbie
Vacek, Garry
Valdes, Leopoldo
Van de Walle, Jill
Vandermeer, Emily
Vanderwerff, Kristen
Vanek, Stephanie
Vasquez-Jaimes, Christian
Vaughn, Cayce
Vaughn, Trisha
Vehik, Adam
Viaggi, Lynne
Viele, Ed
Vinson, Barbara
Volz, Candace

W
Walker, Judy
Walker-Childers, Jennifer
Wallace, Brighton
Walls, Cameron
Walsh, Jeri
Ward, James
Ward, Zanna
Wardlow, Aaron
Wardlow, Brandy
Wardlow, Sonny
Warwick, Susan
Wasserman, Meryl
Watson, A.
Watson, Thomas
Waxler, Tammy
Weathers, Kristen
Weaver, Nancy
Weaver, Wyatt
Webb, Carl
Webb, Cori
Webb, Linda
Webber, Mindy
Weekley, Wendi
Weeks, Eric
Weems, Denese
Weeter, Nancy
Weinand, Rod
Weiser, Craig
Weitzel, Debra
Weitzel, Travis
Weitzman, Mallory
Wensowitch, Nathan
West, Brian
West, Kim

West, Melanie
West, Tammy
Weynand, Mitch
Weynandt, Jack
Whisenant, Brandt
White, Amanda
White, D'Ana
White, John
White, Mallori
White, Stephanie
Whitworth, Kai's
Wi, Tammy
Wick, Doug
Wierman, Rebecca
Wiggins, Beverley
Wilkes, Wade
Willard, Susan
Williams, Annelia
Williams, Gary
Williams, Jeanette
Williams, Margaret
Williams, Nicholas
Williams, Sarah
Williamson, Barbara
Willis, Lloyd
Willson, Liz
Wilson, Alyson Blake
Wilson, Frederic
Wilson, Gordon
Wilson-Acosta, Tanya
Winston, Shelley
Wittenberger, Ashley
Wohltman, John
Wood, Sandy
Woods, Nathan
Wottrich, Jerel
Wottrich, Stephanie
Wyler, Lauren

Y
Yanta, Alexis
Yanta, Kevin
Yoing, Brandi
Yokum, Chad
Yonke, Joseph
Young, Deborah
Younts, Clint

Z
Zankich, Alex
Zavaleta, Jennifer
Zercher, Jonathan
Zeybek, Burak
Zisman, Melody
Zuniga, Lesley
Zvonek, Laura

Groups, Governmental Entities & Organizations

Attachment 4
Persons that Provided Formal Oral Comment at the Public Meeting

Anderson, Martha

Baker, Kindal
Beers, Stephen
Beggs, Richard
Broun, Rick
Brown, Martha Hill

Cook, Susan
Craig, Elizabeth
Cutler, Casey

Davis, Kelly
Dudley, Brian
Dupnik, John

Edwards, David

Faust, Sarah
Flemming, Virginia
Foster, David

Hasting, Mark
Henry, Stuart
Houston, Taylor

Ice, Lauren

Jones, John

Kallerman, Dick

Miller, Cheryl

Nazor, Craig
Nespy, Louis

Oliver, Bill
Olmstead, Dale

Palmer, Virginia
Patman, Jason
Pigg, Gail
Pitts, Wes
Plassmann, Charles A.

Rogers, Linda K.
Root, Jeff
Rose, Patrick

Shaw, Jeff
Shaw, Canyon
Shaw, Kara
Shaw, Micah
Smith, Craig
Smith, Gordon W.
Smith, Walt
Strauss, Steve

Tait, William
Turbow, Bruce

Urban, Betsy H.

Waley, Roy
Wesson, Jan
Williams, Margaret F.

Groups, Organizations and Governmental Entities

Barton Springs/Edwards Aquifer Conservation District

Blanco River Cypress Creek Water Association

Camp Ben McCulloch

Clean Water Action

Driftwood Historical Conservation Society

Hays Trinity Groundwater Conservation District

Oak Forest POA

Protect Our Water

RPC Investments

Save Barton Creek Association

Save Our Springs

Sierra Club

Sierra West Property Owners Association

A
Abel, Melissa
Abernathy, Don
Abernathy, Miles
Aboussie, Karen
Abriol, Michele
Adair, Michael
Adams, Amanda
Adams, Patricia
Akers, James
Alison, Bejamin
Alison, Stephen
Alkire, Stephen
Alpers, Benjamin
Altman, Linda
Ambrose, Effie
Ambrose, Roderick B
Anders, Angela
Anderson, Sarah
Andrews, Wiliam
Angelini, Sita
Archuleta, David
Arvin, John
Ascot, Karen

B
B., Laurene
Bacot, Christi
Baggs, Brenda
Baker, Kindal
Baker, Rosemary
Barber, Stephen
Barker, Rene
Barnes, Richard
Barsotti, Janelle
Bartline, Chad
Bass, Jon
Bastone, Ashley
Bateman, Nicole
Baxter, Rob
Beard, Jamie
Beck, Ariane
Beggs, Richard
Bell, Shasta
Bella, Betzy
Belo, Patt
Belote, David
Berkholz, Leigh
Berlin, LuAnne
Bernstein, Jennifer
Beverly, Bryan
Bhaduri, Abhi
Biel, Jamie C
Bigham, Deb
Bird, Heather
Bishop, Kim
Blackburn, Carter
Blanchard, Beth
Blau, Jen
Blohm, Julie
Bode, Jessica
Bogenshutz, Brandon
Bohls, Laura
Bohls, Rex
Bohnert, Ken
Bomar, Ashleigh
Born, Glenda
Bornstein, Nathan
Bosselman, Annette
Bossio, Betty
Bowen, Henry
Boyer, Jackie
Boyer, MacKenzie
Boyer, Maxton
Braden, Al
Bray, Shannon
Brenna, Haley
Brenna, Shelly
Bright, Michelle
Bright, Steve
Brink, Jessica
Britain, Tiffany
Brite, Ashley
Brock, Andrew
Broussard, Kathyrn
Broussard, Sharon
Brown, Brenda
Brown, Jimmy
Brown, Shannon
Brown, Stephanie
Brushwood, Victoria
Buchner, Dyana
Burk, Ashley
Burk, Henry
Burkham, Patricia
Burkle, Ryan
Burns, Holton Latham
Burns, Reed C
Buse, Shelly
Buxton, Craig
Byrd, Tom

C
C., Paige
Camerena, Daniel
Campbell, Ryan
Campo, Mary Jo
Canada, Donna
Cantu, Peter
Carleton, Martha
Carlson, Elma
Carlson, Mike
Carlson, Sherri
Carmean, Dana
Carstedy, John
Carvalho, Laura
Casarez, Anthony
Casarez, Kathy
Cassel, Jonathan
Casserberg, Mari
Cassidy, Cynthia Luongo
Castillo, Dee
Catterson, Jocelyn
Cave, Mike
Cevallos, Julissa
Chapa, Amanda
Chase, Richard
Cherry, Jennifer
Chips, Zach
Christians, Cheryl
Citizen, Concerned
Clark, James
Clark, Jeff
Claypool, L.A.
Clevenger, Gaylynn
Cline, Geoff
Cluck, Susan
Cluiss, Denise Leigh
Cluiss, Kelly
Cobos, Victor
Coe, Cody
Cole, Mason
Collins, Rick
Colon, Mina

Colonna, Linda
Colwell, Ariel
Colwell, Jonathan
Comer, Neil
Comparan, Jennifer
Compton, Brandon
Comstock, Tessa
Concerned, Citizen
Connell, Ann
Connell, David
Connell, Harper
Connell, Sarah
Connollly, Tara
Cook, Susan
Cook, Taylor
Cotter, Maureen
Cox, Katherine
Cromwell, Laurie
Crossett, Carter
Crossett, Gregory
Crossett, Lynn
Crumley, Eileen
Cullen, Jane
Cullen, Robert
Curran, Stephen
Currie-Wood, Margie
Czerwinski, Alfredo

D
Dargahi, Regina
Darrow, Anya
Davey, Matt
Davey, Wayne
Davila, Stella
Davilla, Regina
Davis, Dena
Davis, Sarah
Dawdy, Abby
Dawdy, Morgan
Day, Joe C
De Castro, Jackie
De Castro, Jessica
De Leon, Angela
Dean, Kiana
DeBerry, Victoria
Delacruz, Angela
Delacruz, Anthony
Delacruz, Jared
Dement, Dennis
Dement, Mary Ann
DeVarney, Patrick
Doherty, Colleen
Dollard, Joe
Donald, Greg
Donnelly, Joe
Donnelly, Sophia
Donovan, David
Donovan, Linda
Donovan, Madeleine
Dowden, Abby
Draker, Scott
Drosos, Mark
Dudley, Colin
Duff, Stac
Duffee, Michael
Dunn, Janie
Duos, Julie
Dure, Frederick
Durst, Noah
Duster, Marc
Duvall, Chris

E
Eason, Sharell
Eckols, Shelby
Eckols, Sherman
Edl, Angelique
Eick, Richard L
Eidenschink, Paul
Eisenbarth, Annalise
Eisenbarth, Mary Ann
Elizarraras, Lisa
Ellis, Dodi
Elsner, Glenna
Engel, Melanie
Ergo, Mike
Ergo, Phyllis
Erwin, Charlotte
Esquivel, Oscar
Evenides, Ellen

F
Fabel, David
Fan, Deadwood
Fedkenhever, Y. Ching
Ferris, Julie
Ferris, Roger
Fichtner, Lynn & Carter
Fields, Brian
Fields, Kara
Finder, Shannon
Fischer, Louis
Fleming, Lila Virginia
Fleming, Patrick
Flemons, Gayle
Flood, Steven
Flores, Chrstine
Fogle, Jason
Foreman, Betina
Francis, Laura
Francis, Taylor
Franco, Olivia
Fraser, Carol
Frazier, Donald L.
Freteluco, Stevie
Frith, R.
Fry, Kim

G
Gamble, Marianne
Garreffa, Melanie
Garza, Jackie
Gatch, Christopher
Gatlin, Shelby
Gautreau, Jade
Gerrek, Denz
Gillis, Mary
Gilroy, Mary
Goheen, Tom
Gonzales, Eric
Graf-White, Tiffany
Graham, Robert G.
Gram, Mark
Granger, Garrett
Graves, Nicole
Green, Zachary
Greene, Tom
Gremillion, Barbara
Gremillion, Kandice
Gremillion, Steve
Griffin, G. G.
Grizzle, Sandra
Guajardo, Mary
Guinn, Darryll

Gutierrez, Micaela

H
Hall, Ashley
Hall, Calvin
Hall, Larry
Hall, Laurel
Hampton, Rachel
Hand, Bill
Hanson, Donna
Haralson, J.
Hardin, Andrew
Hargraves, Lisa
Harper, Christi
Harper, Joshua
Harrelson, Dorris
Harris, Christyne
Harrod, Andrew
Hatheway, Rosanne
Haydon, Charles
Haynes, Lori
Haynes, Steve
Hearon, Brian
Heck, Karen Bleyl
Hemden, Jamie
Hendricks, Kimberly S.
Hendricks, Lee
Henry, Richard
Herald, Scott
Herbin, Jennifer
Herczog, Deborah
Hershberger, Amie
Hess, Jayne
Hetrick, Beverly
Hibberd, Lucy Reed
Higginbotham, TJ
Hiles-Fisher, Liz
Hobson, Laurie
Hodges, Carolyn
Hodges, Dixie
Hogendobler, Mark
Holder, Kathleen
Hollis, Noel M.
Holmes, Kamrie
Holzman, Rita
Homesley, Elton
Homesley, Norma
Hooks, Ross
Hooper, Mandi
Horton, Erin
Houaer, Patrick
Hough, Ryan
Houng, Sandy
Howat, Teri
Howell, Marcie
Howell, Tiffany
Huang, Sandy
Hubbell, Steven
Hudson, Bodie
Hudson, Chad
Huey, Jake
Hughes, Lilia
Huisman, Elena P
Huisman, Matthew
Hunt, Ryan
Hunziker, Heather
Huston, Janet
Hutton, Andrew
Huurman, Kevin
Hyde, Kelly

I
Ievy, Avner
Ievy, Elana
Inderman, John
Inscore, Joanne
Inscore, Joanne Circala
Ipsan, Elle

J
Jackson, Melinda
Jackson, Ronald
Janek, Jonathan
Jarmon, Jocelyn
Jasinski, Susan
Jenkins, Cecil
Jenne, Tara
Joao, Jose
Johnson, Beth
Johnson, David
Johnson, Dawn
Johnson, Robert
Johnston, La
Johnston, Michael
Jones, Cathy
Jones, Clifford
Jones, Norma
Jones, Theresa
Juro de Flores, Silvia
Justice, Jon

K
Kanetzky, Marty
Karr, Lara
Kaura, Jana
Kelley, Dylan
Kelley, Jason
Kelley, Julie
Kelley, Rylie
Kightlinger, Cheryl
Kimbrough, John
King, Alma
King, Mary Ellen
Kirk, Laura Ann
Kirkendall, Terry
Kitzul, Patrick
Klava, Joyce
Kloppe, Chris
Knight, Heidi
Kocher, Karen
Kosar, Kelley
Krafka, Carle
Krasusky, Chris
Kuykendall, Steve

L
Lacker, Ann
Lacker, Steve
Ladd-Hill, Tess
Lai, Tonya
Lander, Laura
Landry, Kent
Lartigue, Susan
Lawson, Christina
Leal, Kathleen
Lecca, Vincent
Lee, Amy
Lee, Kyuwan
Lehman, Catherine
Lehr, Ted
Lemley, Melissa
Lengel, Thomas
Lewis, Suzy
Linde, Courtney

Lindemann, Elizabeth
Lipscomb, Christian
Lockhart, Kirk
Longoria, Nick
Loomes, Lisa
Lopez, Miranda
Lu, Carol
Lyday, Jenny
Lyles, Sophia
Lynn, Brittne
Lyons, Debbie

M
MacDonald, Mike
Madden, Earl
Madden, Matt
Maddux, Austin
Magruder, Lea
Malina, Ashley
Mancha, Rosa
Maness, Richard
Mantia, Jeff
Marchan, Celia
Marek, Rebekah
Marks, Denise
Martin, Dorothy
Martin, Evelyn
Martin, Ronny
Martinez, Jennifer
Martinez, Juan
Marvin, Fiora
Mason, Brenda
Massman, Pam
Matheney, Paul
Mathys, Nike
Mayes, Kathleen
Mayfiled, Gay Lee
McCarter, Dan
McCarthy, Heather
McCarthy, Robert
McClain, Ivy
McCord, Dan
McCrea, Holly
McCully, David
McDonald, D
McEllin, Loren
McKeon, Julie
McMahon, Vicki
McNeely, Tiffany
McNeil, C.E.
Meacham, Martha
Melnior, Natalie R.
Merkel, Kathyrn
Middleton, Keith
Miller, Anne
Mills, Billy
Milner, Lauren
Mings, Mary
Mior, David
Mirra, Nich
Miser, Sarah
Mithani, Sarah
Mitlal, Abhilasha
Mixon, David
Mock, Kasey
Moeller, Jill
Moir, David
Moncrieff, Bradford
Moncrieff, Jonathan
Moncrieff, Will
Montgomery, Timothy
Montoya, Edgardo
Moody, Jennifer
Moody, Christopher Jack
Moore, Kelly
Moore, Rosemary
Moore, Stephen R
Morris, Manda
Morrison, Heather
Morton, Devra
Morton, Robert
Mosley, Joe
Moss, Karen
Moss, Kylie
Muller, Anne
Mulroy, Megan
Murchison, Estelle
Murphy, Patrick
Murray, Nick
Mutschler, Elizabeth
Myers, Stephanie

N
Napiorkowski, Carrie
Nasipak, Christopher
Navarro, Leslie
Neffendorf, Craig
Nelson, Leslie
Nemec, Ellen
Newlan, Chris
Newman, Eric
Nguyen, Hang
Nicholes, Laura
Nichols, Brenda
Nichols, Shirley
Nicolosi, Suzanne
Nutt, Karen

O
Ohmstede, Abby
Olmstead, Alvin Dale
Olson, Jeffrey
Omas, Jeremy
Ort, Kim
Ortega, Joseph
Ortegon, Raul
Ortiz, Emma
Owen, Toby
Oyler, Michelle

P
Pantren, Josh
Parker, Amanda
Pascoe, Neil
Passino, Audrey
Passino, Skyler
Patoski, Jake
Patten, Jessica
Patterson, Tori
Payne, Daniel
Payne, Donna
Payne, Laura
Peables, Sunday
Pearl-Brewington, Angella
Pearson, Scott
Peddie, Emma
Pennington, Paul
Perez, Marta
Phelan, Michele
Picotte, Jennifer
Pigg, Gail Ann
Pilkington, Larry F

Pinkerton, Mary
Pitts, Cameren
Pitts, Cristal C.
Pitts, Wes
Plassmann, Charles
Pope, Stephanie
Portillo, Theresa
Posen, Thomas
Pounds, Alesha
Powell, Judy
Price, Deborah
Pruett, Diane
Pruett, Knox
Pruitt, Lisa
Pryor, Katie
Pryor, Peggy
Pryor, Dayne
Purcell, Susan
Puryear, David
Pyka, Jerra

R
Ramseur, Loren
Ramsey, Taylor
Randall, David
Rash, Kady
Rawlings, Christine
Ray, Charles
Reazer, Traci
Recendez, Oscar
Redsky, Fox
Reed, Brianna
Reenalda, Betty
Reever, Jason
Reeves, Mary
Reimers, Jean
Reinhardt, Jessica
Reinstra, Kathy
Reyes, Angelica
Reynolds, Tim
Rhodes, Darrell
Rhodes, James
Rhodes, Peggy
Rienstra, Kathy
Roach, Hayden
Roberts, Cheryl
Roberts, Loren
Roberts, Rebecca
Rodirguez, Romaldo
Roe, Brian T
Rogers, Karyn
Roginson, Jess
Rolfes, Kevin
Romero, Veronica
Root, Jeff
Rosebaugh, DJ
Rosebaugh, Myla
Ross, Andrew
Ross, Janet
Rossi, Kathy
Rothe, Pamela
Rowlett, Rose Ann
Russell, Alexis
Rutherford, Mike G. Jr.
Rutledge, Barbara
Rutledge, Mark
Ryan, Debbie
Ryan, Pamela

S
Salazar, Michael
Salazar, Monica
Salazar, Steven
Sanchez, Debbie
Scallon, Chris
Schmidt, Dee
Schneider, Linda
Schreck, John
Schreck, Page
Schultz, Erika
Schwarz, Jason
Scroggins, Kelly
Seeklar, Paulo R
Sewell, Jolie
Shaktman, Diane
Shaw, Jeff
Shaw, Kara
Shaw, Micah
Shaw, Whitnie
Shelton, Clay
Sherrill, Peggy
Shiftlett, Chris
Shock, Andrex
Shurley, Clayton
Siebert, Andrea
Siebert, Terry
Sierra, Traci
Sigman, Cypress
Sigmund, Chandra
Sigmund, Kevin
Simon, Danny
Siroin, John
Slade, Raymond M
Slaughter, Bob
Slocum, Jeff
Smethers, Derek
Smith, Becki
Smith, Debra
Smith, Kalli
Smith, Kim
Smith, Makena
Snook, Sharon
Soback, Andrew
Soliday, Cynthia
Spreyer, Tim
Stanford, Shannon
Stasiak, Dan
Stehlin, Christy
Steimle, Robert
Stern, Dolores
Stern, Peter
Stevens, DorRae
Stevens, Farish Reed
Stickler, Pamela
Stobart, Liz
Stone, Jennifer
Stonebraker, K. M.
Strain, Christine
Straube, Melissa
Strauss, Steve
Street, Dan
Stuart, Ann
Stubblefield, Kelly
Sturrock, Jason
Sturtz, Amber
Sturtz, Laura
Sullivan, Bree
Sullivan, John
Sullivan, Laura
Sullivan, Patrice
Summers, Joanne
Sumner, Debbie
Sutter, Charles
Swett, John

Swientek, Travis
Swindle, Cathy

T
Tait, Grant
Tansey, Laura
Taylor, Deborah
Terrazas, Gaby
Tharp, Brenda
Thomas, Linda
Thompson, Tim
Tidwell, Jodi
Till, Alfred
Till, Mary Ann
Toms, Maricruz
Torno, Matt
Torres, Maria
Torrey, Kathy
Torrine, Christy
Toskey, Elsa
Trotter, Laura
Tull, Terrence
Tundall, Shelly
Turney, Jackson
Tyree, Brandon

U
Upchurch, Ryan
Urban, Betsy H.
Urban, Carl
Urban, Megan
Urban, Stahl
Ussery, Elissa

V
Vacek, Patrick
Valdes, Leopoldo
Valeriano, Tara
Vandermeer, Emily
Vanek, Stephanie
Varteressian, Chris
Varteressian, Eileen
Varteressian, Peter
Vasquez, Christian
Vasquez, Jose Isidoro
Vaughn, Cayce
Vela, Memo
Viagran, Crystal
Vinson, Barbara

W
Waggle, Sandra
Walker, Judy
Walsh, Jeri
Warchol, Kasia
Wardlow, Sonny
Warren, Joe D.
Warwick, Dana
Warwick, Susan
Watson, Thomas
Watts, Rebecca
Weaver, Wyatt
Webb, Linda
Webber, Mindy
Weems, Denese
Weinand, Rod
Weitzman, Craig
Wells, Kathy
Wells-Barrettt, Dana
West, Brian
West, Melanie
West, Tammy
West, Trish
Westwood, Lisa
Weynandt, Jack
Weynandt, Mitch
Wheaton, Merry
White, David
Whiting, Alyssa
Whitworth, Kai's
Wick, Doug
Wiggins, Beverley
Wilcox, Warren
Wiliams, Samatha
Wilkes, Wade
Willard, Karen
Willard, Susan
Williams, Margaret F.
Williams, Sara
Williamson, Courtney
Willis, Lloyd
Wilson, Alyson
Wilson, Lexi
Wilson, Stacy
Winkler, McKenzie
Wittenberg, Peter M
Wohltman, John
Wolkind, Edward
Wolkind, Elizabeth
Wolkind, Emily
Wong, Jen
Wood, Nathan
Wottrich, Jerel
Wottrich, Stephanie
Weynandt, Cynthia Trotter

Y
Yoing, Brandi
Yorke, Ben
Young, Deborah
Young, John
Younts, Clint

Z
Zapata, Irene
Zeybek, Burak

Groups, Governmental Entities & Organizations

Driftwood Historical Conservation Society

Greater Edwards Aquifer Alliance

Hill Country Alliance

Protect Our Water

RPC Investments

Save Barton Creek Association

Save Our Springs

Sierra West Property Owners Association

Attachment 6
RTC Comment 15
Persons Generally Concerned about the Natural Beauty
and Aesthetics of the Surrounding Area and Onion Creek

Anderson, Martha

Bird, Heather
Blohm Julie
Bohls, Laura
Brock, Andrew
Buchner, Dyana

Carlson, Sherri
Crossett, Gregory

Dunn, Janie
Duos, Julie

Elizarraras, Lisa
Ergo, Mike

Gatch, Christopher
Gutierrez, Micaela

Herczog, Deborah
Hershberger, Amie
Hubbell, Steven
Huisman, Matthew

Inscore, Joanne

Johnston, La

Lacker, Ann
Lawson, Christina
Lindemann, Elizabeth

Matheney, Paul
Moncrieff, Will
Morrison, Heather
Murchison, Estelle
Murphy, Patrick

Nemec, Ellen
Nichols, Shirley

Payne, Laura
Pitts, Wes
Reeves, Mary
Reynolds, Richard
Roberts, Cheryl
Ryan, Pamela

Sewell, Jolie
Smith, Becki
Stevens, DorRae
Sturtz, Laura

Tyler, Patricia

West, Brian
Weynandt, Jack
Whitworth, Kai's
Wiggins, Beverley
Wilson, Alyson
Wottrich, Stephanie

Young, Deborah

Groups, Governmental Entities & Organizations

Attachment 7
RTC Comment 18
Persons Generally Concerned that the Draft Permit does not
Protect Human Health and Safety, the Environment, and Physical Property

Anderson, Charles

Backus, Andrew
Burns, Reed C

Cluck, Susan
Colonna, Linda
Comparan, Jennifer
Cook, Susan

De Leon, Angela
Donnelly, Sophia
Dudley, Brian
Duffee, Michael
Dure, Frederick

Esquivel, Oscar

Fabel, David
Francis, Taylor

Gatch, Christopher
Guinn Darryll

Haynes, Steve
Hemden, Jamie
Hiles-Fisher, Liz
Hooks, Ross

Joao, Jose
Johnston, La
Juro de Flores, Silvia

Lander, Laura
Litch, Tim
Lockhart, Kirk
Lyday, Jenny
Lyons, Debbie

Martin, Evelyn
Marvin, Fiora
Moore, Micheal

Nguyen, Hang
Nicolosi, Suzanne

Olmstead, Alvin Dale

Patten, Jessica
Phelan, Michele
Pitts, Cristal C.

Shaw, Micah
Swindle, Cathy

Tharp, Brenda
Thompson, Tim

Vacek, Patrick

Waggle, Sandra
Warchol, Kasia
Williams, Margaret
Williamson, Courtney
Wilmore, Mike, Lt. Col.
Wilson, Lexi
Wilson, Stacy

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Driftwood Historical Conservation Society

Protect Our Water

Attachment 8
RTC Comment 39
Persons Concerned about Dripping Springs'
Need for the Facility

Albert, Alfred

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Hibberd, Lucy Reed
Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Root, Jeff

Shaw, Jeff
Shaw Kara
Stevens, Farish Burns

Groups, Governmental Entities & Organizations

City of Austin

Protect Our Water

RPC Investments

Save Our Springs

Umari Partners

Attachment 9
RTC Comment 40
Persons Concerned about the Phases of the Draft Permit

Albert, Alfred

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Hibberd, Lucy Reed

Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Root, Jeff

Shaw, Jeff
Shaw Kara
Stevens, Farish Burns

Groups, Governmental Entities & Organizations

Protect Our Water

RPC Investments

Save Our Springs

Umari Partners

Albert, Alfred
Aulick, Michael

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Hibberd, Lucy Reed

Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Root, Jeff

Jeff Shaw
Shaw Kara
Stevens, Farish Burns

Groups, Governmental Entities & Organizations

City of Austin

Barton Springs/Edwards Aquifer Conservation District

Protect Our Water

RPC Investments

Save Our Springs

Umari Partners

Anderson, Martha

Baker, Kindal
Beggs, Richard
Bernstein, Jennifer
Bosselman, Annette
Burns, Holton Latham
Burns, Reed C

Cook, Susan
Crossett, Gregory

Day, Joe C

Herczog, Deborah
Hibberd, Lucy Reed
Householder, Bill

Ipsan, Elle

Kirk, Laura Ann

Litch, Tim

Miller, Harry

Oliver, Bill
Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Reynolds, Richard
Root, Jeff

Shaw, Kara
Shaw, Micah
Slade, Raymond
Smith Cheryl
Smith, Gordon
Stevens, Farish Burns

Turbow, Bruce

Urban, Betsy H.

Venhuizen, David

Wark, Deborah
Williams, Margaret
Wills, Callie

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Protect Our Water

RPC Investments

Save Our Springs

Umari Parners

Attachment 12
RTC Comment 52
Persons Concerned that the Treatment Process is Inadequate

Albert, Alfred

Baker, Kindal
Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Cook, Susan
Craig, Elizabeth
Crane, Ron

Hibberd, Lucy Reed
Houston, Taylor

Oyler, Michelle

Palmer, Virginia
Pitts, Cristal
Pitts, Wes

Root, Jeff

Shaw, Canyon
Shaw, Jeff
Shaw, Kara
Stevens, Farish Burns

Weynandt, Cynthia Trotter
Weynandt, Jack

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Protect Our Water

RPC Investments

Save Our Springs

Umari Partners

Attachment 13
RTC Comment 60
Persons Concerned about Odors from the WWTF

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Hibberd, Lucy Reed

Kelley, Jason

Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Root, Jeff

Shaw, Jeff
Shaw, Kara
Stevens, Farish Burns

Groups, Governmental Entities & Organizations

Protect Our Water

RPC Investments

Umari Partners

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Cowan, Christine
Cowan, Travis
Crossett, Gregory

Dudley, Brian
Dudley, Colin

Erwin, Charlotte

Greene, Tom

Hibberd, Lucy Reed

Jones, John

Olmstead, Dale
Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Root, Jeff

Shaw, Jeff
Shaw, Kara
Slade, Raymond Jr
Smith, Craig
Smith, Gordon
Stevens, Farish Burns

Weynandt, Jack

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Protect Our Water

RPC Investments

Save Our Springs

Umari Partners

Attachment 15
RTC 77
Persons that Recommended Dripping Springs an Alternative to Direct Discharge

Baker, Kindal
Beggs, Richard
Beers, Steve
Burns, Holton Latham
Burns, Reed C

Craig, Elizabeth

Dudley, Brian

Edwards, David

Faust, Sara

Gilroy, Mary

Hasting, Mark
Haydon, Charles
Henry, Stewart
Hibberd, Lucy Reed
Houston, Taylor

Janek, Jonathan
Jones, John

Kinley, Chrissy

Miller, Cheryl
Miller, Harry

Palmer, Virginia
Patman, Jason
Pigg, Gail
Pitts, Wes

Rogers, Linda K
Rose, Patrick

Shaw, Canyon,
Shaw, Kara
Shaw, Micha
Shaw, Jeff
Smith, Gordon
Strauss, Steve
Stevens, Farish Burns

Turbow, Bruce

Valle, Israel
Venhuizen, David

Wayley, Roy
Weynandt, Cynthia Trotter
Weynandt, Jack
Williams, Margaret

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Blanco River Cypress Creek Water Association

Clean Water Action

Driftwood Historical Conservation Society

Hays Trinity Groundwater Conservation District

Protect Our Waters

RPC Investments

Save Barton Creek
Save Our Springs

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Dudley, Brian

Hibberd, Lucy Reed

Inscore, Joanne

Morrison, Heather

Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Root, Jeff

Shaw, Kara
Shaw, Jeff
Smith, Walt
Stevens, Farish Burns

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

RPC Investments

Umari Partners

A
Abernathy, Don
Abernathy, Miles
Adams, Ric
Albert, Alfred
Alison, Stephen
Alpers, Bejamin
Ambrose, Effie
Ambrose, Roderick B
Anderson, Martha
Andrews, William
Archer, Aaron
Archer, Joanna
Arvin, John
Ascot, Karen
Aulick, Michael

B
Bacot, Christi
Baker, Kindal
Baker Blum, Karen
Barnes, Richard
Bass, Jon
Beck, Ariane
Beggs, IV, Richard O
Belote, David
Berger, Vernon
Berlin, LuAnne
Biel, Jamie C
Blackburn, Carter
Bomar, Ashleigh
Bomar, Mark L
Born, Glenda
Bornstein, Nathan
Bosselman, Annette
Boyer, Jackie
Boyer, MacKenzie
Boyer, Maxton
Braden, Al
Broussard, Kathyrn
Brown, Shannon
Brown, Stephanie
Brown-Hill, Martha
Burk, Ashley
Burk, Henry
Burkle, Ryan
Burns, Holton Latham
Burns, Reed C

C
Canada, Donna
Canion, Judy
Carleton, Martha
Carlson, Sherri
Casarez, Anthony
Casarez, Kathy
Chase, Richard
Clark, James
Cluiss, Kelly
Cole, Mason
Colwell, Ariel
Colwell, Jonathan
Comparan, Jennifer
Connell, Ann
Connell, David
Connell, Harper
Connell, Sarah
Cook, Annice
Cook, Dennis
Cook, Diane
Cook, Susan
Cotter, Maureen
Cowan, Christine
Cowan, Travis
Craig, Elizabeth
Crossett, Carter
Crossett, Gregory
Crossett, Lynn
Cullen, Jane
Cutler, Casey

D
Darrow, Anya
Davey, Matt
Davis, Dena
Delacruz, Angela
Delacruz, Anthony
Delacruz, Jared
Dement, Dennis
Dement, Mary Ann
Dodd, Victoria
Donovan, David
Donovan, Linda
Donovan, Madeleine
Duster, Marc

E
Eason, Sharell
Eckols, Shelby
Elizarraras, Lisa
Ellis, Dodi
Ellis, Jessica
Elsner, Glenna
Engel, Melanie

F
Faust, Sarah
Ferris, Julie
Ferris, Roger
Fleming, Lila Virginia
Fleming, Patrick
Foster, David
Francis, Taylor
Franco, Olivia
Friedman, Elisa

G
Garreffa, Melanie
Granger, Garrett
Green, Zachary
Gremillion, Barbara
Gremillion, Steve
Grubert, Norma Jeanne

H
Hampton, Rachel
Hand, Bill
Henry, Stewart
Herczog, Deborah
Hibberd, Lucy Reed
Hollis, Noel M
Homesley, Elton
Homesley, Norma
Horton, Erin
Howat, Teri
Hudson, Bodie
Huey, Jake
Hunziker, Heather

I
Ice, Lauren
Ipsan, Elle

J
Jackson, Melinda
Jackson, Ronald
Johnston, Michael
Jones, Norma

K
Kanetzky, Marty
Kellerman, Dick
Kelley, Dylan
Kloppe, Chris
Krasusky, Chris

L
Lacker, Steve
Lai, Tonya
Landry, Kent
Lecca, Vincent
Lee, Kyuwan
Lehman, Catherine
Litch, Tim
Lyles, Sophia

M
Madden, Matt
Mancha, Rosa
Marvin, Fiora
Mathys, Nike
McCarthy, Heather
McCarthy, Robert
McCrea, Holly
McEllin, Loren
McCully, David
Meacham, Martha
Middleton, Kieth
Milner, Lauren
Mings, Mary
Moeller, Jill
Moncrieff, Bradford
Moncrieff, Will
Montgomery, Timothy
Morrison, Heather
Mulroy, Megan
Myers, Stephanie

N
Naiser, Craig
Nasipak, Christopher
Newlan, Chris
Newman, Eric
Newton, Christopher L
Nguyen, Hang

O
Ohmstede, Abby
Oliver, Bill
Olmstead, Dale
Ortegon, Raul
Olyer, Michelle
Owen, Toby

P
Patten, Jessica
Peables, Sunday
Peddie, Emma
Picotte, Jennifer
Pinkerton, Mary
Pitts, Cristal C.
Pitts, Jake
Pitts, Kate
Pitts, Wes
Plassmann, Charles
Pope, Stephanie
Portillo, Theresa
Posen, Thomas
Pruett, Diane
Pruett, Knox
Pryor, Peggy
Pyka, Jerra

R
Reazer, Traci
Recendez, Oscar
Reimers, Jean
Reynolds, Richard
Rhodes, Peggy
Rhodes, Darrell
Roe, Brian T
Rogers, Karyn
Rogers, Linda K
Rolfes, Kevin
Root, Jeff
Ryan, Pamela

S
Schreck, Page
Schwarz, Jason
Seeklar, Paulo R
Shaw, Micah
Shock, Andrex
Shurley, Clayton
Sigmund, Chandra
Sigmund, Kevin
Smith, Becki
Smith, Kim
Stasiak, Dan
Stehlin, Christy
Steimle, Robert
Stern, Dolores
Stevens, Farish Burns
Stone, Jennifer
Stonebaker, K.M.
Strain, Christine
Straube, Melissa
Strauss, Steve
Stuart, Ann
Sturtz, Laura
Sullivan, Bree
Sullivan, John
Sullivan, Patrice
Sutter, Charles

T
Tansey, Laura
Taylor, Deborah
Till, Alfred
Till, Mary Ann
Toskey, Elsa
Trotter-Weynandt, Cynthia
Turbow, Bruce
Tyler, Patricia

U
Upchurch, Ryan

Urban, Betsy H.
Urban, Stahl

V
Vacek, Patrick
Valdes, Leopoldo
Valle, Israel
Varteressian, Chris
Varteressian, Eileen
Varteressian, Peter
Viagran, Crystal

W
Watson, Thomas
Wayley, Roy
Weaver, Wyatt
Wells, Kathy
Wells-Barrettt, Dana
Weynandt, Jack
Wheaton, Merry
White, David
Willard, Susan
Williams, Samatha
Williams, Sara
Williamson, Courtney
Willard, Susan
Wills, Callie
Wittenberg, Peter M
Wolkind, Edward
Wolkind, Elizabeth
Wolkind, Emily
Wong, Jen
Wottrich, Jerel

Y
Yorke, Ben
Young, John

Groups, Organizations and Governmental Entities

Barton Springs Edwards Aquifer Conservation District

City of Austin

Greater Edwards Aquifer Alliance

Protect Our Water

RPC Investments

Texas Parks and Wildlife Department

Umari Partners

Attachment 18
RTC Comment 83
Persons that Noted Onion Creek is a Tier 3 Waterbody

Dement, Dennis
Dement, Mary

Homesley, Elton
Homesley, Norma

Jones, Norma

Phillips, Jan

Reimers, Jean
Rhodes, Peggy

Smith, Kim

Till, Alfred

Groups, Governmental Entities & Organizations

Abernathy, Don
Abernathy, Miles
Albert, Alfred
Alison, Stephen
Alpers, Bejamin
Ambrose, Effie
Ambrose, Roderick B
Anderson, Martha
Ascot, Karen

Baker, Kindal
Barsotti, Janelle
Beck, Ariane
Beggs, Richard
Berger, Vernon
Blackburn, Carter
Born, Glenda
Boyer, Jackie
Boyer, MacKenzie
Boyer, Maxton
Braden, Al
Broussard, Kathyrn
Brown, Stephanie
Burk, Ashley
Burk, Henry
Burkle, Ryan
Burns, Holton Latham
Burns, Reed C

Campo, Mary Jo
Carleton, Martha
Casarez, Anthony
Casarez, Kathy
Chase, Richard
Cole, Mason
Colwell, Ariel
Colwell, Jonathan
Connell, David
Cotter, Maureen
Crossett, Gregory

Dargahi, Regina
Davis, Dena
Delacruz, Angela
Delacruz, Anthony
Delacruz, Jared
Donovan, David
Donovan, Linda
Donovan, Madeleine
Duster, Marc

Elizarraras, Lisa

Ferris, Julie
Ferris, Roger
Flemming, Virgina
Foster, David
Franco, Olivia

Garreffa, Melanie
Grubert, Norma Jeanne

Hall, Larry
Harrod, Andrew
Haynes, Steve
Hibberd, Lucy Reed
Horton, Erin
Howat, Teri
Huey, Jake
Hunziker, Heather

Ipsan, Elle

Joao, Jose

Lacker, Ann
Lacker, Steve
Landry, Kent
Lyles, Sophia

McCarthy, Heather
McCarthy, Robert
McEllin, Loren
Milner, Lauren
Mings, Mary
Moeller, Jill
Moncrieff, Bradford
Morrison, Heather
Moss, Karen
Moss, Kylie

Nasipak, Christopher
Navarro, Leslie
Newlan, Chris
Newman, Eric
Ohmstede, Abby
Oliver, Bill
Olyer, Michelle

Peables, Sunday
Pinkerton, Mary
Pitts, Cristal
Pitts, Wes
Pruett, Diane
Pruett, Knox
Reazer, Traci
Recendez, Oscar
Roe, Brian T
Rolfes, Kevin
Root, Jeff
Rutledge, Mark
Ryan, Pamela

Seeklar, Paulo R
Shaw, Jeff
Shaw, Kara
Shurley, Clayton
Sigman, Cypress
Sigmund, Chandra
Sigmund, Kevin
Smith, Gordon
Soback, Andrew
Stasiak, Dan
Steimle, Robert
Stevens, Farish Burns
Strauss, Steve
Stone, Jennifer
Stonebraker, K. M.
Sullivan, Bree
Sullivan, John
Sullivan, Patrice
Sutter, Charles

Thompson, Tim

Urban, Stahl

Vacek, Patrick
Vanek, Stephanie
Varteressian, Chris
Varteressian, Eileen
Varteressian, Peter

Wells, Kathy
Wells-Barrettt, Dana
Weynandt, Jack
Wheaton, Merry
Williams, Margaret
Williams, Samatha
Williams, Sara
Williamson, Courtney
Wills, Callie
Wittenberg, Peter M
Wolkind, Edward
Wolkind, Elizabeth
Wolkind, Emily
Wong, Jen
Yorke, Ben

Groups, Organizations and Governmental Entities

Barton Springs Edwards Aquifer Conservation District

Clean Water Action

Driftwood Historical Conservation Society

Protect Our Water

RPC Investments

Save Our Springs

Texas Parks and Wildlife Department

Umari Partners,

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Hibberd, Lucy Reed

Oyler, Michelle

Pitts, Wes
Pitts, Cristal

Root, Jeff

Shaw, Jeff
Shaw, Kara
Slade, Raymond
Stevens, Farish Burns

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

City of Austin

Lower Colorado River Authority

Protect Our Water

RPC Investments

Save Our Springs

Sierra West Property Owners Association

Texas Parks and Wildlife Department

Umari Partners

Albert, Alfred
Aulick, Michael

Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Catterson, Jocelyn

Hibberd, Lucy Reed

Moncrieff, Will

Oyler, Michelle

Pitts, Cristal
Pitts, Wes

Root, Jeff

Shaw, Jeff
Shaw, Kara
Stevens, Farish Burns

Groups, Governmental Entities & Organizations

City of Austin

Protect Our Water

RPC Investments

Save Our Springs

Umari Partners

Abel, Melissa
Archuleta, David

Baker, Kindal
Beggs, Richard
Biel, Jamie C
Bohnert, Ken
Brown, Shannon
Brown-Hill, Martha

Cassidy, Cynthia Luongo
Church, Casey
Citizen, Concerned
Cluiss, Denise
Concerned, Citizen
Connollly, Tara
Cook, Susan
Cook, Taylor
Crossett, Carter
Crossett, Gregory
Crossett, Lynn
Cutler, Casey

Dement, Dennis
Dement, Mary
Dargahi, Regina
Dodd, Victoria

Flemming, Virginia
Freteluco, Stevie
Frith, R.

Guerrero, Andria
Guerrero, Mark

Hastings, Mark
Herczog, Deborah
Homesley, Elton
Homesley, Norma
Hubbell, Steven

Jackson, Melina
Jones, Norma

Kellerman, Dick
Kirk, Laura Ann

Lewis, Suzy
Lindermann, Elizabeth

Martin, Ronny
McNeil, C.E.
Moody, Christopher

Nesby, Louis
Nguyen, Hang

Oliver, Bill
Owen, Toby

Pigg, Gail
Pitts, Cristal
Pitts, Kate

Reimers, Jean
Reynolds, Richard
Rhodes, Darrell
Rhodes, Peggy
Rogers, Linda K
Root, Jeff
Ryan, Pamela

Shaw, Canyon
Shaw, Kara
Shaw, Micah
Smith, Gordon
Smith, Kim
Stobart, Liz
Strauss, Steve

Till, Alfred
Till, Mary
Trotter, Laura
Tundall, Shelly
Turbow, Bruce

Valdes, Leopoldo
Venhuizen, David

Westwood, Lisa
Whiting, Alyssa
Wiggins, Beverley
Williams, Margaret
Williamson, Courtney
Wills, Callie
Wilmore, Mike, Lt. Col.

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Blanco River Cypress Creek Water Association

Driftwood Historical Conservation Society

Protect Our Water

Attachment 23
RTC Comment 111
Persons Concerned with the Results of Studies Performed by Barton Springs Edwards Aquifer Conservation District and Hays-Trinity Groundwater Conservation District

Baker, Kindal
Bastone, Ashley
Beggs, Richard
Belote, David
Brown-Hill, Martha
Brown, Rick
Burns, Holton Latham
Burns, Reed C

Cook, Susan
Cowan, Christine
Cowan, Travis
Cutler, Casey

Dupnik, John

Guerrero, Mark
Guerrero, Andria

Haydon, Charles
Hibberd, Lucy Reed

Landry, Kent

Miller, Harry
Moncrieff, Bradford

Olmstead, Dale
Oyler, Michelle

Palmer, Virginia
Pigg, Gail Ann
Plassman, Charles

Rogers, Linda
Root, Jeff
Ryan, Pamela

Stevens, Farish Burns
Smith, Craig

Wayley, Roy
Weynandt, Cynthia Trotter
Weynandt, Jack
Williams, Margaret
Williamson, Courtney

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Blanco River Cypress Creek Water Association

City of Austin

Clean Water Action

Driftwood Historical Conservation Society

Lower Colorado River Authority

Protect our Water

RPC Investments

Save Our Springs

Texas Parks and Wildlife Department

The Hays Trinity Groundwater Conservation District

Wimberley Water Supply Corporation

Attachment 24
RTC Comment 112
Persons Suggesting Additional Study of the Risks to the Trinity Aquifer

Beggs, Richard
Bohnert, Ken
Burns, Holton Latham
Burns, Reed C

Cluiss, Kelly

Dement, Dennis
Dement, Mary

Gilroy, Mary

Hibberd, Lucy Reed
Homesley, Elton
Homesley, Norma

Jones, Norma

Oyler, Michelle

Pitts, Cristal
Pitts, Wes
Phillips, Jan

Root, Jeff
Reimers, Jean
Rhodes, Peggy

Shaw, Jeff
Shaw, Kara
Smith, Kim
Stevens, Farish Burns

Thomas, Linda
Till, Alfred
Till, Mary
Turbow, Bruce

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Driftwood Historical Conservation Commission

Hays Trinity Groundwater Conservation District

Hill Country Alliance

RPC Investments

Umari Partners

Wimberley Water Supply Corporation

Attachment 25
RTC Comment 116
Persons Concerned about the Negative Impact of the Discharge on Onion Creek as a Source of Drinking Water

Anderson, Martha

Baker, Kindal
Beggs, Richard
Burns, Holton Latham
Burns, Reed C

Canion, Judy
Cook, Susan

Faust, Sara

Grubert, Norma

Hibberd, Lucy Reed

Ice, Lauren

Moncrieff, Bradford
Moncrieff, Will

Oyler, Michelle
Olmstead, Dale

Pitts, Cristal
Pitts, Wes
Patman, Jason
Pigg, Gail
Plassman, Charles

Root, Jeff

Shaw, Jeff
Shaw, Kara
Shaw, Micah
Smith, Craig
Stevens, Farish Burns
Strauss, Steve

Tate, William
Turbow, Bruce

Weynandt, Cynthia Trotter
Weynandt, Jack
Williams, Margaret

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

Blanco River Cypress Creek Water Association

Protect Our Water

RPC Investiments

Save Our Springs

Umari Partners

Attachment 26
RTC Comment 117
Persons Generally Concerned that the Discharge from the Dripping Springs WWTF Would Adversely Impact Groundwater Supplies, Including Drinking Water Wells, the Edwards Aquifer, or the Trinity Aquifer

A
Abel, Melissa
Alison, Stephen
Alpers, Bejamin
Ambrose, Effie
Ambrose, Roderick B
Anderson, Martha
Ascot, Karen

B
Baker, Kindal
Bartline, Chad
Beggs, Richard
Belote, David
Berger, Vernon
Blackburn, Carter
Bohnert, Ken
Born, Glenda
Boyer, Jackie
Boyer, MacKenzie
Boyer, Maxton
Braden, Al
Brown, Stephanie
Burk, Ashley
Burk, Henry
Burkle, Ryan
Burns, Holton Latham
Burns, Reed C

C
Camp, Jim
Casarez, Anthony
Casarez, Kathy
Chase, Richard
Cluiss, Kelly
Cole, Mason
Colwell, Ariel
Colwell, Jonathan
Cook, Susan
Cotter, Maureen
Cullen, Jane
Czarnocki, Paul

D
Dargahi, Regina
Delacruz, Angela
Delacruz, Anthony
Delacruz, Jared
Dement, Dennis
Dement, Mary Ann
Donnelly, Sophia
Donovan, David
Donovan, Linda
Donovan, Madeleine
Dupnik, John
Duster, Marc

E
Ellis, Dodi
Erwin, Charlotte

F
Ferris, Julie
Ferris, Roger
Franco, Olivia

G
Garreffa, Melanie
Greene, Tom

H
Haydon, Charles
Herczog, Deborah
Hibberd, Lucy Reed
Hollis, Noel M.
Homesle, Elton
Homesley, Norma
Horton, Erin
Howat, Teri
Huey, Jake
Hunziker, Heather

I
Ice, Lauren

J
Joao, Jose
Jones, John
Jones, Norma

K
Kelley, Dylan
Kirk, Laura Ann
Krasusky, Chris

L
Lacker, Ann
Lacker, Steve
Lyles, Sophia

M
McCarthy, Heather
McCarthy, Robert
McEllin, Loren
Milner, Lauren
Mings, Mary
Miser, Wesley
Moeller, Jill
Moncrieff, Bradford
Moncrieff, Will
Mulroy, Megan

N
Nasipak, Christopher
Newlan, Chris
Newman, Eric
Nguyen, Hang

O
Ohmstede, Abby
Owen, Toby
Oyler, Michelle

P
Peables, Sunday
Pigg, Gail
Pilkington, Larry F
Pitts, Wes
Plassman, Charles
Posen, Thomas
Pruett, Diane
Pruett, Knox

R
Reazer, Traci
Recendez, Oscar

Attachment 26
RTC Comment 117
Persons Generally Concerned that the Discharge from the Dripping Springs WWTF Would Adversely Impact Groundwater Supplies, Including Drinking Water Wells, the Edwards Aquifer, or the Trinity Aquifer

Reimers, Jean
Rhodes, Darrell
Rhodes, Peggy
Roe, Brian T
Rolfes, Kevin
Root, Jeff

S
Scallon, Chris
Schwarz, Jason
Seeklar, Paulo R
Shaw, Canyon
Shaw, Kara
Shurley, Clayton
Sigmund, Chandra
Sigmund, Kevin
Slade, Raymond
Smith, Kim
Soback, Andrew
Stasiak, Dan
Steimle, Robert
Stevens, Farish Burns
Stone, Jennifer
Stonebraker, K. M.
Strauss, Steve
Sullivan, Bree
Sullivan, John
Sullivan, Patrice
Sutter, Charles

T
Till, Alfred
Till, Mary Ann
Trotter, Laura
Tyler, Patricia

U
Upchurch, Ryan

V
Vacek, Patrick
Varteressian, Chris
Varteressian, Eileen
Varteressian, Peter
Venhuizen, David
Viagran, Crystal

W
Wells, Kathy
Wells-Barrettt, Dana
Wheaton, Merry
Wiliams, Samatha
Williams, Sara
Williamson, Courtney
Wittenberg, Peter M
Wolkind, Edward
Wolkind, Elizabeth
Wolkind, Emily
Wong, Jen

Y
Yorke, Ben

Groups, Governmental Entities & Organizations

Blanco River Cypress Creek Water Association

City of Austin

City of Buda

Driftwood Historical Conservation Society

Greater Edwards Aquifer Alliance

Hays Trinity Groundwater Conservation District

Hill Country Alliance

Lower Colorado River Authority

Protect Our Water

RPC Investments

Save Our Springs

Sierra West Property Owners Association

Attachment 27
RTC Comment 119
Persons Concerned about the Negative Impact of Fecal Coliform or Coliform on Drinking Water Wells

Bohnert, Ken

Cluiss, Kelly

Dement, Dennis
Dement, Mary

Homesley, Elton
Homesley, Norma

Jones, Norma

Phillips, Jan

Reimers, Jean
Rhodes, Peggy

Smith, Kim

Till, Alfred
Till, Mary

Groups, Governmental Entities & Organizations

Driftwood Historical Conservation Society

Bohnert, Ken
Bornstein, Nathan

Cluiss, Kelly

Dement, Dennis
Dement, Mary Ann

Homesley, Elton
Homesley, Norma

Jones, Norma

Plassmann, Charles

Reimers, Jean
Rhodes, Peggy
Rhodes, Darrell

Smith, Kim
Swientek, Travis

Till, Mary Ann
Till, Alfred

Venhuizen, David

Groups, Governmental Entities & Organizations

Protect Our Water

Attachment 29
RTC Comment 144
Persons Concerned with Dripping Springs' Planning Process

Beggs, Richard
Biel, Jamie C
Bornstein, Nathan
Buse, Shelly

Cook, Susan
Crossett, Gregory

Haynes, Lori

Inscore, Joanne

McCully, David
Moody, Christopher Jack

Omas, Jeremy

Shaw, Jeff
Smith, Craig

Groups, Governmental Entities & Organizations

Protect Our Water

Adams, Amanda
Albert, Alfred
Aulick, Michael

Beggs, Richard
Bomar, Ashley
Burns, Holton Latham
Burns, Reed C

Cowan, Christine
Cowan, Travis
Crossett, Gregory

Erwin, Charlotte

Hibberd, Lucy Reed
Holder, Kathleen

Moody, Christopher
Jack

Owen, Toby
Oyler, Michelle

Pitts, Cristal C.
Pitts, Wes

Root, Jeff

Ryan, Pamela

Shaw, Jeff
Shaw, Kara
Smith, Becki
Stevens, Farish Burns

Urban, Betsy
Urban, Stahl

Weynandt, Jack
Williams, Margaret

Groups, Governmental Entities & Organizations

Barton Springs Edwards Aquifer Conservation District

Protect Our Water

Save Our Springs

Attachment 31
RTC Comment 29
Persons Concerned about the Negative Impact of the
Dripping Springs Discharge on Endangered Species

Albert, Alfred

Beggs, Richard
Bohnert, Ken
Burns, Holton Latham
Burns, Reed C

Cluiss, Kelly
Cutler, Casey

Dement, Dennis
Dement, Mary

Friedmann, Elis

Haydon, Charles
Hibberd, Lucy Reed
Homesley, Elton
Homesley, Norma

Jones, Norma

Moncrieff, Bradford
Mulroy, Megan

Oyler, Michelle

Phillips, Jan

Reimers, Jean
Rhodes, Peggy
Root, Jeff

Smith, Kim
Stevens, Farish Burns

Till, Alfred
Till, Mary

Groups, Governmental Entities & Organizations

Barton Springs/Edwards Aquifer Conservation District

City of Austin

Driftwood Historical Conservation Society

Protect Our Water

RPC Investments

Save Our Springs

Texas Parks and Wildlife Department

The Longhorn Stream Team

Umari Partners

Comment 3:
Bill Foulds
John Kroll

Comment 6:
Wes Pitts

Comment 7
Wes Pitts

Comment 9:
Bradford Moncrieff

Comment 10:
Casey Church
Bradford Moncrieff

Comment 11:
Susan Cook
Jonathan Janek
Joanne Inscore
Estelle Murchison

Comment 12:
Richard Beggs
Ann Lacker

Comment 13:
Susan Cook

Comment 14:
Patrick Rose

Comment 16:
Gail Pigg
BRCCWA

Comment 17:
Richard Beggs
Jeff Shaw
Kara Shaw
BSEACD
Umari Partners

Comment 19:
Jeff Slocum

Comment 20:
TJ Higginbotham

Comment 21:
Wes Pitts
Save Barton Creek Assoc.

Comment 22:
LCRA

Comment 23:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Amanda Chapa
Gregory Crossett
Lucy Reed Hibberd
Farish Burns Stevens
Pamela Ryan
Cynthia Trotter-Weynandt
RPC Investments

Comment 24:
Alfred Albert
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Mary Gilroy
Lucy Reed Hibberd
Taylor Houston
Michelle Oyler
Cristal Pitts
Wes Pitts
Jeff Root
Kara Shaw,
Jeff Shaw
Farish Burns Stevens
BSEACD,
City of Austin
POW
RPC Investments
SOS
TPWD
Umari Partners

Comment 25:
Jeff Shaw

Comment 26:
Cheryl Miller

Comment 27:
Brian Dudley

Comment 28:
Wes Pitts

Comment 30:
TJ Higginbotham

Comment 31:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Jeff Root
Farish Burns Stevens
RPC Investments

Comment 32:
Elisa Friedman
Longhorn Stream Team

Comment 33:
Elton Homesley
Norma Homesley
Ann Lacker

Comment 34:
Longhorn Stream Team

Comment 35:
Cheryl Miller
Jason Patman

Comment 36:
Wes Pitts

Comment 37:
Andria Guerrero
Mark Guerrero
Karyn Rogers
Mark Rutledge
BSEACD
GEAA

Comment 38:
Kelly Davis
Wes Pitts
POW
SOS

Comment 41:
Alfred Albert
Michael Aulick
City of Austin

Comment 42:
BSEACD

Comment 43:
Patrick Murphy

Comment 44:
Crissy Kinley
Sierra West POA

Comment 45:
Andrew Backus
Kindal Baker
Casey Cutler
Deborah Herczog
Mark Rutledge
Kara Shaw
Becki Smith
Barbara Vinson.
SOS
POW

Comment 47:
Michael Aulick

Comment 48:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Jeff Root
Farish Burns Stevens
Jeff Shaw
Kara Shaw
RPC Investments

Comment 49:
SOS
POW

Comment 51:
Patrick Murphy
BSEACD

Comment 53:
Alfred Albert

Comment 54:
City of Austin
SOS
POW

Comment 55:
Kindal Baker
Andrew Harrod
Christian Lipscomb
Longhorn Stream Team
POW
SOS

Comment 56:
SOS
POW

Comment 57:
BSEACD

Comment 58:
Jeff Root

Comment 59:
Dale Olmstead

Comment 61:
Holton Latham Burns
Reed Cawthra Burn,
Lucy Reed Hibberd
Farish Burns Stevens
RPC Investments

Comment 62:
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Farish Burns Stevens
RPC Investments

Comment 63:
Wes Pitts

Comment 64:
Wes Pitts

Comment 65:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Cristal Pitts
Wes Pitts
Jeff Root
Farish Burns Stevens
Jeff Shaw
Kara Shaw
RPC Investments
Umari Partners

Comment 66:
Wes Pitts

Comment 67:
Alfred Albert
Jeff Root
BSEACD
City of Austin
POW
SOS

Comment 68:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Farish Burns Stevens
Michelle Oyler
Jeff Root
Cristal Pitts
Wes Pitts
Kara Shaw
Jeff Shaw
POW
RPC Investments
Umari Partners

Comment 69:
David Connell

Comment 70:
Ron Crane

Comment 71:
Tim Litch
POW
SOS

Comment 72:
Kindal Baker
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Kelly Davis
Lucy Reed Hibberd
John Jones
Patrick Murphy
Dale Olmstead
Michelle Oyler
Farish Burns Stevens
Cristal Pitts
Wes Pitts
Charles Ray
Jeff Root
RPC Investments,
Umari Partners
SOS
POW

Comment 73:
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Farish Burns Stevens
RPC Investments

Comment 75.
POW
SOS

Comment 76:
Ann Lacker
Cristal Pitts
Wes Pitts

Comment 79:
Sierra West POA

Comment 80:
Wes Pitts

Comment 81:
Lauren Ice
Jeff Root

Comment 84:
David Venhuizen

Comment 85:
Dale Olmstead

Comment 87:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Wes Pitts
Jeff Root
Farish Burns Stevens
City of Austin
LCRA
RPC Investment
POW
SOS
TPWD

Comment 88:
BSEACD
City of Austin
LCRA
TPWD

Comment 89:
Martha Anderson,
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Cristal Pitts
Wes Pitts
Jeff Root
Jeff Shaw
Kara Shaw
Farish Burns Stevens
RPC Investments
Umari Partner

Comment 90:
Colin Dudley

Comment 91:
BSEACD

Comment 93:
Alfred Albert

Comment 94:
Alfred Albert
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Jeff Root
Raymond Slade, Jr.
Farish Burns Stevens
David Venhuizen
City of Austin
LCRA
RPC Investments
SOS

Comment 95:
Kindal Baker
Pamela Ryan
POW
SOS

Comment 96:
Alfred Albert
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Cristal Pitts
Wes Pitts
Jeff Root
Kara Shaw
Jeff Shaw
Farish Burns Stevens
BSEACD
City of Austin
LCRA
POW
RPC Investments
SOS
Umari Partners,

Comment 97:
BSEACD,

Comment 98:
City of Austin

Comment 99:
Craig Naiser
Bill Oliver
Steve Strauss
Clean Water Action

Comment 100:
Linda Kaye Rogers
BSEACD

Comment 102:
City of Austin
POW
SOS

Comment 103:
City of Austin
HCA

Comment 104:
Alfred Albert
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Jeff Root
Cristal Pitts
Wes Pitts
Kara Shaw
Jeff Shaw
Farish Burns Stevens
BSEACD
City of Austin
LCRA
POW
RPC Investments
SOS
Umari Partners

Comment 105:
POW
SOS

Comment 106:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Jeff Root
Farish Burns Stevens
RPC Investments

Comment 108:
Kindal Baker
Martha Hill Brown
Casey Cutler
Virginia Fleming
Harry Miller
Bill Oliver
Jason Patman
Wes Pitts
Jeff Root
Canyon Shaw
Micah Shaw
Betsy Urban
Deborah Wark
Cynthia Trotter-Weynandt
Jack Weynandt

Comment 109:
Wes Pitts

Comment 110:
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Mr. Pitts
Farish Burns Stevens
Margaret Williams
RPC Investments.

Comment 113:
Linda Kaye Rogers
HCA
HTGCD

Comment 114:
Wes Pitts

Comment 115:
Norma Grubert

Comment 118:
HTGCD

Comment 120:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Jeff Root
Kara Shaw
Jeff Shaw
Farish Burns Stevens
RPC Investments

Comment 121:
BSEACD
GEAA

Comment 122:
BSEACD
City of Austin
POW
SOS

Comment 123:
GEAA

Comment 124:
Nichole Graves
Wes Pitts

Comment 125:
Wes Pitts

Comment 126:
Dennis Cook

Comment 127:
Cindy Cassidy
Wes Pitts

Comment 128:
POW

Comment 129:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd

Comment 129: (Cont'd)
Michelle Oyler
Jeff Root
Cristal Pitts
Wes Pitts
Kara Shaw
Jeff Shaw
Farish Burns Stevens
RPC Investments
POW

Comment 130:
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Farish Burns Stevens
RPC Investments

Comment 131:
Steve Beers
Kelly Davis
Todd Fleming
Jeff Root

Comment 132:
Wes Pitts

Comment 134:
Virginia Fleming
Renee Mauzy

Comment 136:
Jeffrey Olsen
BSEACD

Comment 137:
Wes Pitts
BSEACD

Comment 138:
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Farish Burns Stevens
BSEACD
RPC Investments

Comment 139:
Holton Latham Burns
Reed Cawthra Burns,

Comment 139: (Cont'd)
Lucy Reed Hibberd
Farish Burns Stevens
RPC Investments

Comment 140:
Richard Beggs
Holton Latham Burns
Reed Cawthra Burns
Lucy Reed Hibberd
Michelle Oyler
Jeff Root
Farish Burns Stevens
RPC Investments

Comment 141:
Ken Bohnert
Kelly Cluiss,
Dennis Dement
Mary Dement
Charles Haydon
Elton Homesley
Norma Homesley
Norma Jones
Jan Phillips
Jean Reimers
Peggy Rhodes
Kim Smith
Alfred Till
Mary Till
DHCS

Comment 142:
Richard Beggs
David Connell
Charles Haydon
Steven Hubbell
Melinda Jackson
Karen Nutt
Jeff Root
Becki Smith
DHCS

Comment 143:
Victoria DeBerry
Richard Beggs
Jeff Root
Michelle Oyler
RPC Investments
POW

Comment 143: (Cont'd)
Umari Partners

Comment 144:
Susan Cook
Lori Haynes
Joanne Inscore
Jeff Shaw
Craig Smith
POW

Comment 145:
Betsy Urban

Comment 146:
Susan Cook

Comment 147:
Gail Pigg
BRCCWA,

Comment 148:
Elisa Friedman,
Longhorn Stream Team

Comment 149:
Jane Wesson

Comment 150:
Cheryl Miller

Comment 151:
RPC Investments

Comment 152:
Keenan E. Smith

Comment 153:
Sirnivas Gummadi

Comment 154:
David Connell

Comment 155:
Sarah Miser

Comment 156:
John Jones

Comment 157:
John Jones

Comment 158:
Devra Morton

Comment 159:
POW
SOS

Comment 160:
BSEACD

Attachment 33

General summary comparing the QUAL-TX model originally developed and submitted by the applicant's representatives with the modified version of the QUAL-TX model used by TCEQ staff for review of the permit application.

Model Parameter	General Comments	Applicant's Model	TCEQ Modified Model
Model Segmentation (Onion Creek)	Same in Applicant's model & TCEQ model, including same beginning & ending locations		
Model Segmentation (Walnut Springs)	Same in Applicant's model & TCEQ model other than portion upstream of proposed discharge point	First reach begins 0.96 km upstream of proposed discharge point and extends downstream to 0.1 km upstream of confluence with Onion Creek	First reach in applicant's model subdivided into two reaches for TCEQ model so portion upstream of proposed discharge point could be turned off to avert potential modeling issues
Reach Numbering	Reach numbering off by one between the two models, due to Walnut Springs reach subdivision, as noted above		All Walnut Springs & Onion Creek reach numbers downstream of proposed discharge point are one greater in TCEQ model.
Element Numbering	Element numbering not affected by Reach renumbering (same in both models)		
Headwater Flow (Walnut Springs)	Same in both models	No headwater flow	No headwater flow
Headwater Flow (Onion Creek)	Insufficient justification provided by applicant or available from Surface Water Quality Monitoring (SWQM) or U.S. Geological Survey (USGS) streamflow gages for modeled headwater flow greater than	0.3 cfs	0.1 cfs

Model Parameter	General Comments	Applicant's Model	TCEQ Modified Model
	default 0.1 cfs for perennial stream		
Hydraulic Coefficients	Significant differences	Used 'Velocities & Depths' hydraulic calculations method (default for Louisiana version of model). Some calculations for hydraulic coefficients included flow assumptions without sufficient supporting evidence provided. Hydraulic coefficients for some reaches consistent with TCEQ defaults.	Used 'Widths & Depths' hydraulic calculations method (default for Texas version of model). Converted from applicant's 'Velocities & Depths' hydraulic coefficients where reproducible & deemed appropriate, but modified (in some cases to defaults) where Applicant's coefficients could not be replicated or were deemed to not be supportable, or where other site-specific data-based adjustments were applicable.
Sediment Oxygen Demand (SOD)	TCEQ modeling SOPs & MOA with EPA for uncalibrated QUAL-TX modeling require minimum SOD of 0.35 g/m^2-day in advective (free-flowing) reaches, and SOPs provide methodology for derivation of appropriate SOD values for pool/ pond reaches.	Used SOD of 0.10 g/m^2-day throughout model (all reaches).	Used SOD of 0.35 g/m^2-day in advective reaches and derived appropriate SOD values for pool/ pond reaches using multiple 'no-load' model runs (SOD = 0.35 g/m^2-day or higher in all pool/pond reaches).
Reaeration Rates	Reaeration rates (advective & pool/ pond reaches) in applicant's model consistent with	'Texas Equation' for advective reaches ($K_2 = 1.923 (V^{0.273}/ D^{0.894})$, where K_2 = reaeration rate	'Texas Equation' for advective reaches ($K_2 = 1.923 (V^{0.273}/ D^{0.894})$, where K_2 = reaeration rate

Model Parameter	General Comments	Applicant's Model	TCEQ Modified Model
	TCEQ modeling protocols; unchanged in TCEQ model.	(per day), V = velocity (meters/sec), D=depth (meters)). For pools/ponds, $K_2 = K_L/D$ with K_L= 1.0, so K_2=1/depth (per day).	(per day), V = velocity (meters/sec), D=depth (meters)). For pools/ponds, $K_2 = K_L/D$ with K_L= 1.0, so K_2=1/depth (per day).
Other Rates	Anaerobic BOD1 decay rate, Organic nitrogen decay rate, Organic nitrogen settling rate, and Denitrification rate adjusted.	Applicant's model included some outdated rates from an earlier version of QUAL-TX.	Model rates updates to be consistent with current TCEQ default QUAL-TX modeling protocols.
Model Temperature (Onion Creek)	Summertime is typically most critical period for DO modeling. Some differences between Applicant's summer model temperature derivation & TCEQ summer model temperature derivation.	Data from 4 Onion Creek SWQM stations (no summertime data available at one additional station examined). Model temperature = 29.04˚C.	Data from 6 Onion Creek SWQM stations. Slightly different methodology used for calculation of summertime model temperature, to be consistent with TCEQ modeling SOPs. Model temperature = 28.5˚C.
Model Temperature (Walnut Springs, et al)	Applicant & TCEQ both used default summertime model temperature of 30.5˚C for Walnut Springs, since no SWQM data available for Walnut Springs specifically, and Onion Creek SWQM station data likely inappropriate for use as surrogate.	Walnut Springs model temperature = 30.5˚C. Model temperature for other tributary stream reaches in watershed also set at 30.5˚C (but they have no contributing flows, so doesn't impact modeling results for Onion Creek).	Walnut Springs model temperature = 30.5˚C. Turned off other tributary reaches in model by setting reach temperatures to '0.0' to avert minor modeling issues. These reaches all only 10 meters long with no flows, so no impact.
Chlorophyll 'a'	Different methodologies used to select model chlorophyll 'a' inputs.	Applicant indicated that they calculated individual station mean chlorophyll 'a' values for Onion	Derived overall summertime chlorophyll 'a' values from Onion Creek SWQM

Model Parameter	General Comments	Applicant's Model	TCEQ Modified Model
		Creek SWQM stations at Highway 150 (4.9 µg/L) & at Mount Gainor Road (1.5 µg/L). For calculations, treated values below detection limits as the detection limit values (with multiple samples reported below detection levels, especially at Mount Gainor Road station). Submitted two versions of model, varying only chlorophyll 'a' values: one with chlorophyll 'a' = 2.0 µg/L & one with chlorophyll 'a' = 0.0 µg/L.	stations at Highway 150, Mount Gainor Road, & FM 1826. Per usual TCEQ DO modeling practice, for data values shown as '<' values, used half-value of the reported '<' value in calculations, though for these samples, '<' values ranged from '<0.25 µg/L' to '<10 µg/L'. Resultant median (rather than mean) value was 1.0 µg/L (or '<2 µg/L'). Used chlorophyll 'a' value of 1.0 µg/L in model.
Manning's 'n'	Roughness coefficient, used to compute advective dispersion, but has minimal impact on model results.	No Manning's 'n' value included in model.	Used default value of 0.035.
Pool/Pond Dispersion	TCEQ practice is to not include pool/pond dispersion in QUAL-TX models unless site-specific information is available to validate or calibrate the model input values.	Used dispersion value of 0.15 m^2/sec in some pool/pond reaches.	Reset dispersion to 0.0 m^2/sec in all pool/pond reaches.
Dam Aeration (& waterfall aeration)	TCEQ practice is to not include dam aeration (or waterfall aeration) in QUAL-TX models	Model includes aeration equation formulation factors for 23 dams on Onion Creek & for a	Turned dam (& waterfall) aeration inputs off. Also omitted final 4 dams from model

Model Parameter	General Comments	Applicant's Model	TCEQ Modified Model
	unless site-specific information is available to validate or calibrate the model input values.	small (dry-at-the-time) waterfall on Walnut Springs.	to reduce total number of dams/waterfalls included in model to 20 (max allowable in QUAL-TX v9.32). Model results not impacted by reduction in number of dams, since dam aeration turned off.
Background Dissolved Oxygen Concentrations: Headwater DO (Onion Creek)	Background (ambient) DO data used to develop appropriate headwater DO concentrations.	Headwater DO in model derived using summer model temperature and a percent DO saturation mean(?) value (83.82%) calculated from paired temperature & DO data from Onion Creek SWQM station at Pursley Road, upstream of proposed discharge location. Unclear from applicant's report if percent saturation from year-round data or summertime-only. Headwater DO = 6.44 mg/L.	Headwater DO in model derived using summer model temperature & a percent DO saturation median value (82.97%) calculated from paired summertime temperature & DO data (including six 24-hour DO sampling events) from Onion Creek SWQM station at Pursley Road, upstream of proposed discharge location. Headwater DO = 6.42 mg/L.
Background Dissolved Oxygen Concentrations: Headwater DO (other than Onion Creek)	All other streams in model, including Walnut Springs, have a headwater flow of 0.0 cfs in both the applicant's model & the TCEQ model, so headwater DO concentrations for these streams are immaterial.		

Model Parameter	General Comments	Applicant's Model	TCEQ Modified Model
Background Dissolved Oxygen Concentrations ('No-load' Target DO)	Background (ambient) DO data used to develop target DO values for 'no-load' model runs for derivation of appropriate SOD values for pool/ pond reaches.	Applicant did not use 'no-load' run approach to set SOD values for pool/pond reaches (so 'no-load' target DO concentration not applicable).	Target DO concentration for 'no-load' model runs (to set SOD values for pool/ pond reaches) derived using summer model temperature & a percent DO saturation median value (88.94%) calculated from paired summertime temperature & DO data (including ten 24-hour DO sampling events) from six Onion Creek SWQM stations. Used data from all 6 stations since Onion Creek pool/pond reaches extend throughout the length of the model. 'No-load' target DO = 6.88 mg/L.