



**Other Staff Member(s):**

| <b>Role</b>  | <b>Name</b>   |
|--------------|---------------|
| Investigator | CAROL MOULTON |
| QA Reviewer  | BRENT CANDLER |
| Supervisor   | JEFF TATE     |

**Associated Check List**

| <b><u>Checklist Name</u></b>                         | <b><u>Unit Name</u></b> |
|------------------------------------------------------|-------------------------|
| EQUIPMENT MONITORING AND SAMPLING<br>revised 06/2013 | Sampling 09-09-2014     |
| DIVERSION POINT                                      | 10805383302             |
| EQUIPMENT MONITORING AND SAMPLING<br>revised 06/2013 | Sampling 10-08-2014     |
| RECONNAISSANCE INVESTIGATION                         | WRPERM 08-5383A         |
| COMPLAINT INVESTIGATION - Water Rights               | COMP                    |
| DIVERSION POINT                                      | 10805383301             |

**Investigation Comments:****INTRODUCTION**

An investigation was conducted in response to two complaints (Incident No. 202998 and 203148) submitted to the Texas Commission on Environmental Quality (TCEQ) DFW Region on August 28, 2014, and September 3, 2014. The complainants alleged that the Town of Addison was not meeting several conditions of their Water Rights Permit (Permit No. 08-5383A). The complainants specifically allege the following:

1. Addison initiated construction and impounded water without a permit.
2. Addison has failed to maintain adequate continuous daily flow as required by the permit.
3. Addison has been using a different aquifer than what is specified in the permit as an alternate source of make-up water. Specifically, the permit requires a Trinity Aquifer well and Addison constructed a Woodbine Aquifer well.
4. Addison has failed to maintain a riparian buffer of native vegetation as required by the permit.
5. Water from the Woodbine Aquifer fails to meet Texas Surface Water Quality Standards.
6. Make-up water from the well was not put into the reservoirs for at least 14 months after Addison began impounding water.
7. Lack of flow has caused pooling of stagnant water creating a risk of West Nile virus.
8. Ecological impact alleged due to Addison's use of the Woodbine well and failure to pump sufficient make-up water into the reservoirs.

The complaints were located at Vitruvian Park in the Town of Addison, situated in northern Dallas County. Site visits were conducted on September 9, 2014, and October 8, 2014. On September 12, 2014, an Exit Interview Form (EIF) requesting records was emailed to Mr. Jason Shroyer, Assistant Director of Infrastructure Operations & Services for the Town of Addison.

During the investigation, the Regional Office received input from the TCEQ Litigation Division and the TCEQ Office of Water (OW) in determining compliance with portions of the Water Rights Permit 08-5383A.

During the investigation and subsequent review of documents, the investigator identified violations of Water Rights Permit 08-5383A.

On January 9, 2015, a meeting was held with Mr. Shroyer and other representatives of the Town of Addison. During the meeting an updated EIF was provided to Mr. Shroyer (see attached EIFs).

The violations noted as a result of the investigation will result in a Notice of Enforcement due to one of the violations being a Category A violation according to the Enforcement Initiation Criteria (EIC).

On January 20, 2015, a Notice of Enforcement (NOE) Letter will be sent to Mr. Shroyer.

**GENERAL FACILITY AND PROCESS INFORMATION**

The Town of Addison currently holds the Water Rights Permit No. 08-5383, which was originally granted

December 18, 1991, and subsequently amended on May 20, 2011 (see attached Water Use Permit 08-5383 and amendment 08-5383A). On August 5, 2010, a change of ownership was made for water right 08-5383 and the new owner was identified as the Town of Addison. The current permit authorizes the owner to impound up to a total of 12.13 Acre Feet (AF). Reservoir No.1 is authorized to impound 2.85 AF and Reservoir No.2 is authorized to impound 9.28 AF for recreational and public parks purposes. Also, the certificate allows the owner to use a portion of the bed and banks of Farmer Branch Creek to recirculate water. The diversion points are located on Farmers Branch Creek, tributary of the Elm Fork of the Trinity River below Lake Lewisville (River Segment No. 0822).

#### BACKGROUND INFORMATION

On June 22, 2012, a water rights complaint investigation was conducted for the Vitruvian Park location by the DFW Regional Office (see Investigation No. 1020634), and no violations were issued as a result of the investigation. The alleged complaint was that Farmers Branch Creek was experiencing lower than normal flows as a direct result of the construction of the Vitruvian Park impoundments. Additionally, the alleged complaint indicated that the creek had gone dry on a number of occasions.

On August 1, 2012, a second water rights complaint investigation was conducted (see Investigation No. 1027178), and no violations were issued as a result of the investigation. The second alleged complaint was identical to the previous alleged complaint.

#### ADDITIONAL INFORMATION

On September 9, 2014, Mr. Michael Sessions (lead investigator) and Ms. Carol Moulton arrived at Vitruvian Park in order to conduct a water rights complaint investigation. The investigators arrived at the site around 9:20 am. The investigators were unable to locate any town personnel at the time of the investigation. Mr. Sessions called the Town of Addison and notified them of the complaint and requested their presence at the location. Mr. Jason Shroyer arrived at the site and the investigators notified him of the complaint and requested that he walk them around the site (see attached aerials and photos). The investigators informed Mr. Shroyer that as a component of the investigation, they would need to sample the commingled groundwater as it is leaving the reservoirs. While at the site, the investigators sampled from both Reservoirs No.1 and No.2 (see attached field notes and Chain of Custody). The investigators inquired about the location of the groundwater well used at the site and the general operation of the well and reservoirs. Mr. Shroyer explained that the system has been in use for a few years and that they were currently pumping groundwater into Reservoir No.2 in order to maintain it full. At the time of the investigation, the investigators were able to note that inflows were entering Reservoir No.2 and that water was flowing over the weirs located at Reservoir No.2 and No. 1. Before leaving the site, Mr. Sessions informed Mr. Shroyer that a records request would be provided, requesting documentation to support compliance with certain permit provisions. The investigators left the site around 10:45 am.

On September 12, 2014, Mr. Sessions emailed an EIF to Mr. Shroyer. The EIF consisted of six record requests for items that were specific to the complaint or the Water Rights Permit 08-5383A (see attached EIF dated 09-12-2014).

On September 23, 2014, the sampling results from the September 9th site visit were received (see attached). The results of the sampling event indicated sulfate levels above the Water Quality Standard for Segment No. 0822 (see attached Water Quality Standard Criteria for Segment No. 0822). After evaluating the sampling results, the investigator determined that a second round of sampling, with additional points, would be needed to further determine compliance with Special Condition 6(E) of the permit.

On October 1, 2014, a meeting was requested and hosted by the Town of Addison regarding the recent complaint investigation. The meeting attendees include: Mr. David G. Cabrales (Attorney, Locke Lord LLP), Mr. Richard J. Franchek (Attorney, Locke Lord LLP), Mr. Joseph Schartz (KBA Enviro Science LTD), Ms. Lisa A. Pyles (Director of Infrastructure Operations & Services for the Town of Addison), Mr. Jason Shroyer, Mr. Tony Walker (TCEQ DFW Regional Director), Mr. Jeff Tate (TCEQ DFW Water Section Manager), Mr. James Sallans (TCEQ Litigation Division), and Mr. Sessions. During the meeting, the Town of Addison provided an overview of the conditions at Vitruvian Park as well as some background about the location. At the conclusion of the meeting the Town of Addison indicated that the requested items from the provided EIF would be submitted within the next week.

On October 6, 2014, the Town of Addison submitted documents in response to the records request (see attached documents referred to as Town of Addison Response). Portions of the response are included in this report, however; the entire response will be retained in the regional file and the TCEQ Central Records Office.

On October 8, 2014, the investigators conducted a second site visit with the purpose of conducting additional sampling. The investigators arrived at the site around 2:15 pm. The investigators noted that the site had not received any rain for the three day period leading up to the site visit. During the site visit, sampling was conducted at the outfall of Reservoir No.1 and 2 as well as inflows to Reservoir No.2 and the groundwater well currently being used by the entity. The investigator again noted that water was flowing into Reservoir No. 2 and that water was flowing over the weirs located at the outfall of Reservoir No. 2 and No. 1. Additionally, the investigator noted that the well had been operating for several hours before the site visit. The investigators left the site around 3:50 pm (see attached field notes and Chain of Custody).

On October 15, 2014, the sampling results from the October 8th site visit were received (see attached Xenco Laboratories results). The results of the sampling event indicated that both inflows and outflows from the reservoir complex met the Water Quality Standard for Segment 0822. Also, the investigator noted that the results of the sampling of the groundwater well did not meet the standard; however, the permit only states that the commingled flow from the reservoirs would have to meet the Water Quality Standard for Segment 0822.

On December 19, 2014, the TCEQ OW sent a letter to the Town of Addison regarding a letter submitted to their office on February 7, 2013 (see attached letters).

On January 9, 2015, a meeting was held with Mr. Shroyer and other town representatives and the investigator informed them of the violations that would be issued as a result of the investigation. An updated EIF was provided during the meeting.

On January 13, 2015, additional evaporative loss and metering data was submitted to the regional office in response to the EIF meeting.

The violations issued as a result of the investigation are listed below.

Failure to obtain a water right prior to impounding, diverting, using state water, or begin construction of any work designed for the impounding, diverting, or using state water, specifically Title 30 Texas Administrative Code (TAC) Chapter 297.11 and Texas Water Code (TWC) Chapter 11.121. The Town of Addison obtained authorization to construct a dam and impound state water on May 20, 2011. Aerial photography from March 31, 2011, as well as photographic documentation submitted by the Town of Addison indicated that state water was impounded prior to the May 20, 2011 authorization date. In the response submitted by the Town of Addison and during the EIF meeting, the entity indicated that they had been pumping water around Reservoir No. 2 and in doing so they believe they were not impounding state water; however, photographs and aerial imagery show water in the impoundment prior to the amendment being issued and the construction of the impoundment was documented prior to the issuance of the amendment.

Failure to maintain a Trinity Aquifer groundwater well as the alternate source of water, specifically Title 30 TAC Chapter 297.45(e), TWC 11.1351, and Water Rights Permit 08-5383A Special Condition 6(B). The entity acknowledged that they had drilled a Woodbine Aquifer well instead of a Trinity Aquifer well as indicated in their permit amendment. A drilling report provided by the entity indicated that the well drilled at the site was approximately 650 feet in depth (State of Texas Well Report Tracking No. 276112). In the response submitted by the Town of Addison and during the EIF meeting, the entity indicated that they had submitted a letter informing the OW regarding the use of the Woodbine Aquifer Well and believed they had received sufficient approval from OW; however, the permit states that an amendment should be submitted for the change in the alternate source of water or voluntarily forfeit the amendment.

Failure to supplement the reservoirs with water from the groundwater well in the amount of a minimum of 5.82 acre feet per year, specifically Title 30 TAC Chapter 297.45(e), TWC 11.1351, and Water Rights Permit 08-5383A Special Condition 6(B) of Water Rights Permit 08-5383A. The permittee provided records of the groundwater well operation for the site and the records indicated that the well was not put into operation until approximately August 1, 2012; however, the permit and subsequent requirement to place groundwater into the reservoir began on May 20, 2011 (approximately 14 months). The permittee was unable to account for the potential use of state water due to evaporation. Any requirement by the permittee to pump groundwater into the impoundment should be made up in a reasonable time period. A review of the data submitted by the entity revealed that the entity was including the surface area of both reservoirs and they had included force evaporation in their calculations. During communications with OW, it was determined that calculated evaporative losses should include just the area of

Reservoir No. 2 and should not include a forced evaporative loss factor. In the response submitted by the Town of Addison and during the EIF meeting, the entity indicated that they believe that once the well was put into operation they had provided enough water to off-set the total amount for the year; however, the amount of evaporative losses should be replaced in a reasonable amount of time to ensure that the entity does not capture state water that they are not entitled to impound. During the meeting, it was identified that the entity was using a method that was not accurately representing the requirement of the permittee. Later that day the investigator reevaluated the calculation done in the office and was able to only identify two months where the entity was failing to replace the evaporative loss (February and April of 2014). On January 13, 2015, Addison submitted a revised evaporative loss table (see attached table). The table identified one month that was failing to replace the evaporative loss from Reservoir No. 2. In addition to the 14 months prior to the well being placed into operation, one additional month (April 2014) was identified in which the entity did not replace the evaporative losses from Reservoir No. 2.

Failure to maintain a riparian buffer zone of permanent native vegetative around the perimeter of the reservoir complex at a density to ensure complete coverage at maturity, specifically Title 30 TAC Chapter 297.45(e), TWC 11.1351, and Water Rights Permit 08-5383A Special Condition 6(D). During the site visits, the investigator noted that the area around Reservoir No.2 did not have any native vegetation around any portion of the impoundment. The area around reservoir No. 2 contained Bermuda grasses (Genus Cynodon) and Bald Cypress trees (Genus Cryptomeria) within an average 50 foot perimeter of the reservoir. The investigator was unable to confirm that either of the species or genus, of the two noted above identified, were native to the North Central Texas area. The TCEQ OW confirmed that the term "reservoir complex" used in Special Condition 6(D), refers to both Reservoirs 1 and 2. As part of the response submitted by the town, the Town of Addison indicates that the landscaping plan for the area was identified in the Corps of Engineers 404 authorization that was submitted with the water rights application and the town maintains that they assembled and installed the landscaping according to the submitted documents. In the response submitted by the Town of Addison and during the EIF meeting, the entity indicated that landscape plan for the park was submitted with the original permit amendment and explained that they never intended for the landscape plan to include native vegetation within the 50 foot buffer. The entity believes that area and types of vegetation identified in the permit in Special Condition D was included in error; however, the permit does state that the vegetation should be native and it should be around the perimeter of both Reservoir No. 1 and 2.

The investigator was able to confirm some of the alleged complaints and a breakdown of the complaints and their compliance determination are listed below:

1. Addison initiated construction and impounded water without a permit. This allegation was confirmed and determined to be non-compliant. The entity had constructed and impounded state water prior to the amendment being granted.
2. Addison has failed to maintain adequate continuous daily flow as required by the permit. This item was determined to be unsubstantiated. The permit does not direct the entity to maintain a continuous daily flow of groundwater. Additionally, the only water required to pass over the weir in Reservoir No. 1 is inflows of state water that the entity is not entitled to impound. Also, the groundwater supplied to the reservoir complex is only intended to offset evaporation from Reservoir No. 2. The complaint indicates that evaporative losses should be made up from both impoundments, however; only the evaporative loss of Reservoir No. 2 is required in the amendment. During the two site visits conducted for the investigation, water was observed flowing over weir 1 and 2.
3. Addison has been using a different aquifer than that specified in the permit as an alternate source of make-up water. Specifically, the permit requires a Trinity Aquifer well and Addison constructed a Woodbine Aquifer well. This allegation was confirmed and determined to be non-compliant. The entity had constructed a Woodbine Aquifer well and not a Trinity Aquifer well, as required in the permit.
4. Addison has failed to maintain a riparian buffer of native vegetation as required by the permit. This allegation was confirmed and determined to be non-compliant. The entity had planted non-native plant species around the perimeter of Reservoir No. 2, within the 50 foot buffer zone.
5. Water from the Woodbine Aquifer fails to meet Texas Surface Water Quality Standards. This item was found to be unsubstantiated based on sampling done at the site during the investigation. Additionally, the permit places no water quality standard on the well water being placed in the impoundments. The permit only requires that the comingled discharge from Reservoir No. 1 and No. 2 should meet the Surface Water Quality Standard for segment 0822.
6. Make-up water from the well was not put into the reservoirs for at least 14 months after Addison began impounding water. This allegation was confirmed and determined to be non-compliant. The entity did not supply groundwater from May 20, 2011 to August 1, 2012 and did not meet the minimum 5.82 AF requirement

specified in the permit. Additionally, it was discovered that the entity was unable to offset the evaporation for at least one month once the well was put into operation.

7. Lack of flow has caused pooling of stagnant water creating a risk of West Nile virus. This item was determined to be outside the jurisdiction of the TCEQ and the Town of Addison was advised of the concern. Also, this item was referred to the Dallas County Health Department. Additionally, the investigator was unable to observe any pooling of stagnant water during the investigation.

8. Ecological impact alleged due to Addison's use of the Woodbine well and failure to pump sufficient make-up water into the reservoirs. The investigator was able to determine that the current well used at the site was non-complaint. It was also noted that the alternate source of water not being supplied to the reservoir complex. However, the investigator was unable to determine the ecological impact to the creek from the activities and previous operation of the reservoirs. The investigator notes that additional investigations along the area of the complaint will be conducted and may address or identify additional items that might affect flows in the creek.

As one of the main concerns raised by the complainants were the diminished flows in Farmers Branch Creek. An evaluation of aerial photographs for the area of the complaint were made and it was determined that further investigation of impoundments on and/or possible diversions from Farmers Branch Creek will be made and the results of those investigations reported in separate investigation reports.

On January 20, 2015, a NOE Letter will be sent to Mr. Shroyer.

A letter and a copy of the investigation will be sent to the complainants.

NOE Date: 1/20/2015

**OUTSTANDING ALLEGED VIOLATION(S)  
ASSOCIATED TO A NOTICE OF ENFORCEMENT**

Track Number: 557758

Compliance Due Date: To Be Determined

Violation Start Date: 1/14/2011

2B TWC Chapter 11.121  
30 TAC Chapter 297.11

**Alleged Violation:**

Investigation: 1195885

Comment Date: 01/20/2015

Failure to obtain a water right prior to impounding, diverting, using state water, or beginning construction of any work designed for the impounding, diverting, or using state water, specifically Title 30 Texas Administrative Code (TAC) Chapter 297.11 and Texas Water Code (TWC) Chapter 11.121. The Town of Addison obtained authorization to construct a dam and impound state water on May 20, 2011. Aerial photography from March 31, 2011, as well as photographic documentation submitted by the Town of Addison indicated that state water was impounded prior to the May 20, 2011 authorization date. Also, the photographs submitted show that construction of Reservoir No. 2 began prior to the issuance of the amendment. The investigator was able to document that the entity began construction and impounding state water in Reservoir No. 2 prior to the issuance of the Water Rights Permit Amendment 08-5383A.

**Recommended Corrective Action:** The entity should obtain a water rights authorization prior to the impoundment, diversion, or use of state water that they are not entitled to impound, divert, or otherwise use. On May 20, 2011, the entity was granted an amendment to that authorized the construction of Reservoir No. 2.

Track Number: 557759

Compliance Due Date: To Be Determined

Violation Start Date: 9/9/2014

2B TWC Chapter 11.1351

**30 TAC Chapter 297.45(e)****PERMIT WRPERM 5383, Special Condition 6.B.**

Permittee shall maintain and operate an alternate source of water with sufficient production to ensure no State water is used as a result of this amendment. Permittee has identified groundwater from the Trinity Aquifer as the alternate source of water for this project. To account for potential use of State water due to evaporation, Permittee shall supplement the reservoirs with water from the groundwater well in the amount of a minimum of 5.82 acre feet per year

**PERMIT WRPERM 5383, Special Condition 6.C.**

This amendment is issued contingent upon the Permittee's maintenance of the alternate source of water identified in Special Condition B. In the event the groundwater well will not be used as the alternate source, Permittee shall immediately cease impoundment of water under this amendment and either apply to amend this permit with documentation of the new alternate source of water, or voluntarily forfeit the amendment.

**Alleged Violation:****Investigation: 1195885**

Comment Date: 01/07/2015

Failure to maintain a Trinity Aquifer groundwater well as the alternate source of water, specifically Title 30 TAC Chapter 297.45(e), TWC 11.1351, and Water Rights Permit 08-5383A Special Condition 6(B). The entity acknowledged that they had drilled a Woodbine Aquifer well instead of a Trinity Aquifer well as indicated in their permit amendment. A drilling report provided by the entity indicated that the well drilled at the site was approximately 650 feet in depth (State of Texas Well Report Tracking No. 276112).

**Recommended Corrective Action:** The entity should either install a Trinity Aquifer well as indicated in the Water Rights Permit 08-5383A or submit a water right permit amendment in order to change the source of the required alternate water source.

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Track Number: 557760

Compliance Due Date: To Be Determined

Violation Start Date: 9/9/2014

**2B TWC Chapter 11.1351  
30 TAC Chapter 297.45(e)****PERMIT WRPERM 5383, Special Condition 6.A.**

This amendment does not allow Permittee to impound State water in Reservoir No. 2 or additional State water in Reservoir No. 1. Permittee shall provide and maintain suitable outlets in good working condition in the reservoirs to pass all inflows of State water downstream and maintain the reservoirs full. For purposes of this agreement, full shall mean the top of dam elevation for each reservoir.

**PERMIT WRPERM 5383, Special Condition 6.B.**

Permittee shall maintain and operate an alternate source of water with sufficient production to ensure no State water is used as a result of this amendment. Permittee has identified groundwater from the Trinity Aquifer as the alternate source of water for this project. To account for potential use of State water due to evaporation, Permittee shall supplement the reservoirs with water from the groundwater well in the amount of a minimum of 5.82 acre feet per year

**Alleged Violation:****Investigation: 1195885**

Comment Date: 01/16/2015

Failure to supplement the reservoirs with water from the groundwater well in the amount of a minimum of 5.82 acre feet per year, specifically Title 30 TAC Chapter 297.45(e), TWC 11.1351, and Water Rights Permit 08-5383A Special Condition 6(B) of Water Rights Permit 08-5383A. The permittee provided records of the groundwater well operation for the site and the records indicated that the well was not put into operation until approximately August 1, 2012; however, the permit and subsequent requirement to place groundwater into the reservoir began on May 20, 2011 (approximately 14 months). The permittee was unable to account for the potential use of state water due to evaporation. Additionally, the permittee had failed to provide enough groundwater to off-set the evaporative losses for April of 2014, as indicated in the evaporative loss table provided on January 13, 2015. Any

requirement by the permittee to pump groundwater into the impoundment should be made up in reasonable time period.

**Recommended Corrective Action:** The entity should maintain Reservoirs No. 1 and No. 2 full with an alternate source to ensure that the entity does not impound any state water the entity is not entitled to impound, except for the state water that the entity is allowed to impound under their senior right (08-5383, Granted December 18, 1991). All inflows into the reservoir complex that the entity is not authorized to impound should be passed downstream. The entity should supply groundwater in the amounts required to offset evaporation within a reasonable time period. Additionally, the entity may keep records to ensure compliance with this requirement.

**Track Number:** 557762

**Compliance Due Date:** To Be Determined

**Violation Start Date:** 9/9/2014

**2B TWC Chapter 11.1351**  
**30 TAC Chapter 297.45(e)**

**PERMIT WRPERM 5383, Special Condition 6.D.**

In order to protect the water quality of the reservoirs and the ecosystem of the water body downstream of the reservoirs, the Permittee shall maintain a riparian buffer zone of permanent vegetation around the perimeter of the reservoir complex averaging 50 feet in width with the exception of reasonable access areas. The buffer zone shall be graded to have a slope no greater than 15% where feasible and planted with native vegetation at a density to ensure complete coverage at maturity.

**Alleged Violation:**

**Investigation: 1195885**

**Comment Date:** 01/07/2015

Failure to maintain a riparian buffer zone of permanent native vegetative around the perimeter of the reservoir complex at a density to ensure complete coverage at maturity, specifically Title 30 TAC Chapter 297.45(e), TWC 11.1351, and Water Rights Permit 08-5383A Special Condition 6(D). During the site visits the investigator noted that the area around Reservoir No.2 did not have any native vegetation around any portion of the impoundment. The area noted around reservoir No. 2 contained Bermuda grasses (Genus Cynodon) and Bald Cypress trees (Genus Cryptomeria) within an average 50 foot perimeter of the reservoir. The investigator was unable to confirm that either of the species or genus, of the two noted above identified, were native to the North Central Texas area.

**Recommended Corrective Action:** The entity should either maintain the riparian buffer zone as described in the Water Rights Permit 08-5383A or submit a water right permit amendment in order to modify Special Condition 6(D) of the permit.

Signed   
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Environmental Investigator

Date 1/20/15

Signed   
\_\_\_\_\_  
Supervisor

Date 1-20-15

**Attachments: (in order of final report submittal)**

Enforcement Action Request (EAR)

Letter to Facility (specify type) : NUE

Investigation Report

Sample Analysis Results

Manifests

Notice of Registration

Maps, Plans, Sketches

Photographs

Correspondence from the facility

Other (specify) :

EIF, Permit, & Env Data

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