

SOAH DOCKET NO. 582-14-3427  
TCEQ DOCKET NO. 2013-2228-MWD

APPLICATION OF DHJB §  
DEVELOPMENT, LLC FOR § BEFORE THE STATE OFFICE  
A MAJOR AMENDMENT TO § OF  
TPDES PERMIT NO. WQ0014975001 § ADMINISTRATIVE HEARINGS

**PROTESTANTS PATRICIA GRAHAM, TERRELL GRAHAM, MARGIE HASTINGS,  
ASA DUNN, AND GREATER EDWARDS AQUIFER ALLIANCE’S  
REPLY TO EXCEPTIONS BY APPLICANT AND ED**

**TO THE HONORABLE SARAH RAMOS, ADMINISTRATIVE LAW JUDGE:**

COME NOW Protestants Patricia Graham, Terrell Graham, Margie Hastings, Asa Dunn, and Greater Edwards Aquifer Alliance, by and through their attorneys of record, and file their Reply to Exceptions to the ALJ’s Proposal for Decision (PFD).

**SUMMARY OF REPLY**

If the contested case hearing process serves its purpose, it is for the ALJ to weigh evidence by competing experts and to make factfindings and conclusions of law based on testimony and the other evidence in the record with respect to the issues specifically referred by the relevant agency. Its purpose is also to examine each permit application on a case-by-case basis, with the particular facts and circumstances attendant to a particular permit. The ALJ has properly fulfilled that role in this case. The role is not, contrary to the position advocated by the ED, to parrot the findings of the ED, or to blanketly assume that the ED witnesses are the “most clearly qualified”<sup>1</sup> to render evidence. And the ED’s notion that the recommendation for denial

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<sup>1</sup> ED Exceptions at 2. Also, the ED advocates that deference should be given to the ED, *id.* at 4-5, but deference does not extend to factual assertions and findings and does not insulate review of an agency’s legal interpretations that are arbitrary and capricious, or otherwise not in accordance with law.

amounts to “suspen[ding] the TPDES permitting program” is unsubstantiated hyperbole. The ALJ should reject such arguments and scare tactics by the ED in this case.

In their Exceptions, the ED and the Applicant mostly rehash arguments that have been previously considered by the ALJ and which were explicitly analyzed in the PFD. New arguments, especially those made by the Applicant, are inconsistent with the evidence presented at the hearing, are speculative or otherwise not supported by the record, or are irrelevant (*e.g.*, the words a lay witness uses to colloquially describe the proposed discharge route).

The ALJ correctly recommended denial of the Applicant’s permit because the discharge route is not a watercourse of the state. The Applicant’s argument that the colloquial use of the word “creek” disposes of the *legal* question of whether the discharge route constitutes a “watercourse” has no basis in Texas law. The ED’s overbroad argument that the discharge is into “water of the state” similarly ignores the specific legal criteria, outlined by the Texas Supreme Court, that are relevant to when a TPDES permit may be issued and into which bodies of water a discharge is legally permitted. As the PFD correctly stated, the Supreme Court of Texas has established a test for when a discharge is into a “watercourse.” In this case, the evidence at the hearing showed that the discharge route is not a watercourse because portions of it lack a defined bed and banks, are ephemeral in nature, contain vegetation, and are of diffuse surface drainage. The Applicant failed to meet its burden on this issue.

The ALJ also correctly recommended denial of the permit because the proposed discharge will create nuisance conditions and will otherwise unreasonably interfere with the Protestants’ existing uses and enjoyment of their property. The ALJ correctly relied on the regulatory standards found in Chapter 305, 307, and 309 in determining that nuisance conditions will occur as a result of the issuance of the permit amendment application. The ED and the

Applicant's arguments are misleading or erroneous for a number of reasons. Most importantly, their arguments disregard the important context of the existing uses of the discharge route in this case: the effluent is proposed to be discharged into a dry channel, undiluted, and both humans and livestock directly access and use the channel. The Applicant has failed to meet its burden of proving that the effluent will be safe for these existing uses.

Finally, the Applicant's repeated, nonsequiter assertion that this is a NIMBY case could not be further from the truth: a "NIMBY" case is one in which circumstances are occurring on a neighboring property adverse to the property owner. Here, this case is about adverse impacts occurring on the Protestants' own properties as a result of the Applicant's proposed activities. In fact, the Protestants' concerns would be limited, if not extinguished, if the adverse impacts were only occurring on the neighboring DHJB property and not on the Protestants' property. This pejorative characterization exemplifies the Applicant's continued disregard for the Protestants' legitimate concerns about adverse impacts in this case.

## **ARGUMENT**

### **I. The ALJ's ruling on the lack of a legal "watercourse" is well supported by both the facts and Texas case law.**

The Applicant had the burden to demonstrate, by a preponderance of the evidence, that the length of the discharge route is a watercourse. But, as the ALJ discussed at length in the PFD, the evidence showed that several portions of the discharge route lacked the legal character of a watercourse: the route lacks bed and banks, watercourse segments lack connectivity, and the route has vegetation atypical of a watercourse. These factual findings were the correct ones to make under established Texas case law. The ALJ has made no errors in the determination.

**A. The Applicant’s discussion of the state’s “superior right” to use a watercourse is an argument that simply begs the question of whether the discharge route is actually a watercourse.**

The Applicant argues that the state has “a right to transport water through watercourses for a public purpose.”<sup>2</sup> This simply begs the question of whether the discharge route is a watercourse of the state. The pertinent question is whether the discharge route is legally characterized as such a watercourse (*i.e.*, has the discharge route been properly characterized). No party disputes that the state has a right to transport water in a watercourse when the watercourse meets the legal test established in *Hoefs v. Short*. But Protestants do dispute that the discharge route meets this test or any other test regarding the existence of a watercourse.

**B. Colloquial use of the word “creek” is not dispositive of the legal characterization of the discharge route.**

In an attempt to recover from their failure to meet their burden, the Applicant went to great lengths to search the record for times when the word “creek” was used.<sup>3</sup> The laborious quoting from the record fails to assist the Applicant in meeting its burden for several reasons.

First, the fact that the Grahams and Hastings have taken to calling their historical drainage channel a “dry creek” has no bearing on the legal significance of whether the discharge route qualifies, *as a legal matter*, as a watercourse of the state. The fact that undersigned counsel also adopted this terminology in order to describe portions of the discharge route likewise has no bearing on its *legal* character. Colloquial statements made by a lay witness, or even an expert designated to testify on a completely unrelated issue, carry no weight to establish whether the discharge route is a watercourse of the state.

Second, the Protestants’ position has consistently been that the discharge route is not a watercourse of the state. This consistent position is evidence in Protestants’ testimony.

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<sup>2</sup> Applicant Exceptions at 3.

<sup>3</sup> Applicant Exceptions at 6–10; Appendix B.

Protestants' expert, Mr. Larry Dunbar, testified that there were portions of the proposed discharge route that do not have a defined bed and banks.<sup>4</sup> Mr. Terrell Graham also provided lay testimony about the history of the discharge route that afforded copious factual support for the ALJ's conclusion that the route is not a watercourse of the state.<sup>5</sup> The mere fact that the route was sometimes referred to colloquially as a "creek" does not undermine this consistent position.

Third, the Applicant's argument ignores what are actually the dispositive questions: whether the underlying facts show that the discharge route constitutes a watercourse or not; and whether the Applicant met its burden of proving that the discharge route is a watercourse. The ALJ used the correct legal framework, and the Applicant's arguments are a distraction from that.

**C. The ALJ used the correct legal standard, and the ED's argument about discharges into the "water of the state" is misleading.**

Texas case law dictates what evidence is relevant in making an inquiry about whether a discharge route meets the legal definition of a watercourse of the state. Texas law categorizes surface water into one of two types: diffuse surface water and water in a watercourse.<sup>6</sup> As the PFD describes in some detail, the Supreme Court of Texas has established a test for determining whether a waterbody is a watercourse of the state. A watercourse has (1) a defined bed and banks, (2) a current of water, and (3) a permanent source of supply.<sup>7</sup> The location of bed and banks and a channel must not be ephemeral in character.<sup>8</sup> A watercourse must be of such substantial, stable, and permanent character that its existence is easily recognized.<sup>9</sup> A watercourse generally contains little, if any, vegetation.<sup>10</sup> As a general rule, swales are not

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<sup>4</sup> Protestant Exhibit 4, 3:26-27.

<sup>5</sup> See Protestant Exhibit 1, 11:19 – 19:16.

<sup>6</sup> *Domel v. City of Georgetown*, 6 S.W. 3d 349, 353 (Tex. App.—Austin 1999).

<sup>7</sup> *Hoefs v. Short*, 273 S.W. 785, 787 (Tex. 1925).

<sup>8</sup> See PFD at Conclusion of Law #11 (citing *Hoefs*).

<sup>9</sup> PFD at Conclusion of Law #13 (citing *Hoefs*).

<sup>10</sup> PFD at Conclusion of Law #10 (citing *Hoefs*).

watercourses.<sup>11</sup> The ALJ clearly applied the correct legal test, considering legally relevant facts, to the question of whether or not the discharge route in this case is a watercourse of the state.

In its Exceptions, the ED makes several misleading arguments on this point. Despite previously arguing that the correct test was whether the discharge route is a watercourse of the state (and relying on *Hoefs* and *Domel*),<sup>12</sup> the ED now contradicts itself and argues that this inquiry “is not the correct standard.”<sup>13</sup> Instead, the ED argues that the correct standard is whether the discharge would be to water in the state.<sup>14</sup> The ED cites to Chapter 26 of the Texas Water Code for this statement. But this statutory provision authorizing the TCEQ to issue permits for the discharge of waste or pollutants into or adjacent to water in the state grants the agency the general power to issue several different kinds of permits.<sup>15</sup> It is not directly applicable here. In other words, this statutory provision and related definition of “water in the state” is not specific to TPDES permits. A TPDES permit cannot be issued in order to discharge into every kind of “water in the state” under the Chapter 26 definition. For example, the Code defines “water in the state” to include groundwater,<sup>16</sup> but a TPDES permit cannot be issued in order to discharge into groundwater. The ED’s suggestion that a TPDES permit could be issued for a discharge into any “water in the state,” including groundwater, as defined in the Texas Water Code, is both misleading and contrary to well-established Texas law.

Additionally, the ED’s argument is off point because there is not actually “water” (including “water in the state”) in the dry channel proposed for the discharge route. Testimony at the hearing established that the discharge route is dry under normal conditions. There is no

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<sup>11</sup> PFD at Conclusion of Law #15 (citing *Hoefs*).

<sup>12</sup> ED Closing Arguments at 22–23.

<sup>13</sup> ED Exceptions at 9.

<sup>14</sup> *Id.*

<sup>15</sup> See TEX. WATER CODE § 26.027(a).

<sup>16</sup> TEX. WATER CODE § 26.001(5).

water, flowing or otherwise, in the discharge route except during rainfall events. For this reason, the permit, if issued, would authorize the discharge of effluent, but not “into or adjacent to water in the state.” Notably, the definition of “water in the state” does specifically include “the beds and banks of all watercourses.”<sup>17</sup> Discharge routes without beds and banks (or otherwise not meeting the legal definition of “watercourse”) are not water in the state.

As mentioned above, Texas case law clearly establishes that surface water is either diffuse surface water or surface water in a watercourse.<sup>18</sup> Because a TPDES permit may not be issued to discharge effluent as diffuse surface water, the correct legal inquiry is whether or not a discharge route is in fact a watercourse of the state. If a discharge is not into a watercourse, then the effluent is legally characterized as diffuse surface water, and the discharge is prohibited. The ALJ in this case correctly applied this legal test and determined that the discharge route was not a watercourse.

Finally, the ED argues that the evidence demonstrates that the portions of the discharge route without bed and banks are grassy swales, and TCEQ “has consistently interpreted the Texas Water Code to provide that a discharge of treated effluent to a grassy swale may be authorized because the grassy swale conveys water in the state.”<sup>19</sup> No citation is provided for this assertion. More importantly, aside from the fact that evidence at the hearing demonstrated that portions of the discharge route are diffuse surface drainage and ephemeral in nature (*i.e.*, some portions are not even swales), the ED’s proposition is inconsistent with clear Texas law. As the ALJ noted, under *Hoefs*, a swale does not normally qualify as a watercourse.<sup>20</sup> The ED’s post-hoc rationalization that a swale is now a watercourse must be rejected.

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<sup>17</sup> *Id.*

<sup>18</sup> *Domel v. City of Georgetown*, 6 S.W. 3d 349, 353 (Tex. App.—Austin 1999).

<sup>19</sup> ED Exceptions at 13.

<sup>20</sup> PFD at Conclusion of Law #15 (citing *Hoefs*).

A contested case hearing was granted in order to make determinations on referred issues, and it is the ALJ's role to examine the particular facts of the case, apply these facts to the case law, and make a determination about the characterization of the watercourse. This is exactly what the ALJ has done in the PFD.

**D. The evidence shows that the discharge route lacks bed and banks, lacks connectivity, lacks a permanent source of supply, and contains natural vegetation, and these are the relevant inquiries for determining whether a watercourse exists.**

The evidence at the hearing conclusively demonstrated that the discharge route is not a watercourse because portions of it lack a defined bed and banks, are ephemeral in nature, contain vegetation, and are areas of diffuse surface drainage. Although the ALJ did not make findings on the lack of a permanent source of supply, the dry channel lacks water, and evidence showed that it only contains water a couple times of year. With such evidence, the Applicant could not meet its burden. Thus, the ALJ correctly determined that the discharge route is not a watercourse of the state.

Evidence from the Applicant, ED, and the Protestants all support the ALJ's conclusion. The Applicant's own consultant, SWCA, issued a report showing that areas on the Johnson Ranch property lack OHWMs and thus lack bed and bank characteristics.<sup>21</sup> The report described the aquatic resources as "ephemeral watercourses, an artificial waterbody, upland-vegetated swales, and areas of diffuse surface drainage."<sup>22</sup> The report also stated that connectivity along watercourse segments was "completely sever[ed]" at several places.<sup>23</sup>

Both the ED and the Applicant argue that, because this report was created for a different purpose (*i.e.*, assessing potential impacts to aquatic resources for the U.S. Army Corps of

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<sup>21</sup> Protestant Exhibit 1.9; PFD at 21.

<sup>22</sup> Protestant Exhibit 1.9.

<sup>23</sup> *Id.*

Engineers), it is somehow less persuasive for a determination of whether a watercourse exists under Texas law. But the fact that the report was created for a different purpose does not change the truthfulness of its underlying factual statements. The report clearly establishes facts demonstrating that bed and banks are lacking along watercourse segments, connectivity is severed along watercourse segments, and many areas are better characterized as diffuse surface drainage. These facts are directly relevant to the inquiry of whether the discharge route is a watercourse of the state. The ALJ was right to consider them.

Though they argue that the SWCA report should not be relied upon, both the Applicant and the ED rely on it for different purposes. The Applicant and the ED argue that photographs in the report show the existence of a watercourse. What needs to be mentioned, however, is that the photographs in this report were taken by SWCA on January 22, 2014,<sup>24</sup> and modification of this area of the Applicant's property had begun more than a month earlier. Protestant Exhibit 1.25 shows what this area of the Applicant's property (adjacent to the Protestants' property) looked like before construction began. These photographs clearly show that this area was a nearly flat, vegetated area prior to modification by the Applicant. That is, prior to modification by the Applicant, no features characterizing a watercourse existed in this portion of the discharge route.

Testimony from both the ED and the Protestants support the ALJ's findings. Ms. Brittany Lee testified that there were several areas upstream of the concrete culverts that "do not depict a defined bed and banks of a channel."<sup>25</sup> Mr. Larry Dunbar, after reviewing the SWCA report and photographs taken at the site, also testified that the channel lacked defined bed and banks on the Applicant's property.<sup>26</sup> Mr. Graham also testified that the "[o]n the west side [of Margie

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<sup>24</sup> Protestant Exhibit 1.9.

<sup>25</sup> ED-20, 19:1-3.

<sup>26</sup> Protestant Exhibit 4, 3:26-27.

Hastings' property] there aren't any discernible banks.”<sup>27</sup> Mr. Graham also testified about the historical development of the dry “creek” and discussed a number of USGS topographical maps and aerial images, dating from 1929 to 2011, which showed that the discharge route has historically not been considered an intermittent stream.<sup>28</sup>

Of note, the Applicant's own consultant, SWCA, prepared a report that further corroborates testimony about the discharge route. This report, which was unproduced by the Applicant, was obtained by Protestants in mid-February, 2015, and has been attached as Exhibit A to this Reply. In the report, SWCA notes that an area that comprises a portion of the discharge route is a “mid-twentieth century man-made drainage ditch and rock wall.” Exhibit A at 16. SWCA relies on some of the same USGS maps that Mr. Graham used to determine that what existed on the Graham-Hastings property was a man-made drainage ditch. This evidence substantiates Mr. Graham's testimony and the ALJ's conclusion regarding this portion of the proposed discharge route.

It is very clear that photographs and maps, including those submitted for the permit amendment application, do not show bed and banks along many portions of the discharge route.<sup>29</sup> The ED argues that the photographs in the application were taken at or near ground level and that they should not be used to determine the absence of the discharge route.<sup>30</sup> While these photographs are highly detailed and stand alone as evidence, these photographs, in conjunction with the findings of the SWCA report and the testimony of Ms. Lee, Mr. Dunbar, and Mr.

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<sup>27</sup> Protestant Exhibit 1, 8:31.

<sup>28</sup> In some of the testimony cited by the Applicant, some areas of the discharge route do have defined bed and banks on the Graham-Hastings property. This is consistent with the historical development of a man-made drainage channel that has been used over time. But the existence of bed and banks along some portions of the discharge route does not establish that the discharge route is a watercourse of the state, especially in light of the evidence showing that portions do lack bed and banks upstream of the concrete culvert and watercourse segments are completely severed along the discharge route.

<sup>29</sup> See PFD at 24.

<sup>30</sup> ED Exceptions at 13.

Graham, consistently support the ALJ's findings. Taken together, this evidence establishes that the discharge route is not a watercourse of the state.

The evidence at the hearing demonstrated that many portions of the discharge route lack defined bed and banks, are disconnected, contain vegetation, and otherwise have characteristics not consistent with being a watercourse of the state. Other portions of the proposed route may contain bed and banks, but that fact does not undermine the ALJ's determination. The ALJ was in the position to assess the evidence at the hearing, both controverted and uncontroverted, and weigh the various evidence. Statements by the ED and the Applicant, which point to some of the conflicting evidence, are nothing more than a rehash of what has already been considered by the ALJ. The Applicant has failed to meet its burden of proof on this issue, and the ALJ was correct to conclude that the discharge route was not a watercourse of the state.

**II. The ALJ's ruling on the adverse impacts to Protestants' properties is well supported by the facts and the law.**

While the state may have the right to use a watercourse, the Applicant does not have the right to create nuisance conditions and adversely impact adjacent or downstream property owners. The Applicant argues that because the discharge is into a watercourse "the state's superior right negates any impacts to the Protestants."<sup>31</sup> This cannot be the case. Even if the state has a right to issue permits authorizing discharges into watercourses, they cannot do so in violation of the agency's rules and regulations, including the requirement to minimize the possibility of exposing the public to nuisance conditions. As evidenced by Referred Issue A, a separate and proper legal inquiry is whether the proposed permit amendment will cause nuisance conditions or impact with the use and enjoyment of adjacent and downstream property. The ALJ

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<sup>31</sup> *Id.* at 12.

correctly concluded that the discharge from the proposed permit amendment will cause such conditions.

**A. The ALJ utilized the correct legal standard in its analysis of Issue A.**

The ED argues that the correct standard for the issue related to nuisance or other adverse impacts to adjacent or downstream landowners is whether the Applicant has “complied with all statutory and regulatory requirements.”<sup>32</sup> This is an unobjectionable statement, and one with which the ALJ adhered to in the PFD. In the PFD, the ALJ quoted from applicable portions of Chapter 307 (Texas Surface Water Quality Standards (TSWQS)) and Chapter 309 (Domestic Wastewater Effluent Limitation and Plant Siting). Among other things, these rules require TPDES permits to “minimize the possibility of exposing the public to nuisance conditions”<sup>33</sup> and to “maintain the quality of water in the state consistent with public health and enjoyment.”<sup>34</sup> Further, as OPIC noted in its Closing Arguments,<sup>35</sup> TCEQ rules prohibit “injury to persons or property or . . . invasion of other property rights.”<sup>36</sup> The ALJ correctly relied on these standards in determining that nuisance conditions will occur as a result of the issuance of the permit amendment application.

The ED argues that the use of the word “nuisance” cannot be one of “tort,”<sup>37</sup> but the ED does not seem to understand that, because the term “nuisance” is a legal term, the drafter of Rule 309.10 would not have accidentally used the word “nuisance” but meant something else. The drafter would have known about the background tort principles guiding this term. The ED’s argument that nuisance means something other than “adverse impact to use and enjoyment of

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<sup>32</sup> ED Exceptions at 6.

<sup>33</sup> 30 TEX. ADMIN. CODE § 309.10(b).

<sup>34</sup> 30 TEX. ADMIN. CODE § 307.1.

<sup>35</sup> OPIC Closing Arguments at 3.

<sup>36</sup> 30 TEX. ADMIN. CODE § 305.122(c).

<sup>37</sup> ED Exceptions at 6.

property” is simply wrong, and the ED does not explain what else “nuisance” as used in the TCEQ rules could possibly mean. (The ED’s consistent position at the hearing was that its review only looks at odor nuisances. But this is not consistent with the many rules that prohibit other nuisance conditions resulting from discharges of effluent.)

The fact that the ALJ made factfindings flowing from these legal standards—codified at Chapters 305, 307, and 309—that the ED does not like, is not a legal error by the ALJ. In other words, the ALJ has not misunderstood the legal standard when finding adverse impacts from, for example, children’s exposure to the undiluted, treated sewage water on the Graham-Hastings property.<sup>38</sup> Instead, this is a factfinding that there will be such an adverse impact in violation of the purpose of the TSWQS and Chapter 309’s requirement to minimize the public’s exposure to nuisance conditions. As the ALJ noted in the PFD, the Applicant failed to meet its burden on this issue at the hearing.<sup>39</sup>

**B. The ED’s argument overlooks the function and purpose of the contested case hearing and the fact that each permit is evaluated on a case-by-case basis.**

In their Exceptions, the ED argues that recommending the permit be denied amounts to a recommendation “that TCEQ suspend the TPDES permitting program” and that the ED “will be required to place all new and amendment TPDES permit application on hold.”<sup>40</sup> This parade of horrors is nothing more than an empty scare tactic, and it overlooks the purpose of a contested case hearing.

Denying this permit amendment application would clearly not require a suspension of the TPDES permitting program. It is the policy of the state to maintain the quality of water in the

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<sup>38</sup> ED Exceptions at 7.

<sup>39</sup> The Applicant repeatedly made mistakes about what standards applied to the permit amendment application and failed to contradict the Protestants’ evidence. *See* Protestants’ Closing Arguments at 64–66 (noting that the Applicant repeatedly misunderstood or misrepresented the stringency of the proposed permit amendment).

<sup>40</sup> ED Exceptions at 2.

state consistent with public health and enjoyment.<sup>41</sup> TCEQ's review of a TPDES permit or permit amendment application is a screening review against rules that may, as a general matter, be protective of public health and enjoyment, but this does not insulate this review from review once a contested case hearing is granted. For example, the TCEQ may determine that a standard permit for a temporary concrete batch plant is generally protective of human health. But a contested case hearing may be granted to determine, as a matter of fact, whether members of the public will be exposed, under the circumstances of a particular case, to nuisance conditions from the plant's operations that will impair the public's health.

Most permit applications are uncontested. But once a permit is contested, it is the ALJ's role to analyze the referred issues as a matter of fact to determine whether or not the Applicant has met its burden of complying with all applicable laws, rules, and guidance. In this case, the Commission referred for the ALJ's consideration the issue of whether the proposed permit amendment will create nuisance conditions or otherwise impact the use and enjoyment of adjacent or downstream property. The specific referral of nuisance issues creates a burden on the Applicant to prove that the permit amendment will not in fact create nuisance conditions on adjacent and downstream property. In examining this issue, the ALJ appropriately found, under the facts and circumstances of this particular permit, nuisance impacts would occur that violate TCEQ rules. This conclusion does not jeopardize the TCEQ's ability to continue its TPDES permitting program. It merely enacts the very purpose of contested case hearings on issues referred by the agency. The ED's scare tactic arguments must be rejected.

**C. The findings of adverse impact were grounded in trial testimony.**

The Applicant argues that many of the impacts proven by the Protestants at the hearing—including additional erosion, impairment of use by cattle, threat to the health of cattle, and

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<sup>41</sup> 30 TEX. ADMIN. CODE § 307.1.

diminished opportunity to use the creek bed—are speculative,<sup>42</sup> but offered little to no contrary evidence to prove that these impacts will not occur. In contrast to the cursory analysis offered by the Applicant in its Exceptions, the ALJ ground the findings of fact in expert testimony and other evidence heard during the hearing.<sup>43</sup>

In support of its argument that these impacts are speculative, the Applicant makes new assertions that are themselves speculative and inconsistent with the evidence it submitted at the hearing. For example, the Applicant quotes at length from the TCEQ’s Response to Public Comments, stating, without any basis, that “[a]quatic organisms are more sensitive to water quality components than terrestrial organisms,” and, therefore, cattle would not be negatively impacted by the discharge.<sup>44</sup> This lacks support or context, and no evidence was submitted in support of this proposition at trial. It hardly suggests that the PFD should be amended or that cattle will not actually be impacted by the discharge.

The fact is that the Applicant failed to meet its burden on the issue of nuisance impacts and impacts to cattle. In prefiled testimony, the Applicant’s witnesses repeatedly argued that the effluent was “Type 1 Effluent,” and therefore safe for animal consumption,<sup>45</sup> but testimony at the hearing established that the proposed discharge is not treated to Type 1 Effluent standards.<sup>46</sup> Incredibly, the Applicant witnesses did not know which TCEQ standards applied. The new, speculative “facts” that the Applicant now offers to argue for amending the PFD do not controvert the testimony offered by the Protestants that the discharge will adversely impact the cattle on the Graham-Hastings property.

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<sup>42</sup> Applicant Exceptions at 12–13.

<sup>43</sup> PFD at 9–13.

<sup>44</sup> Applicant Exceptions at 13.

<sup>45</sup> DHJB Exhibit 1.0, 14:10–12 (Mr. Hill stating that the plant will “produce what is called Type I Effluent”); DHJB Exhibit 5.0, 9:17–19 (Mr. Urratia testifying that the permit conditions “will produce a Type I effluent”).

<sup>46</sup> See Protestants’ Closing Arguments at 64–65.

With regard to Mr. Hill's testimony that he allowed his children to play in waters downstream of a wastewater treatment plant operated by the City of Boerne, this too does not undermine the ALJ's finding of unreasonable impairment and loss of use of enjoyment of the Graham-Hastings property.<sup>47</sup> First, there was no evidence offered that this activity was actually safe for his children. Second, and more importantly, there are distinct differences between the circumstances south of Boerne and at the Johnson Ranch discharge route. At Boerne, the plant discharges into a watercourse with constant flow, fed by freshwater and not solely by treated sewage. At the proposed site, the Graham-Hastings' channel is dry, and the granting of the proposed permit amendment will turn their property into a stream of undiluted, treated sewage. There is a clear difference in the potential impact to human health and loss of use of enjoyment for the Protestants in this case.<sup>48</sup>

The extraordinary circumstance of discharging effluent into a small, dry channel is highlighted by the TCEQ's own TSWQS rules, which contemplate a "mixing zone" where a permitted discharge mixes with receiving waters. The rules define a "mixing zone" as "[t]he area contiguous to a permitted discharge where mixing with receiving waters takes place."<sup>49</sup> None of the testimony offered in this case provided any quantifiable evidence of receiving waters. The weight of the testimony and evidence was that no receiving waters exist except a few days a year, during or shortly after significant rainfall.<sup>50</sup> This conclusion is supported by the

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<sup>47</sup> Applicant Exceptions at 14.

<sup>48</sup> Protestants did not contest and were not concerned about the Applicant's TLAP permit because any pollutants that reached their property would be much diluted by rain water. But no reasonable person expects to be able to recreate in and potentially consume undiluted effluent.

<sup>49</sup> 30 TEX. ADMIN. CODE § 307.3.

<sup>50</sup> This fact also supports another error in the ED's assumptions regarding and analysis of the permit amendment application. In performing its TSWQS review, the ED asserted that pools on the discharge route "appear to contain water and . . . therefore, the Standard Implementation Team determined the unnamed tributary to be intermittent with perennial pools." ED Response to Comments at 8. Chapter 307 defines an intermittent stream with perennial pools as one that "maintain persistent pools even when flow

assumptions of the TCEQ modelers for this permit amendment application, who estimated the amount of base flow as 0.0001 cubic meters per second and zero cubic meters per second.<sup>51</sup> The fact that the discharge is into a dry channel—resulting in undiluted effluent on the Graham-Hastings property—highlights the risks of harm to individuals and cattle who use the creek, as well as the unreasonable impairment and loss of use of enjoyment of the property.

Contrary to the Applicant’s suggestions, the ALJ’s conclusions regarding nuisance impacts are not speculative based on the evidence heard and weighed at the hearing. The Applicant attempts to make new arguments in its Exceptions based on facts that are unsupported by the hearing record and otherwise speculative. Under the particular circumstances of this case, including the fact that discharged effluent will be undiluted on the Graham-Hastings property under normal conditions, the potential impacts to the Protestants’ use of their property are significant and unreasonable. The ALJ did not err in making the findings of fact and conclusions of law in the PFD on this issue.

**D. The ED and the Applicant ignore the fact that the effluent is being discharged into a dry channel that humans and livestock use, and the ALJ’s order was protecting existing uses of the proposed discharge route.**

As the ED notes, the TSWQS require that “existing, designated, presumed, and attainable uses of aquatic recreation must be maintained.”<sup>52</sup> Protestants agree with this. But many of the arguments of the ED and the Applicant disregard the important context of this case: the effluent is proposed to be discharged into a dry channel, undiluted, and existing uses include both human and livestock access to and use of this dry channel.

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in the stream is less than 0.1 cubic feet per second.” 30 TEX. ADMIN. CODE § 307.3(34). No evidence was offered during the hearing that provided substantiation of “persistent pools” along the proposed discharge route when flow in the stream is less than 0.1 cubic feet per second.

<sup>51</sup> Hearing Tr. vol. III, 84:2–23 (testimony of Mr. Rudolph).

<sup>52</sup> 30 TEX. ADMIN. CODE § 307.4(j)(1).

Because the proposed discharge channel is dry, and because humans and livestock will be exposed to whatever is discharged into the channel, the regulations related to Type 1 effluent are instructive and relevant. Functionally, the proposed discharge of effluent by the Applicant in this case is very similar to land application: it is undiluted effluent discharged onto dry land. The regulations that are specifically applicable to and presumed protective in such circumstances are the Type 1 effluent standards.

The ED argues that Type 1 effluent is not the applicable standard when analyzing the quality of effluent that will be discharged under a TPDES permit.<sup>53</sup> The ED states that Type 1 effluent standards “applicable to Chapter 210 reuse authorizations are more stringent, given that they are directly applied to an area via an irrigation system.”<sup>54</sup> But, in fact, the factual circumstances requiring Type 1 are the closest approximation to the actual circumstances proposed by the permit amendment application here: the discharge will be of undiluted effluent into a dry channel that is accessible to the public. The Commission’s determination in the regulations that the stricter standards of Chapter 210 are necessary in such circumstances is support for the ALJ’s conclusion that the standards in the proposed permit amendment are not sufficiently protective under the particular circumstances in this case.

The TCEQ’s rules for effluent discharges to land to which the public has access are much stricter than those found in the permit amendment application. Chapter 309 states that:

All effluent discharged to land *to which the public has access* must be disinfected . . . All effluent discharged to land via a subsurface area drip dispersal system *to which there is a potential for public contact* shall be disinfected and shall comply with an [*E. coli*] bacteria effluent limitation of 126 colony forming units per 100 milliliters of water.<sup>55</sup>

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<sup>53</sup> ED Exceptions at 16.

<sup>54</sup> *Id.*

<sup>55</sup> 30 TEX. ADMIN. CODE § 309.3(g)(4) (emphasis added).

The proposed discharge, both because it will be discharged outside of a watercourse of the state and because it will be to a dry creek to which the public has access, must be disinfected to an *E. coli* limit of 126 CFUs/100ml in any grab sample in order to protect public health. The proposed permit amendment allows for a single grab of 399 CFUs/100ml per grab sample.<sup>56</sup> This is more than three times what is considered safe for unintentional human contact with undiluted effluent. The standards for Type 1 effluent are even stricter. Type 1 effluent uses include irrigation “or other uses in areas *where the public may be present* during the time when irrigation takes place or other uses where the public may come in contact with the reclaimed water.”<sup>57</sup> Among these other specific uses are for “[i]rrigation of pastures for milking animals.”<sup>58</sup> The water quality standards for such uses include limits of 20 CFU/100ml for a 30-day mean of *E. coli* and 75 CFU/100ml for a single grab.<sup>59</sup> Turbidity limits and limits for *Enterococci* also exist and are stricter than in the proposed permit amendment.<sup>60</sup>

The TCEQ’s water quality standards must be protective of existing, designated, presumed, and attainable uses.<sup>61</sup> On the Graham-Hastings property, human and livestock presence in the dry creek bed are among the existing uses of the property, and credible testimony established that humans and livestock will continue to access and, in the case of livestock, drink from the discharge route. The standards must protect for these existing and presumed uses. The standards for Type 1 effluent are specifically protective of irrigation of areas where livestock are fed and other areas in which the public may be present. The proposed discharge is functionally equivalent to the undiluted discharge of effluent to dry land. Because the permit amendment’s

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<sup>56</sup> See ED-1.

<sup>57</sup> 30 TEX. ADMIN. CODE § 210.32(1) (emphasis added).

<sup>58</sup> *Id.*

<sup>59</sup> 30 TEX. ADMIN. CODE § 210.33(1).

<sup>60</sup> *Id.*

<sup>61</sup> 30 TEX. ADMIN. CODE § 307.4(j)(1).

effluent limitations do not meet the Type 1 effluent standards (or the Rule 309.3(g)(4) standards), there is a presumption that the effluent will not be protective for these uses. The Applicant has failed to meet its burden of proving that the standards will in fact be protective of these uses, and the effluent will not create nuisance conditions for or otherwise interfere with the Protestants' use and enjoyment of their property.

The ED cannot ignore the purpose of the TCEQ rules (*i.e.*, to protect for existing, designated, and assumed uses) or the structure of specific rules that protect for effluent's application to land that both the public and livestock will have access to. The ALJ's statement that there was no evidence that the limits in the draft permit will be adequately protective for cattle—because the limits are not equivalent to Type 1 effluent—is protective of the Protestants' current use of their property. The proposed permit amendment must be denied because the TCEQ rules that best approximate the Applicant's proposed plans—discharge of effluent on to dry land—require stricter effluent limitations in order to protect for the actual uses on the Protestants' property. The issuance of the permit amendment, as currently drafted, would clearly interfere with the use and enjoyment of adjacent and downstream landowners.

## **CONCLUSION**

The ALJ correctly recommended denial of the permit because the discharge route is not a watercourse of the state. The ALJ also correctly determined that the proposed effluent discharge will have adverse impacts on the Protestants, their property, and their cattle that warrant a recommendation of denial.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

On this 9th day of April, 2015, a true and correct copy of the foregoing instrument was electronically filed with SOAH and served on all attorneys of record by the undersigned via email and/or regular U.S. mail.

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# **EXHIBIT A**

2141 21 2055 22 2168

**Intensive Cultural Resources Survey of  
the Johnson Ranch Drainage Easement  
Project, Comal County, Texas**

Prepared for

**Bowman Consulting**

Prepared by

**SWCA Environmental Consultants**

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Texas Antiquities Permit 6855

SWCA Cultural Resources Report No. 14-335

September 2014



**INTENSIVE CULTURAL RESOURCES SURVEY OF THE  
JOHNSON RANCH DRAINAGE EASEMENT PROJECT  
COMAL COUNTY, TEXAS**

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September 18, 2014

## ABSTRACT

SWCA Environmental Consultants (SWCA) conducted an intensive cultural resources survey of portions of the Johnson Ranch Drainage Easement project in Comal County, Texas. Located northeast of Bulverde, Texas, the project area is approximately 1.14 miles northeast of the U.S. 281 and Farm-to-Market (FM) 1863 intersection. The Johnson Ranch Municipal Utilities District (MUD) proposes to construct a narrow earthen berm adjacent to an intermittent drainage for the purposes of storm water management. Because the Johnson Ranch MUD is a political subdivision of the State of Texas, the project is subject to the Antiquities Code of Texas. SWCA conducted investigations under Antiquities Permit Number 6855.

The proposed earthen berm will be approximately 0.43 mile long and oriented roughly north to south on the east side of the existing drainage. The proposed berm will be 3 feet high with 4:1 side slopes and a 3-foot-wide top width. The majority of the berm will be constructed using fill material excavated on-site from a parallel, north/south-trending trench immediately east of the proposed berm. The trench is not expected to exceed 2 feet in depth and its width is currently unknown, but will not exceed the boundaries of the survey area. Near the southern end of the project area, where the survey area widens just north of FM 1863, the berm will be constructed of introduced fill material. No trench excavation will occur in this area, and therefore project impacts in this area will not involve subsurface disturbance. Overall, the project area is 0.43 mile in length and the width varies between 50 and 250 feet, or 9 acres in size. The area of potential effects (APE) is the entire 9 acres.

The investigations included a background review of the project area and surrounding 1-mile buffer and an intensive pedestrian survey of the 9-acre APE. The background review determined that one survey has been conducted along the western edge of the project area and that one cemetery, the Weidner Cemetery, is adjacent to the APE. The historic map review indicated there are no historic-age structures within the APE; however, the aforementioned cemetery is depicted adjacent to the APE. During the archaeological survey, performed on May 1, 2014, and June 18, 2014, SWCA archaeologists examined the entire 9-acre APE, with subsurface investigations predominantly focused along the proposed excavation trench. The remainder of the project area will not be affected by excavation and was therefore inspected through pedestrian examination to determine the presence/absence of cultural materials on the ground surface. Overall, the intensive pedestrian survey revealed that the proposed project area is within a rural setting previously affected by agricultural activities and erosion.

One of the main focuses of the survey was to verify the location of the Weidner Cemetery identified during the background review. The results of the survey verified the cemetery to be located outside of the APE. In addition, two new sites (41CM367 and 41CM368) were documented within the project area. Site 41CM367 is a surficial multi-component site consisting of a scatter of prehistoric lithic debitage and chipped stone tools as well as a sparse scatter of historic-age artifacts. Site 41CM367 is recommended not eligible for designation as a State Antiquities Landmark (SAL), based on the lack of cultural integrity, research potential, and overall prior disturbances. Site 41CM368 is a mid-twentieth century canal and associated rock wall. Based on current construction plans, the earthen berm will not adversely affect the canal or rock wall. Accordingly, no further work is recommended; however, if construction plans change, additional archival research is recommended to determine the site's potential for designation as an SAL.

SWCA has made a reasonable and good faith effort to identify cultural resource properties within the APE. As no properties were identified that may meet the criteria for designation as an SAL, according to 13 TAC 26.8, SWCA recommends no further cultural resources work within the project area.

## ACKNOWLEDGEMENTS

Ken Lawrence served as Principal Investigator for the duration of the project, ably overseeing overall logistics and organization, and managing reporting and agency consultation. Amanda Aurora served as Project Manager. Alamea Young served as crew chief and Melissa Garcia and Mercedes Cody conducted field work on two separate field efforts dating to May 1, 2014, and June 18, 2014. Carole Carpenter and Christian Hartnett expertly produced all field and report maps for the project.

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## INTRODUCTION

SWCA Environmental Consultants (SWCA) conducted an intensive cultural resources survey of portions of the Johnson Ranch Drainage Easement project in Comal County, Texas. Located northeast of Bulverde, Texas, the project area is approximately 1.14 miles northeast of the U.S. 281 and Farm-to-Market (FM) 1863 intersection (Figure 1). The Johnson Ranch Municipal Utilities District (MUD) proposes to construct a narrow earthen berm adjacent to an intermittent drainage for the purposes of storm water management. Because the Johnson Ranch MUD is a political subdivision of the State of Texas, the project is subject to the Antiquities Code of Texas. SWCA conducted investigations under Antiquities Permit Number 6855.

The Johnson Ranch MUD proposes to construct a narrow earthen berm adjacent to an intermittent drainage for the purposes of storm water management. The proposed earthen berm will be approximately 0.43 mile long and generally oriented north to south on the east side of the drainage. The proposed berm will be 3 feet high with 4:1 gradual side slopes and a 3-foot-wide top width. The majority of the berm will be constructed using fill material excavated on-site from a parallel, north/south-trending trench immediately east of the proposed berm. The trench is not expected to exceed 2 feet in depth and its width is currently unknown, but will not exceed the boundaries of the project area. Near the southern end of the project area, where the survey area widens, just north of FM 1863, the berm will be solely constructed of introduced fill material. No trench excavation will occur in this area, and therefore project impacts will not involve subsurface disturbance. Overall, the project area is 0.43 mile in length and the width varies between 50 and 250 feet, or 9 acres in size. The area of potential effects (APE) is the entire 9 acres.

The investigations consisted of an intensive archaeological survey with shovel testing of select portions of the proposed APE. All investigations were conducted in accordance with Texas Historical Commission (THC) and Council of Texas Archeologists standards. Ken Lawrence

served as Principal Investigator. Alamea Young conducted the survey with archaeologists Melissa Garcia on May 1, 2014, and Mercedes Cody on June 18, 2014.

## PROJECT AREA DESCRIPTION

The APE is located in southern Comal County, northeast of Bulverde, in a rural-suburban setting surrounded by open pastures and intermittent development. The project area is located on portions of the Anhalt (2998-432) and Bulverde (2998-423) U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps. The project area is primarily situated along the upland foot slopes overlooking the Cibolo Creek valley floodplain to the south. The overall area slopes southward dropping 220 feet in elevation from the north to south end with an average gradient of 5 percent. The project area begins in the uplands and terminates at FM 1863, which runs along Cibolo Creek (Figure 2). The project area is a mix of uplands with scattered cedar and short grasses, and lowlands with open pasture with various hardwoods.

## GEOLOGY

The APE is mapped as Early Cretaceous-age Glen Rose Formation. These deposits consist mainly of limestone with clay and some silty clay roughly 800 feet thick (Barnes 1983).

## SOILS

There are three soil units mapped within the property that in order of predominance include Krum clay, Gruene clay, and Sunev silty clay loam (Natural Resources Conservation Service [NRCS] 2014). The Krum clay with 1 to 3 percent slopes consists of deep clays on level to gently sloping uplands. The surface layer extends more than 70 inches thick and is comprised of dark gray clay or silty clay with calcium carbonate filaments and concretions (NRCS 2014). These soils cover the northern half of the survey area.

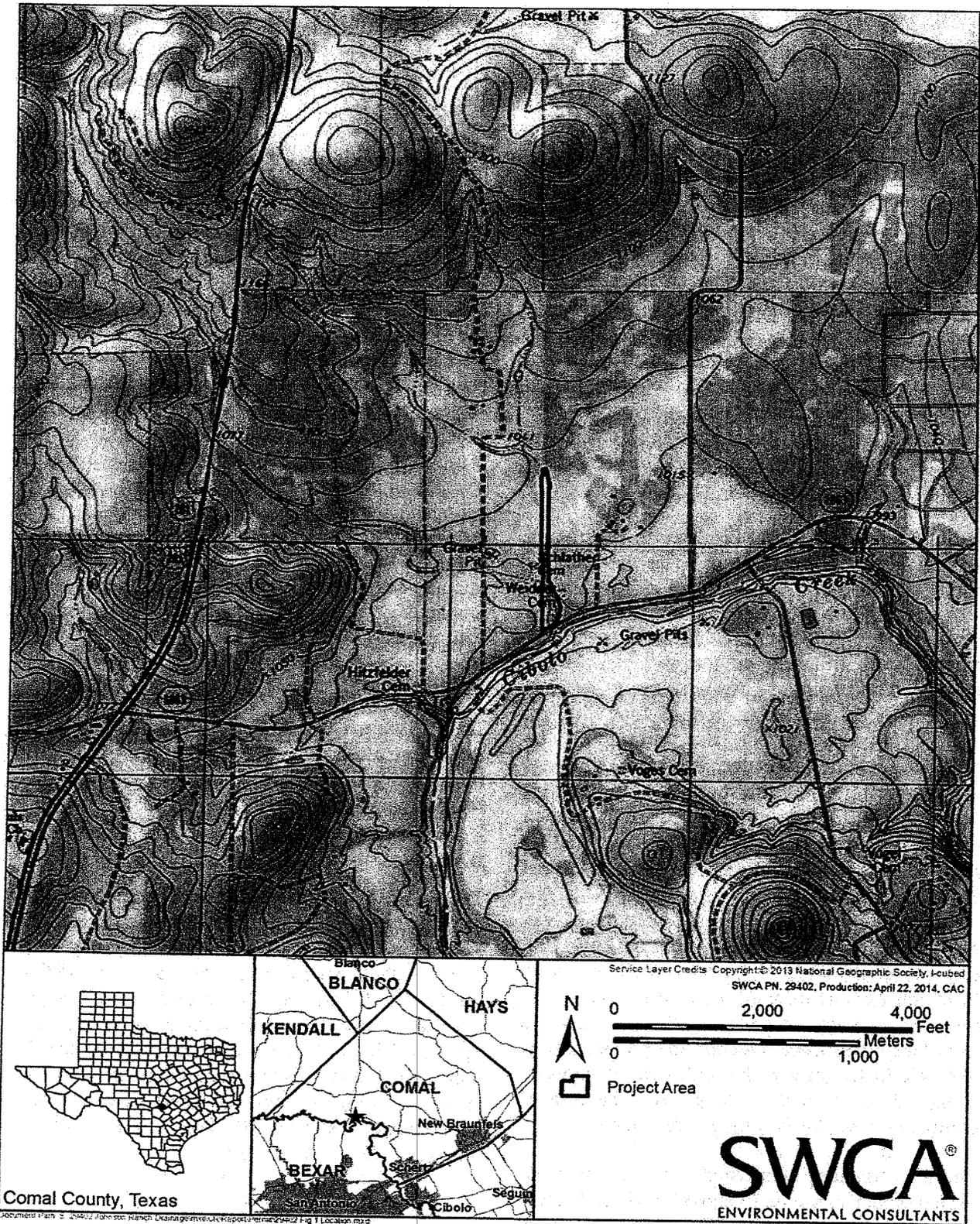


Figure 1. Project location of Johnson Ranch drainage easement.



Gruene clay with 1 to 5 percent slopes consists of shallow to very shallow clays on uplands. The surface layer is composed of very dark brown clay with common pebbles and gravels extending 16 inches deep (NRCS 2014). These soils are mapped as covering the southern half of the survey area.

Finally, Sunev silty clay loam with 0 to 1 percent slopes are composed of deep to moderately deep, loamy soils on gently sloping uplands. The surface layers are composed of clay loam with common calcium carbonate inclusions extending 40 to 70 inches deep (NRCS 2014). These soils are mapped as covering the southwest corner of the survey area.

## CULTURAL SETTING

The proposed project area falls within Central Texas Archeological Region (Perttula 2004). Although the archaeological regions are not absolute, they do generally reflect recognized biotic communities and physiographic areas in Texas (Perttula 2004:6). The Central Texas Region, as its name implies, is in the center of Texas and covers the Edwards Plateau and portions of the Blackland prairie east of the Edwards Plateau. The following synopses provide basic culture histories of the Central Texas region.

### PREHISTORIC

The archaeological record of the Central Texas region is known from decades of investigations of stratified open-air sites and rockshelters throughout the Edwards Plateau, its highly dissected eastern and southern margins, and the adjoining margins of physiographic regions to the east and south (see Collins [2004] for review). Traditionally, the Central Texas archaeological area has included the Balcones Canyonlands and Blackland Prairie—that is, north of San Antonio (Prewitt 1981; Suhm 1960). These two areas are on the periphery of the Central Texas archaeological area, and their archaeological records and projectile point style sequences contain elements that suggest influences from and varying degrees of contact over time with other areas such as the Lower Pecos and Gulf Coastal Plain (Collins 2004; Johnson and Goode 1994). For more-complete bibliographies concerning

archaeological work done in the region, see Black (1989), Collins (1995), and Johnson and Goode (1994).

### Paleoindian Period

Surficial and deeply buried sites, rockshelter sites, and isolated artifacts represent Paleoindian (11,500–8,800 B.P.) occupations of the Central Texas region (Collins 2004:116). The period is often described as having been characterized by small but highly mobile bands of foragers who were specialized hunters of Pleistocene megafauna. But Paleoindians probably used a much wider array of resources (Meltzer and Bever 1995:59), including small fauna and plant foods. Faunal remains from Kincaid Rockshelter and the Wilson-Leonard site (41WM235) support this view (Bousman 1998; Collins 1998; Collins et al. 1989). Longstanding ideas about Paleoindian technologies also are being challenged.

Collins (2004) divides the Paleoindian period into early and late subperiods. Two projectile point styles, Clovis and Folsom, are included in the early subperiod. Clovis chipped stone artifact assemblages, including the diagnostic fluted lanceolate Clovis point, were produced by bifacial, flake, and prismatic-blade techniques on high-quality and oftentimes exotic lithic materials (Collins 1990). Along with chipped stone artifacts, Clovis assemblages include engraved stones, bone and ivory points, stone bolas, and ochre (Collins 2004:116; Collins et al. 1992). Clovis points are found evenly distributed along the eastern edge of the Edwards Plateau, where the presence of springs and outcrops of chert-bearing limestone are common (Meltzer and Bever 1995:58). Sites within the area yielding Clovis points and Clovis-age materials include Kincaid Rockshelter (Collins et al. 1989), Pavo Real (Henderson and Goode 1991), and San Macros Springs (Takac 1991). A probable Clovis polyhedral blade core and blade fragment was found at the Greenbelt site in San Antonio (Houk et al. 1997). Analyses of Clovis artifacts and site types suggest that Clovis peoples were well-adapted, generalized hunter-gatherers with the technology to hunt larger game but not solely rely on it.

In contrast, Folsom tool kits—consisting of fluted Folsom points, thin unfluted (Midland) points, large thin bifaces, and end scrapers—are more indicative of specialized hunting, particularly of bison (Collins 2004:117). Folsom points have been recovered from Kincaid Rockshelter (Collins et al. 1989) and Pavo Real (Henderson and Goode 1991).

Postdating Clovis and Folsom points in the archaeological record are a series of dart point styles (primarily unfluted lanceolate darts) for which the temporal, technological, or cultural significance is unclear. Often, the Plainview type name is assigned these dart points, but Collins (2004:117) has noted that many of these points typed as Plainview do not resemble Plainview type-site points in thinness and flaking technology. Nonetheless, it has become clear that the artifact and feature assemblages of the later Paleoindian subperiod appear to be Archaic-like in nature and in many ways may represent a transition between the early Paleoindian and succeeding Archaic periods (Collins 2004:118).

### **Archaic Period**

The Archaic period for Central Texas dates from ca. 8,800 to 1,300–1,200 B.P. (Collins 2004:119–121) and generally is believed to represent a shift toward hunting and gathering of a wider array of animal and plant resources and a decrease in group mobility (Willey and Phillips 1958:107–108). In the eastern and southwestern United States and on the Great Plains, development of horticultural-based, semisedentary to sedentary societies succeeds the Archaic period. In these areas, the Archaic truly represents a developmental stage of adaptation as Willey and Phillips (1958) define it. For Central Texas, this notion of the Archaic is somewhat problematic. An increasing amount of evidence suggests that Archaic-like adaptations were in place before the Archaic (Collins 2004:118, 1998; Collins et al. 1989) and that these practices continued into the succeeding Late Prehistoric period (Collins 1995:385; Prewitt 1981:74). In a real sense, the Archaic period of Central Texas region is not a developmental stage, but an arbitrary chronological construct and projectile point style sequence. Establishment of this sequence is based on several decades of

archaeological investigations at stratified Archaic sites along the eastern and southern margins of the Edwards Plateau. Collins (1995, 2004) and Johnson and Goode (1994) have divided this sequence into three parts—early, middle, and late—based on perceived (though not fully agreed upon by all scholars) technological, environmental, and adaptive changes.

The use of rock and earth ovens (and the formation of burned rock middens) for processing and cooking plant foods suggests that this technology was part of a generalized foraging strategy. The amount of energy involved in collecting plants, constructing hot rock cooking appliances, and gathering fuel ranks most plant foods relatively low, based on the resulting caloric return (Dering 1999). This suggests that plant foods were part of a broad-based diet (Kibler and Scott 2000:134) or part of a generalized foraging strategy, an idea Prewitt (1981) put forth earlier. At times during the Late Archaic, this generalized foraging strategy appears to have been marked by shifts to a specialized economy focused on bison hunting (Kibler and Scott 2000:125–137). Castroville, Montell, and Marcos dart points are elements of tool kits often associated with bison hunting (Collins 1968). Archaeological evidence of this association is seen at Bonfire Shelter in Val Verde County (Dibble and Lorrain 1968), Jonas Terrace (Johnson 1995), Oblate Rockshelter (Johnson et al. 1962:116), John Ischy (Sorrow 1969), and Panther Springs Creek (Black and McGraw 1985).

### **Late Prehistoric Period**

Introduction of the bow and arrow and later, ceramics into Central Texas, marked the Late Prehistoric period. Population densities dropped considerably from their Late Archaic peak (Prewitt 1985:217). Subsistence strategies did not differ greatly from the preceding period, although bison again became an important economic resource during the late part of the Late Prehistoric period (Prewitt 1981:74). Use of rock and earth ovens for plant food processing and the subsequent development of burned rock middens continued throughout the Late Prehistoric period (Black et al. 1997; Kleinbach et al. 1995:795). Horticulture came into play very late in the region but was of

minor importance to overall subsistence strategies (Collins 2004:122).

In Central Texas, the Late Prehistoric period generally is associated with the Austin and Toyah phases (Jelks 1962; Prewitt 1981:82–84). Austin and Toyah phase horizon markers and Scallorn-Edwards and Perdiz arrow points, respectively, are distributed across most of the state. Violence and conflict often marked introduction of Scallorn and Edwards arrow points into Central Texas—many excavated burials contain these point tips in contexts indicating they were the cause of death (Prewitt 1981:83). Subsistence strategies and technologies (other than arrow points) did not change much from the preceding Late Archaic period. Prewitt's (1981) use of the term "Neoarchaic" recognizes this continuity. In fact, Johnson and Goode (1994:39–40) and Collins (2004:122) state that the break between the Austin and Toyah phases could easily and appropriately represent the break between the Late Archaic and the Late Prehistoric.

### ***HISTORIC PERIOD***

In the early Historic period (1630 A.D. to present), the period of European contact and settlement in Texas, the general Comal County area was inhabited by several aboriginal groups including the Tonkawa, Lipan Apache, Comanche, Jumano, Catqueza, and Karankawa (Cecil and Greene 2004; Foster 1995; Greene 2013; Newcomb 2002). The first Europeans into the region were probably Spanish explorers and missionaries (Cecil and Greene 2004; Foster 1995). Governor Domingo Terán de los Ríos expedition crossed through the southern part of Comal County in 1691–1692 (Cecil and Greene 2004; Greene 2013; Foster 1995). Several subsequent entradas through southeastern Comal County to establish a presidio and fortify previously established missions in northeast Texas were led by Governor Marqués de San Miguel de Aquayo and Louis Juchereau de St. Denis (Foster 1995; Greene 2013). In 1756, the Nuestra Señora de Guadalupe Mission was established at Comal Springs, but was closed in 1758 due to anticipated Comanche incursions (Greene 2013).

After Mexico gained independence from Spain, the newly formed country used a policy of land grants to encourage settlement in the sparsely populated northern regions of Mexico. During the 1830s, grants were issued in Comal County to Juan Martín Veramendi, which led to an influx of immigrants (particularly Germans) in the 1840s and 1850s (Greene 2013).

### ***REPUBLIC OF TEXAS ERA***

In 1846, the state legislature established Comal County from portions of the Bexar County territory with New Braunfels as the county seat (Greene 2013). The county derived its name from Spanish word for "flat dish," which is thought to reference the small islands in the Comal River (Greene 2013). The population of Comal County rapidly grew in the 1850s to about 4,000 by the beginning of the 1860s and largely consisted of German settlers (Greene 2013). In 1861, the county overwhelmingly voted for secession from the United States and contributed two volunteer companies of cavalry and one infantry to the Confederate army during the Civil War (Greene 2013).

### ***POST-CIVIL WAR ERA***

Subsequent to the Civil War, Texas entered the Reconstruction period. Recovery during this period was slow, but was assisted by a diversified economy of farming and ranching. In Comal County, the primary product was corn, but cotton, wheat, oats, wool, dairy, and beef became more important during the reconstruction. The expansion of agriculture led to more industrialization in the region and by 1890, the value of manufactures reached almost a million dollars (Greene 2013).

By the 1880–1900s the area began to recover because of improved transportation, growth in the cattle industry, and migration of people from other states and countries (Cecil and Greene 2004). At the beginning of the twentieth century, the International Great Northern and Missouri, Kansas, and Texas railroads had replaced the previous modes of transport.

The county's economy and population went relatively unchanged over the next half-century. Notwithstanding the effects of World War I, the 1930s depression, and World War II, the county only suffered temporary impediments. In the second half of the twentieth century, the population in Comal County boomed and experienced significant growth. During this time, the contribution by agriculture to the economy declined, but the economy diversified again and incorporated tourism and retail (Greene 2013).

## **METHODS**

### ***BACKGROUND REVIEW***

SWCA performed a cultural resources file records review to determine if the proposed APE has been previously surveyed for cultural resources or if any archaeological sites have been recorded within or adjacent to the APE. To conduct this review, an SWCA archaeologist reviewed portions of the Anhalt (2998-432) and Bulverde (2998-423) USGS 7.5-minute topographic quadrangle maps on the THC Texas Archeological Sites Atlas (Atlas). This source provided information on the nature and location of previously conducted archaeological surveys, previously recorded cultural resource sites, locations of National Register of Historic Places (NRHP) properties, sites designated as State Antiquities Landmarks (SALs), Official Texas Historical Markers, Recorded Texas Historic Landmarks, cemeteries, and local neighborhood surveys. Aerial photographs, Bureau of Economic Geology Maps, and the NRCS Web Soil Survey were also examined. As a part of the review, a SWCA archaeologist reviewed the Texas Department of Transportation Historic Overlay, a mapping/geographic information system database with historic maps and resource information covering most portions of the state.

### ***CULTURAL RESOURCES SURVEY***

SWCA's investigations consisted of an intensive pedestrian cultural resources survey of the entire 9-acre APE with subsurface investigations predominantly focused along the proposed excavation trench. Those locations within the remainder of the project area that will not be

affected by excavation were solely inspected through pedestrian examination to determine the presence/absence of cultural materials on the ground surface. Archaeologists examined the ground surface, erosional profiles, and exposures for cultural resources. Subsurface investigations involved shovel testing in settings with the potential to contain buried cultural materials.

Shovel tests were systematically excavated within the project area. THC survey standards call for the excavation of two shovel tests per acre for area surveys between 0 to 10 acres (18 shovel tests for this project) or thorough documentation of exceptions (e.g., disturbances). Shovel tests were approximately 30 centimeters (cm) in diameter and excavated in 20-cm arbitrary levels to 1 m in depth or to culturally sterile deposits, whichever came first. The matrix was screened through ¼-inch mesh. The location of each shovel test was plotted using a hand-held GPS receiver and each test was recorded on appropriate project field forms.

SWCA conducted a non-collection survey whereby any encountered artifacts were tabulated, analyzed, and documented in the field, but not collected.

### ***SITE EVALUATIONS***

All newly documented archaeological sites were evaluated for suitability for official SAL designation, with reference to the criteria given in 13 TAC 26.10, of the Rules of Practice and Procedure for the Antiquities Code of Texas. For official SAL designation, five criteria for each archaeological site were relevant: 1) has potential to contribute to a better understanding of the prehistory or history of Texas; 2) contains preserved, intact archaeological deposits; 3) possesses unique or rare attributes related to Texas prehistory or history; 4) provides opportunities to test theories and methods of preservation contributing to new scientific knowledge; and 5) target or likely target of vandalism or relic collecting.

## RESULTS

### *BACKGROUND REVIEW*

The background review determined that one survey has been conducted along the western edge of the project area and that no previously recorded sites are within the project area. However, a cemetery (Weidner Cemetery) is located adjacent to the southeastern portion of the project area. Two sites are documented within a 1-mile radius along with three previously conducted cultural resources investigations and cemeteries (Atlas 2014).

A survey was conducted in 2005 by SWCA for the Guadalupe-Blanco River Authority Western Canyon Pipeline Project. The survey was located along the western edge of the current project area and paralleled the Johnson Ranch property boundary line. No cultural resource sites were encountered within the current project area during these investigations (Atlas 2014).

The Weidner Cemetery is located along the southeastern edge of the project area. The website [www.findagrave.com](http://www.findagrave.com) lists 28 graves within the Weidner Cemetery. However, subsequent research and a field visit determined that the cemetery contains 10 graves (see detailed discussion below). Individuals interred at the cemetery include those from the Weidner and Kabelmacher families. The oldest known interment is that of Louise Foerester Weidner; born August 30, 1842, and died March 17, 1877.

Two sites are recorded within a 1-mile radius along with two previously conducted cultural resources investigations, as well as the Hitzfelder Cemetery, the Voges Cemetery, and the Schlather Cemetery (Atlas 2014). A survey was conducted in 1975 on behalf of the Texas Department of Highways and Public Transportation along U.S. 281. Site 41CM218 was recorded during this investigation approximately 0.94 mile west of the current project area. The site consists of a prehistoric burned rock feature of an unknown age located in an upland setting. Very few lithic artifacts were found in association with the feature and the area was reported as previously disturbed

by land clearing and erosion. The site was not recommended for further investigation (Atlas 2014).

In 2005, SWCA conducted a survey for the 15-mile-long FM 1836 Improvement Project. This survey was performed just south of the current project area within the FM 1836 right-of-way. No cultural resource sites were recorded during these investigations (Atlas 2014).

The closest recorded site to the project area is 41CM363, located approximately 0.48 mile north of the project area on the Diamante Ranch. SWCA recorded the site in 2014 during the Diamante Ranch Project. The site is a family cemetery with a single headstone, wrought iron fence, limestone rock wall, and two wooden posts. An additional grave may be within the site based on the presence of two depressions flanking the headstone. The headstone reportedly marks the grave of Friederich H. Faigaux; born January 2, 1822 and died September 20, 1898. Additional archival research on the cemetery was subsequently done as a part of this project (Atlas 2014).

Three additional cemeteries are located within 1 mile of the project area. These include the Schlather, Voges, and Hitzfelder Cemeteries. All are family cemeteries containing interments from the late nineteenth to early- to mid-twentieth centuries. The Schlather Cemetery is located approximately 0.02 mile (105 feet) west of the current project area (on the opposite [west] side of the intermittent drainage) and 0.17 mile north of FM 1863. The Voges Cemetery is approximately 0.3 mile southeast of the project area, south of Cibolo Creek and FM 1836. The Hitzfelder Cemetery is approximately 0.36 mile southwest of the project area on the north side of FM 1836. All of the cemeteries are illustrated on current topographic maps.

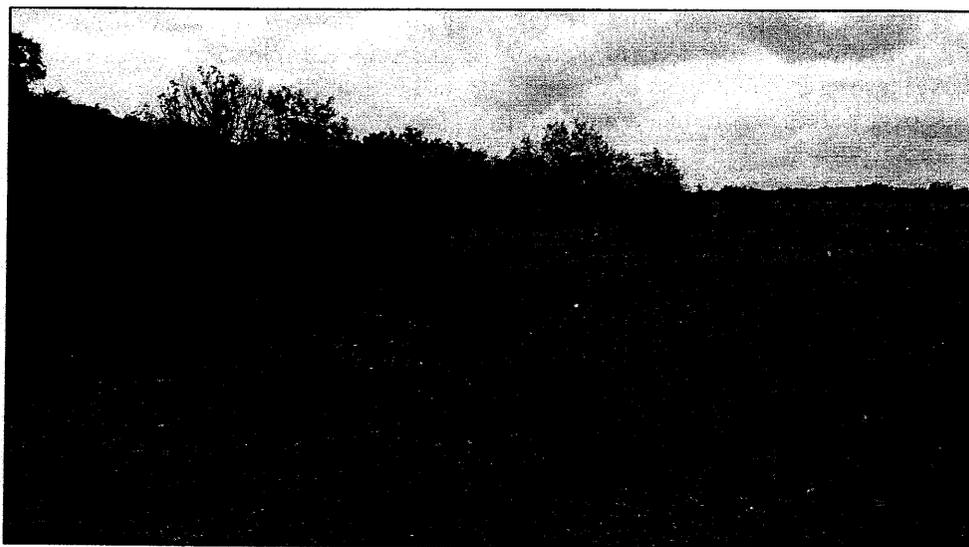
### *HISTORIC MAP REVIEW*

The historic overlay review of maps dating to 1929, 1938, 1953, and 1964 suggested that one historic-age above-ground resource was located within or adjacent to the project area (Foster et al. 2006). The 1938 Bracken U.S. Army Corps of Engineers map and the 1953 Bulverde maps depict a cemetery, presumably the previously mentioned Weidner Cemetery, in its current location in the southern portion of the project area. The unimproved road leading from FM 1863 to the cemetery, however, is not illustrated on the earlier 1938 map. The 1929 Smithson Valley and 1964 Anhalt USGS maps depict the northern portion of the project area. No structures are illustrated on these maps within the project area (Foster et al. 2006).

### *CULTURAL RESOURCES SURVEY*

SWCA archaeologists conducted an intensive cultural resources survey with shovel testing of the 9-acre APE during two separate field efforts. These investigations resulted in the discovery of two newly recorded cultural resources, a multicomponent surface artifact scatter and a historic-age canal and rock wall, within the project area.

The 9-acre project area is located north of FM 1863 and west of Stahl Lane. Field investigations encountered a mostly rural environment consisting of a mix of uplands with scattered cedar and short grasses, and lowlands with open pasture with various hardwoods along the drainage (Figure 3). The southern boundary of the project area is bordered by FM 1863 and the western boundary is bounded by a fence line.



**Figure 3.** Overview of vegetation within APE, facing north.

Surface and subsurface disturbance is prevalent throughout the APE from vegetation clearing and agricultural activities. Portions of the project area have been subjected to vegetation removal and plowing in the past and evidence of frequent erosion was observed. Utilities (overhead and subsurface) are also present within the project area (Figure 4). The ground surface visibility ranged from 20 to 75 percent with the surface exhibiting evidence of plowing or land clearing activities.

A total of 11 shovel tests were excavated within the proposed 9-acre project area (Figure 5). All were negative for cultural material (Table 1). Overall, shovel tests were excavated to depths ranging from 10 to 60 cm below surface and consisted of clay loam over clay or silt loam and gravels over bedrock. Shovel tests terminated at either bedrock or compacted clay. The THC's survey standards for projects of this size recommend two shovel tests per acre, or 18 shovel tests for this project. SWCA did not meet the recommended number of shovel tests for the 9-acre APE. However disturbances and surface visibility that consistently exceeded 30 percent precluded shovel testing in some areas of the APE. In particular, shovel testing was reduced within the northeastern most portion of the project where agricultural activities and recent construction was noted (see Figure 5).

#### 41CM367

Site 41CM367 is a multicomponent surface artifact scatter located along the east side of an unnamed intermittent drainage branching off due north of Cibolo Creek just east of the intersection of FM 1863 and Johnson Way (Figure 6). The site is located 1.14 miles east of the intersection of U.S. 281 and FM 1863, and 0.37 mile west of the intersection of Stahl Road and FM 1863.

Site 41CM367 is situated in the uplands along the eastern margin of the intermittent drainage bordered by open pasture due east. The vegetation within the site consists of short grasses scattered cedar and hardwoods along the riparian zone of the intermittent drainage (Figure 7). Large areas of ground surface exposure run roughly north to south along the eastern margin of the riparian zone for the drainage. Ground surface visibility across the site was excellent ranging from 70 to 80 percent. Disturbance within the site consist of agricultural activities, vegetation clearing, construction and maintenance of roadways, grading and clearing, overhead and subsurface utilities, and erosion.

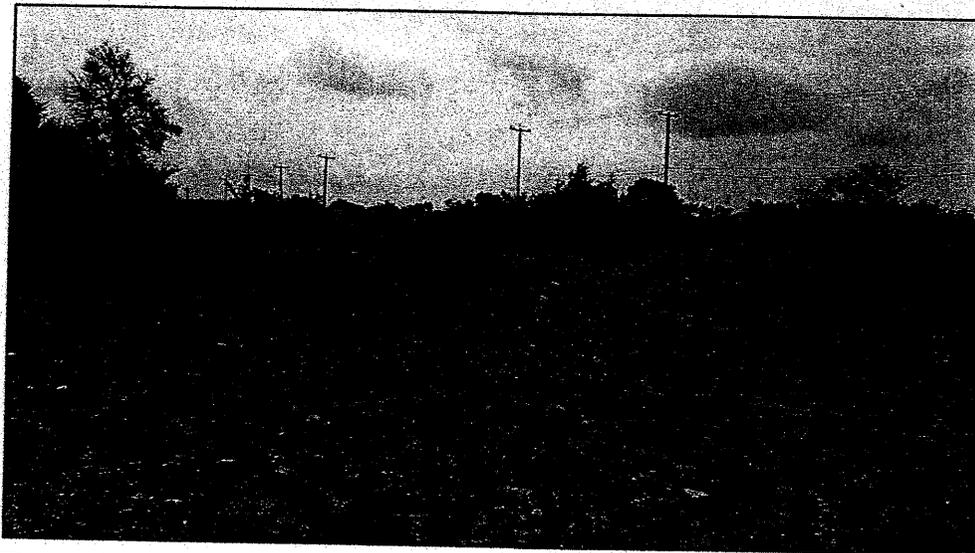


Figure 4. Disturbances within the APE, facing east/southeast.

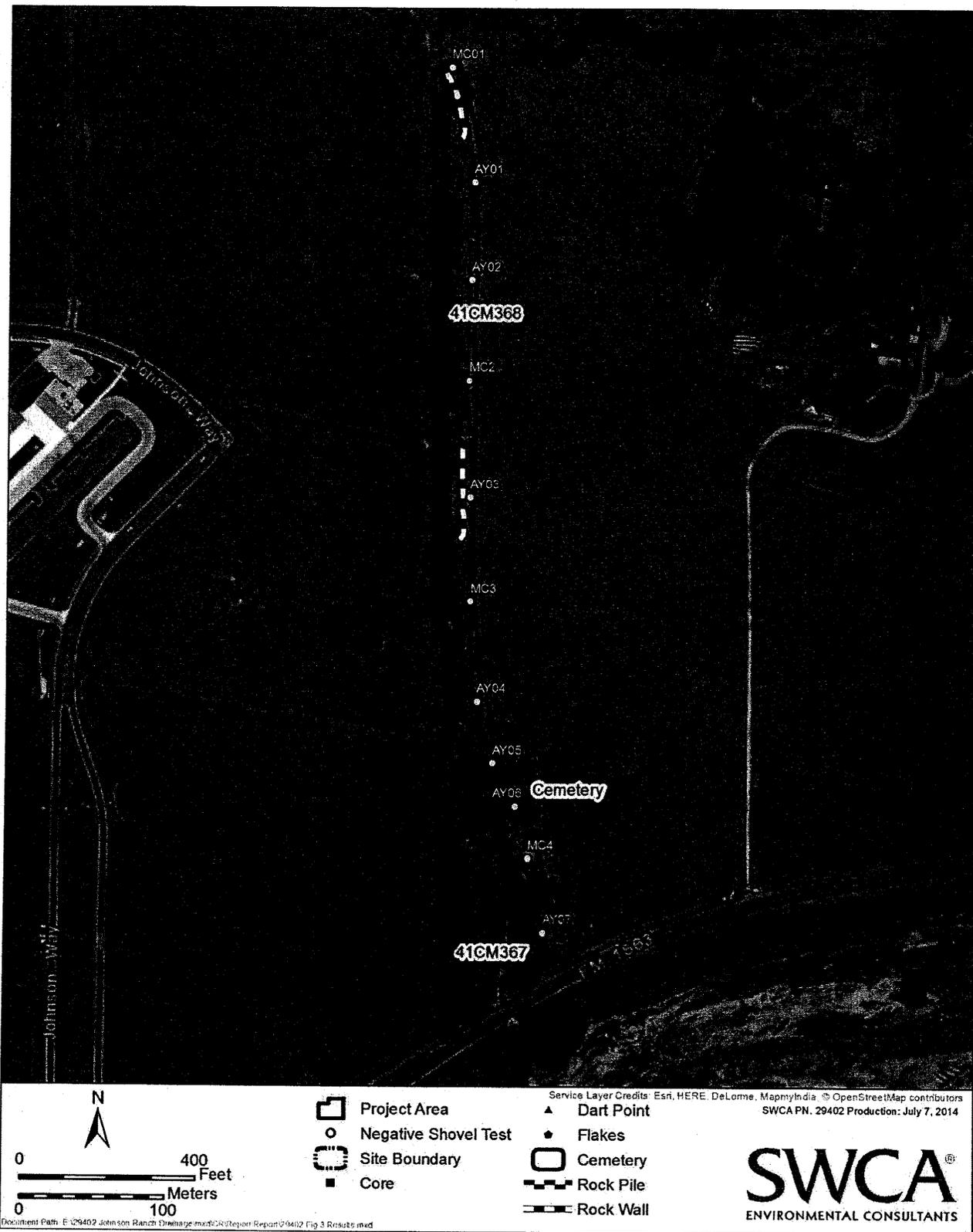


Figure 5. Survey results map.

**Table 1. Shovel Test Results**

ST ID	Site	Depth (cmbs)	Munsell	Soil Color	Soil Texture	Inclusions	Comments/Reason For Termination
MC01	41CM368	0-40	10YR3/2	very dark grayish brown	clay loam	5% roots/rootlets; 10% small limestone gravels	No cultural materials encountered.
		40-50	10YR3/3 mottled with 7.5YR5/6	very dark brown mottled with strong brown	clay		No cultural materials encountered. Terminated at compact soil.
MC02	41CM368	0-35	10YR3/2	very dark grayish brown	clay loam	5% roots/rootlets; 10% small limestone gravels	No cultural materials encountered.
		35-45	10YR3/3	very dark brown	clay	5% small limestone gravels	No cultural materials encountered. Terminated at compact soil.
MC03	41CM368	0-35	10YR3/2	very dark grayish brown	clay loam	5% roots/rootlets; 10% small limestone gravels	No cultural materials encountered.
		35-45	10YR3/3	very dark brown	clay	5% small limestone gravels	No cultural materials encountered. Terminated at compact soil.
MC04	41CM367	0-20	10YR6/4	light yellowish brown	silt loam	85-90% small large limestone cobbles and gravels	No cultural materials encountered. Terminated at bedrock.
AY01	41CM368	0-30	10YR4/2	dark grayish brown	clay loam	rootlets; micro gravels	No cultural materials encountered.
		30-60	10YR4/3	brown	clay	few angular limestone gravels	No cultural materials encountered. Terminated at compact soil.
AY02	41CM368	0-15	10YR4/3	brown	clay loam	rootlets; 5% limestone gravels and pebbles	No cultural materials encountered.
		15-40	7.5YR3/4	dark brown	clay loam	micro gravels; limestone cobbles	No cultural materials encountered. Terminated at limestone cobbles.
AY03	41CM368	0-40	10YR4/3	brown	clay loam	rootlets; micro gravels; limestone cobbles	No cultural materials encountered. Terminated at limestone cobbles.
AY04	41CM367	0-25	7.5YR3/4	dark brown	silt loam and gravels	abundant angular limestone gravels and cobbles	No cultural materials encountered. Terminated at bedrock.
AY05	41CM367	0-10	7.5YR3/4	dark brown	silt loam and gravels	abundant angular limestone gravels and cobbles	No cultural materials encountered. Terminated at bedrock.
AY06	41CM367	0-10	7.5YR3/4	dark brown	silt loam and gravels	abundant angular limestone gravels and cobbles	No cultural materials encountered. Terminated at bedrock.
AY07	41CM367	0-30	7.5YR4/4	brown	silt loam and gravels	shallow terrace rootlets; limestone cobbles	No cultural materials encountered. Terminated at limestone cobbles.

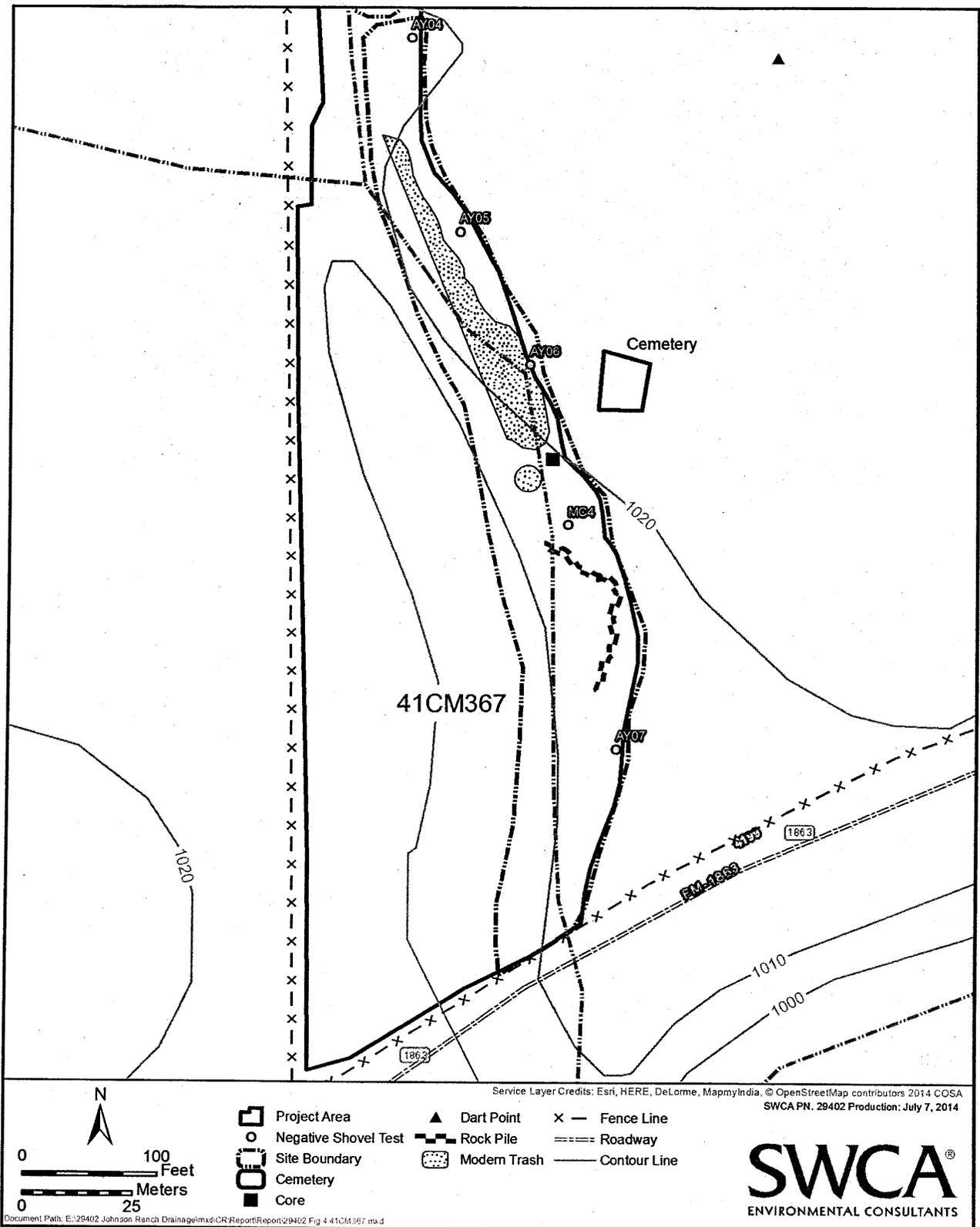


Figure 6. Site 41CM367 map.

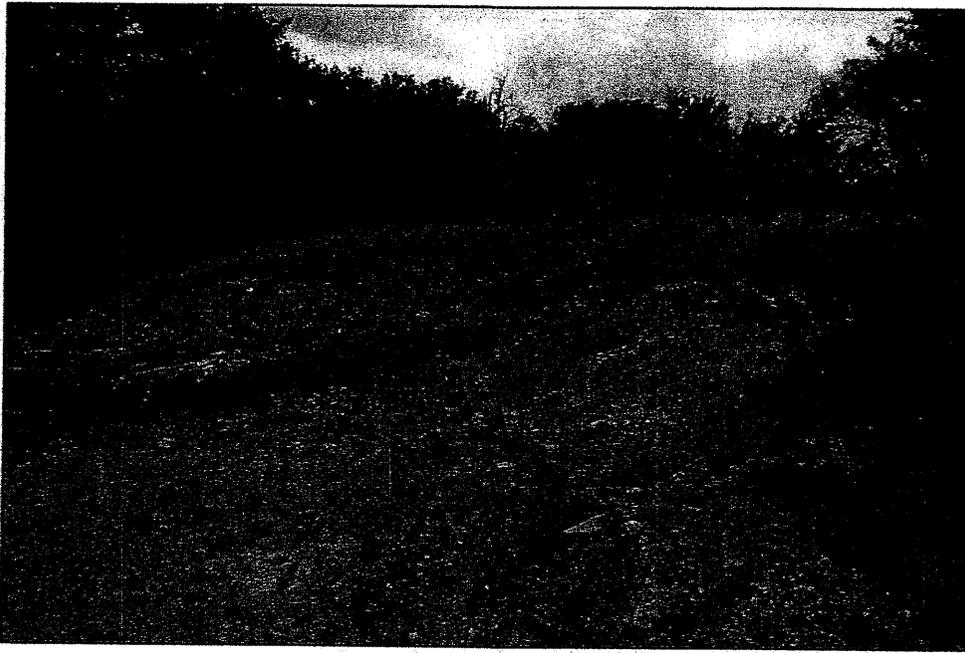


Figure 7. Site 41CM367 overview, facing south.

A sparse prehistoric lithic scatter consisting of two possible biface fragments, one core, and 20 lithic debitage flakes were encountered during ground surface inspection of the upland portions of the APE. A total of five shovel tests (AY04–07 and MC4) were excavated around the surface artifacts (Figure 6). All of the shovel tests encountered shallow deposits on top of bedrock and none contained cultural materials. Based on the investigations, the site dimensions are 210 meters (m) north to south by 30 m east to west within the APE.

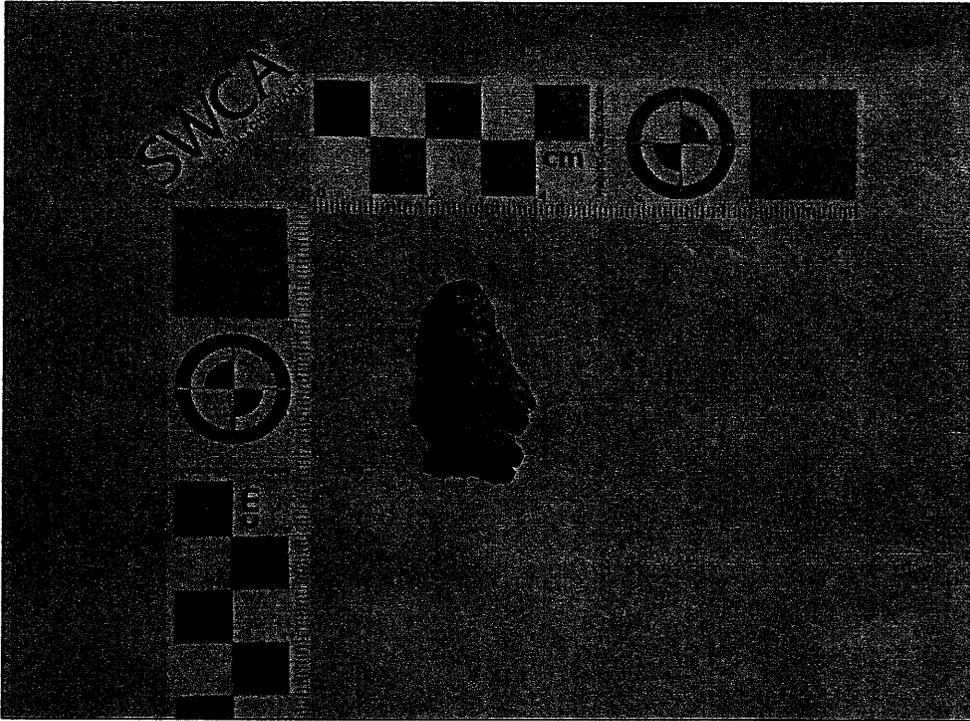
Additionally, one possible Early Archaic Uvalde dart point and one flake were observed on the ground surface approximately 85 m east of shovel test AY04 (Turner et al. 2011; Figure 8). However, this area is beyond the current APE and was not systematically investigated or shovel tested, and therefore it is unclear whether these artifacts are associated with 41CM367. These artifacts have been excluded from the site boundary pending further investigation.

The historic component of the site consists of one solarized amethyst glass shard, two brick piles, and one isolated brick fragment (Figure 9). The solarized amethyst glass shard indicates an early-twentieth-century component, and the D'Hanis Brick and Tile Company manufactured brick

between 1883 and 1980 (Odintz 2014). Additionally, the site contains a large rock pile of limestone boulders and cobbles.

The limestone rock pile is located in the southern half of the site approximately 165 feet (50 m) north of FM 1863. The pile is crescent shaped and composed of dry-laid, local limestone fragments (Figure 10). The rock pile is situated along the side and base of a terrace about 85 feet (25 m) east of the unnamed tributary drainage. This rock pile, possibly used for erosion control, is slumped toward the drainage and overgrown with prickly pear cacti and immature hardwoods. The pile measures roughly 3 to 4 feet high and approximately 100 feet (30 m) in length. No temporally diagnostic information was observed in association with the rock pile. However, based on the diameter of the hardwoods growing through the pile (see Figure 10), it appears to have been in place for more than 10 to 15 years.

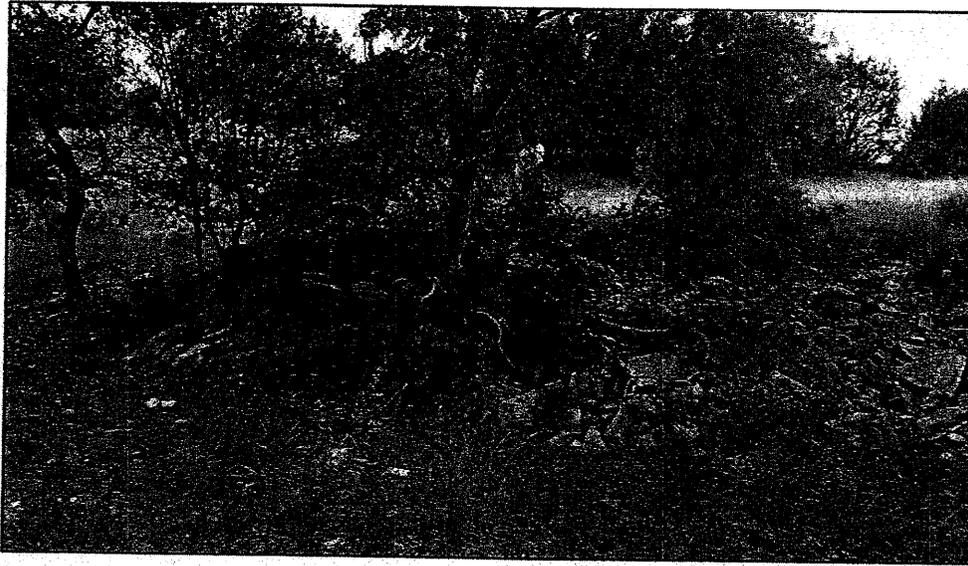
Within the current APE, site 41CM367 has limited research potential based on prior disturbances and lack of intact, buried cultural deposits. No further work is recommended within the current APE. As the site likely extends outside the current APE to the west, additional investigations are recommended if construction plans are changed.



**Figure 8.** Possible Uvalde dart point at site 41CM367.



**Figure 9.** Brick pile 2 at site 41CM367, facing northwest.



**Figure 10.** Rock pile within site 41CM367, facing west. Note diameter of hardwoods.

#### **41CM368**

Site 41CM368 is a mid-twentieth century man-made drainage ditch and rock wall. The site is situated within an upland environment north of Cibolo Creek located 225 m north of FM 1863 (Figure 11). The site is located within an agricultural setting with level pastures located to the east and a new residential development to the west. The site is composed of two features (Features 1 and 2). Feature 1 is a channelized drainage and Feature 2 is a dry-laid rock wall paralleling Feature 1.

Feature 1 is channelized drainage ditch spanning the length of the project area (Figure 12). This modified tributary drains into Cibolo Creek approximately 400 m south of the site area. According to the 1953 Bulverde 7.5-Minute quadrangle map, a natural channel once flowed generally southeast from the prominent uplands (Foster et al. 2011). Therefore, the intermittent drainage was channelized sometime between 1953 and 1964 based on the 1964 Anhalt 7.5-Minute quadrangle map. The 1964 map depicts the channel trending due north to south rather than northwest to southeast. The channelized portion of the drainage measures roughly 0.26 mile (425 m) north-south. On average, the banks are 3 feet high

and the channel is 5 feet wide. The banks are mostly vertical with some spots containing a very slight slope. The stream bed is composed of clay and medium-sized cobbles (1–2 inch diameter). A gradually sloping, 1- to 2-foot high berm was observed paralleling the east bank at the southernmost extent of the channel. This berm marks the confluence of the man-made channel and the natural channel. In addition, this area is subjected to higher energy flows as evidenced by the deeply incised streambed filled with larger (4–5-inch diameter) limestone cobbles. The channel appears to be in good condition; however, a small, recently constructed man-made dam was observed near the north end of the channel. The dam appears to be composed of introduced fill and imported limestone cobbles. High-energy flooding caused by recent heavy thunderstorms had destroyed the majority of the dam at the time of investigation.

Feature 2 is composed of the remnants of a rock wall (Figure 13). The rock wall parallels the aforementioned channelized drainage along the east bank. Based on its location adjacent to the drainage, the wall was likely constructed following the channelization of the drainage and served as a property marker or low fence line.

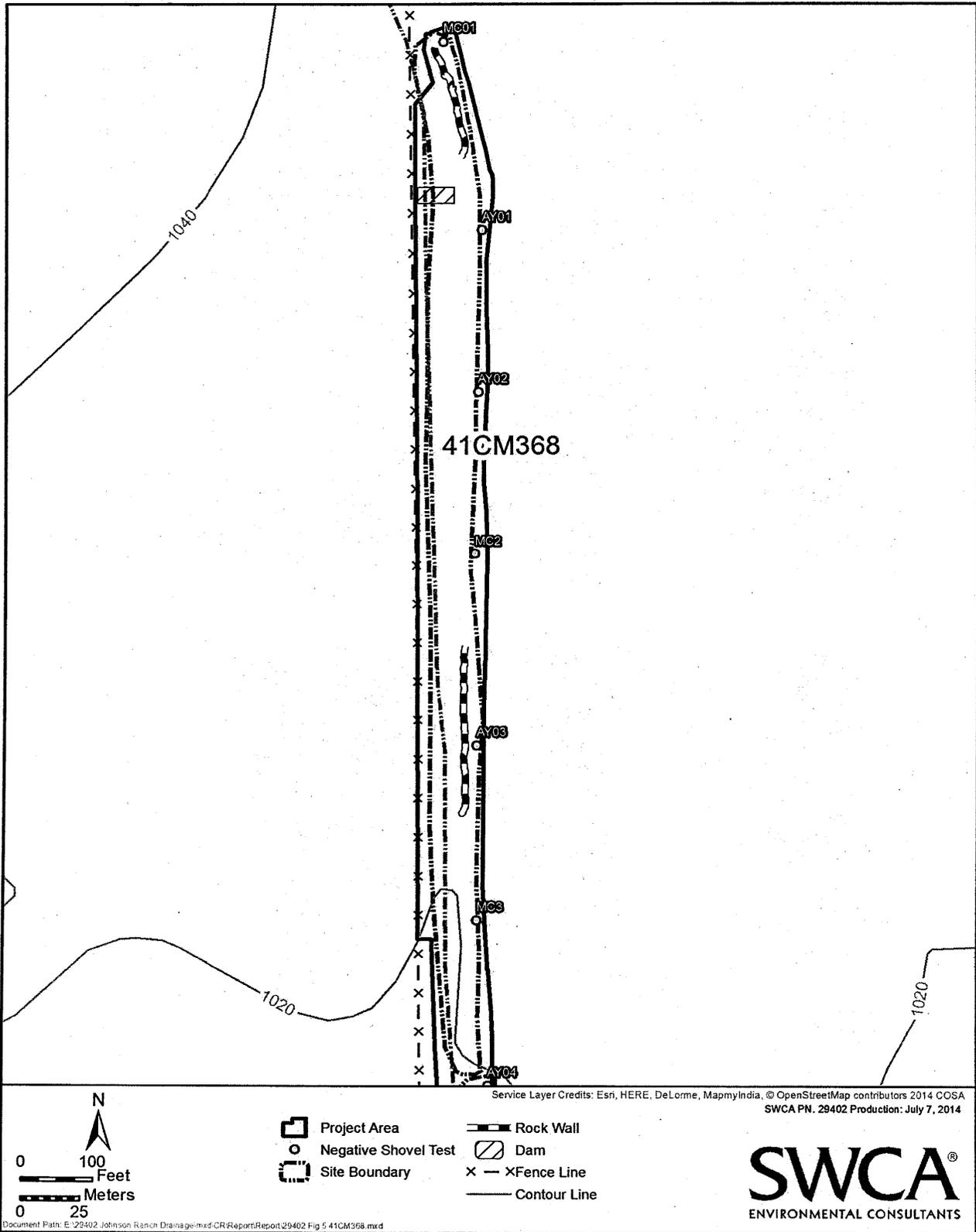
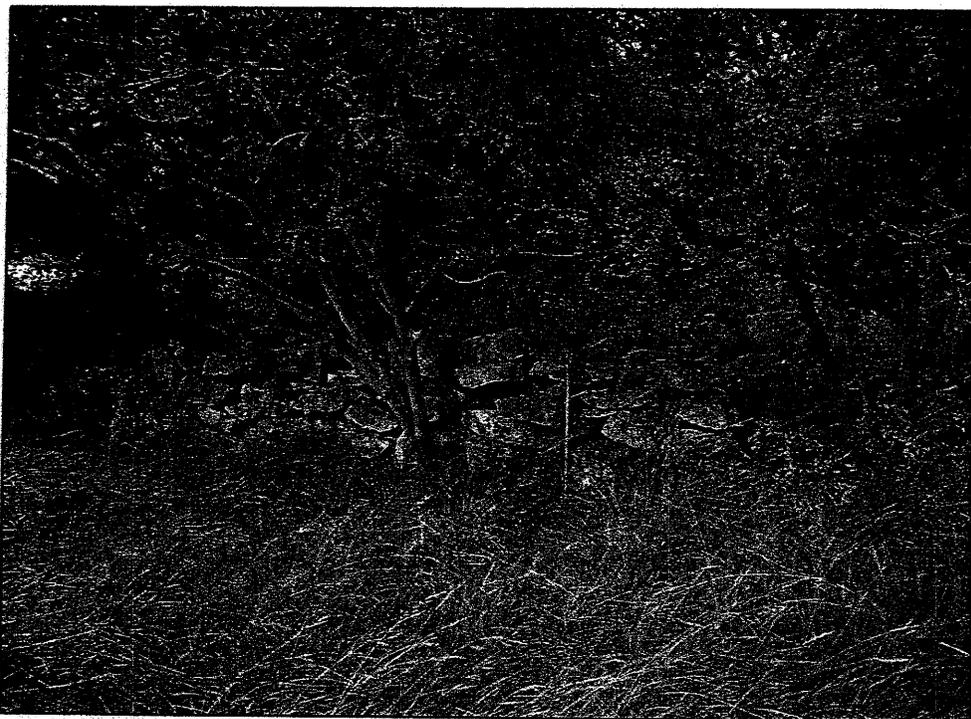


Figure 11. Site 41CM368 map.



**Figure 12.** Feature 1, channelized drainage at site 41CM368, facing north/northwest.



**Figure 13.** Feature 2 at site 41CM368, facing southwest.

The height of the wall varies from 1 to 3 feet, and is composed of up to six courses of dry-laid limestone fragments. The wall appears to be in fair condition with a north and south segment. The north segment measures 165 feet (50 m) in length and the south segment measures roughly 230 feet (70 m) in length. Both segments are overgrown with immature hardwoods and mesquite. The north segment is in slightly better condition, retaining much of the original height and shape. The south segment is damaged in numerous spots and retains little of its original dimensions.

The Johnson Ranch MUD plans to construct an earthen berm east of the channelized drainage (Feature 1). The proposed undertaking would involve the excavation of a trench roughly 2 feet deep adjacent to the proposed berm location. Current plans indicate that the location of the proposed berm and all subsurface excavations will be located east of both Feature 1 and Feature 2. The proposed berm and the proposed excavation of fill will be of sufficient distance as to not impact the channelized drainage ditch (Feature 1) or the rock wall (Feature 2).

A total of six negative shovel tests (AY01-03 and MC1-3) were excavated in the site area (see Figure 11). No subsurface cultural deposits were encountered, and no historic-age artifacts were observed in association with the two features.

Site 41CM368 is in good condition yet lacks associated artifacts or intact subsurface cultural deposits. Based on current construction plans, the construction of the earthen berm will not adversely affect the canal or rock wall. No further work is recommended; however, if construction plans change, additional archival research is recommended to determine the site's potential for designation as an SAL.

### **Weidner Cemetery**

The Weidner Cemetery is located within a pasture about 365 feet (110 m) north of FM 1863, and approximately 35 feet (11 m) east of the existing 9-acre project APE (Figure 14). Individuals interred at the cemetery include the Weidner and Kabelmacher families (Table 2). The oldest known interment is that of Louise Foerester Weidner;

born August 30, 1842, and died March 17, 1877 (Figure 15). SWCA conducted a pedestrian survey to verify the location of the cemetery in relation to the proposed project APE. The cemetery boundary is 35 feet east of the proposed 9-acre APE (see Figure 14). The surrounding area consists of an open pasture with medium grasses and high ground surface visibility. The cemetery boundary, designated by a chain link fence, is overgrown with mesquite and cedar trees.

The website [www.findagrave.com](http://www.findagrave.com) lists 28 interments for the Weidner Cemetery. This list was compiled by the submission of entries by four individuals. Angela Bandy submitted 18 entries on May 23, 2010, David Gode submitted 1 entry on March 10, 2011, Mark K. submitted 10 entries on May 8, 2011, and Bruce Hicks submitted 2 entries on November 16, 2013.

During the investigations, SWCA encountered only 10 tombstones within a chain link fence measuring 32 feet by 40 feet (Figure 16). The headstones include those of the Weidner and Kabelmacher families (Table 2). The names depicted on the tombstones were cross-checked with the list of interments on [www.findagrave.com](http://www.findagrave.com). The entries submitted by Mark K. matched those identified during SWCA's field visit. The other interments listed under the Weidner Cemetery were most likely submitted under the wrong cemetery name and/or location. For example, the entries submitted by Angela Bandy are also listed under the Hitzfelder family. The Hitzfelder Cemetery, as noted in the background review, is located 0.36 mile southwest of the project area on the north side of FM 1836. In addition, available pictures of these headstones were viewed and it was determined that the surrounding setting did not match that of the Weidner Cemetery. Put another way, the extra interments indicated for the Weidner Cemetery have associated photos of the headstones and these headstones are not present at the Weidner Cemetery. Based on this information, SWCA concludes that the additional 18 interments listed on [www.findagrave.com](http://www.findagrave.com) do not represent unmarked graves; rather they were listed under the wrong cemetery on the website.

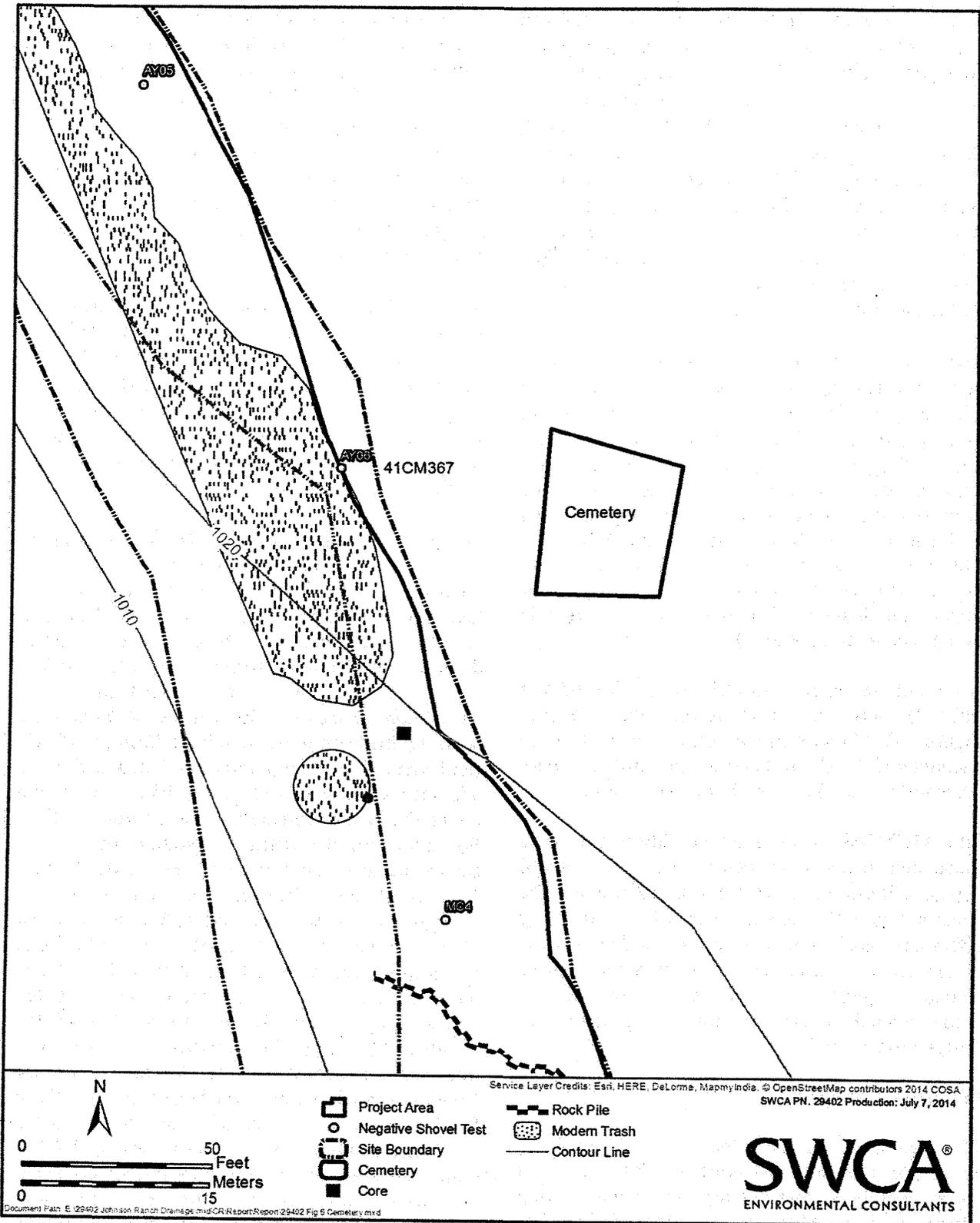


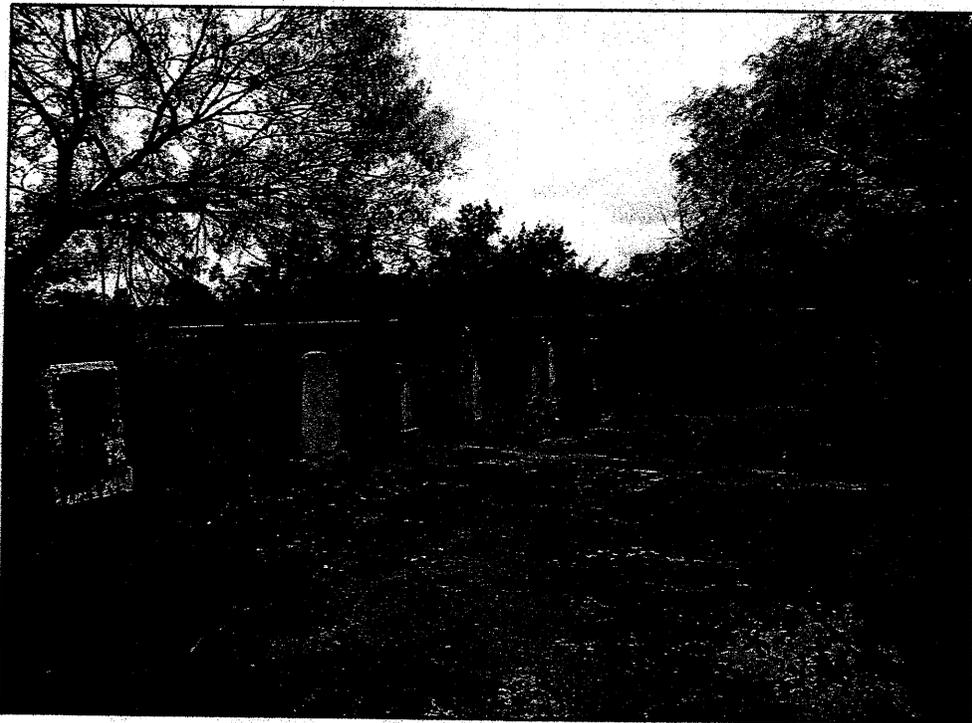
Figure 14. Weidner Cemetery map.

Table 2. Weidner Cemetery Headstone Descriptions

Field ID	Inscription	Description	Additional Inscription
B1	Fridrich/ Leberrecht Weidner/ Geborn/ December 1, 1837/ Gestorben/ Maerz 11, 1905	Marble headstone in the shape of a scroll surrounded by a floral design. Bottom plinth composed of concrete.	Er ging dahin, der meine Seele lied/ Der treuen Gattin und der Kinder Glück/ Er ist dahin, der nie mein Herz betrübte/ Und lässt mich trauern hier zurück
B2	Louise Weidner/ Geb. Foerster/ Geb./ Aug. 30, 1842/ Gest./ Maerz 17, 1877	Oval-shaped concrete headstone with star designs. Depicts holding hands. Bottom plinth composed of concrete.	Schlaf sanft Louise wer wie Du im/ Leben gingst des Rechtes Fuchrte/ Den fliehet im Grabe nicht die Ruhe/ Schwerlastet nicht auf ihm die erde/ Dein Bild steht vor mir licht und rein/ Vergessen solst Du nie mals sein.
B3	Louise/ Weidner/ Geb./ Marz 14/ 1877/ Gest./ Juli 24/ 1877	Obelisk shaped marble headstone with decorative top.	No additional inscription.
B4	Hier ruhet in Frieden/ Lina/ Gatten von/ H. Kabelmacher/ Geboren/ Weidner/ Geb./ Apr. 18, 1866/ Gest./ Jan. 28, 1892	Obelisk shaped marble headstone with decorative top.	Mütter
B5	Emilie/ Elbel/ Geb. Weidner/ Geb./ Marz 8, 1870/ Gest./ Jan. 30, 1893	Obelisk shaped marble headstone with decorative top (broken; on ground).	Not legible.
B6	Hilsea Glassen/ Geborene Weidner/ Geb./ Juni 16, 1872/ Gest./ Dec. 11, 1896	Marble headstone in the shape of a scroll surrounded by a floral design. Bottom plinth composed of concrete.	Dir Teure wer das Leben kurz gemessen/ Und lange folgten meine Thränen Dir/ Ach nimmer nimmer werd ich Dein vergessen/ Du warst/ Alles Alles warst Du mir
B7	Hier ruhet/ Emma/ Kabelmacher/ Geb./ Nov. 30, 1867/ Gest./ Sept. 4, 1947	Cement headstone in the shape of a scroll. Bottom plinth composed of concrete.	No additional inscription.
B8	Hier ruhet/ August/ Kabelmacher/ Geb./ Juli 24, 1864/ Gest./ Juli 12, 1924	Obelisk shaped marble headstone with decorative top. Bottom plinth is decorated concrete.	Not legible
B9	Hier ruht in Frieder/ H. Kabelmacher/ Geb./ Juni 11, 1858/ Gest./ Oct. 15, 1917	Obelisk shaped marble headstone with decorative top. Bottom plinth composed of concrete.	Not legible.
B10	Fredericke/ Weidner/ 1851—1939	Arch top concrete headstone. No decoration.	No additional inscription.



**Figure 15.** Headstone depicting Louise Foerester Weidner, born August 30, 1842, and died March 17, 1877.



**Figure 16.** Overview of Weidner Cemetery, facing south/southeast.

The results of the field investigations determined that the Weidner Cemetery is minimally 35 feet (10 m) outside of the project APE. Further, the cemetery boundary is clearly demarcated with a long established fence line and all reported interments are accounted for in the cemetery. Therefore, there is no possibility of any unmarked interments associated with this cemetery located within the APE. Finally, as previously mentioned no subsurface excavations are proposed to occur in this portion of the project area. Based on this information, no further work or avoidance is recommended for the cemetery.

## SUMMARY AND RECOMMENDATIONS

SWCA conducted an intensive cultural resources survey of portions of the Johnson Ranch Drainage Easement project in Comal County, Texas. The Johnson Ranch MUD proposes to construct a narrow earthen berm adjacent to an intermittent drainage for the purposes of storm water management. Because the Johnson Ranch MUD is a political subdivision of the State of Texas, the project is subject to the Antiquities Code of Texas. SWCA conducted investigations under Antiquities Permit Number 6855.

The proposed earthen berm will be approximately 0.43 mile long and oriented roughly north to south along the east side of the drainage. The proposed berm will be 3 feet high with 4:1 side slopes and a 3-foot-wide top width. The majority of the berm will be constructed from fill material excavated on-site from a parallel, north/south-trending trench immediately east of the proposed berm. The trench is not expected to exceed 2 feet in depth and its width is currently unknown, but will not exceed the boundaries of the survey area. Near the southern end of the project area, where the survey area widens just north of FM 1863, the berm will be constructed of introduced fill material. No trench excavation will occur in this area, and therefore project impacts in this area will not involve subsurface disturbance. Overall, the impacts of the proposed project will be almost exclusively confined to at or near the ground surface.

The investigations included a background review of the project area and surrounding 1-mile buffer

and an intensive pedestrian survey of the 9-acre APE. Subsurface investigations predominantly focused along the proposed excavation trench. The remainder of the project area will not be affected by excavation and was therefore inspected through pedestrian examination to determine the presence/absence of cultural materials on the ground surface.

The background review determined that one survey has been conducted along the western edge of the project area and that one cemetery, the Weidner Cemetery, is adjacent to the APE. The historic map review determined there are no historic-age structures within the APE; however, the aforementioned cemetery is depicted adjacent to the APE.

Overall, the intensive pedestrian survey revealed that the proposed project area is within a rural setting previously affected by agricultural activities and erosion. One of the main focuses of the survey was to verify the location of the Weidner Cemetery identified during the background review. The results of the survey verified that the location of the cemetery is outside of the APE. In addition, two sites (41CM367 and 41CM368) were newly documented within the project area.

Site 41CM367 is a surficial multi-component site consisting of a scatter of prehistoric lithic debitage and chipped stone tools as well as sparse scatter of historic-age artifacts. The site is considered not eligible for designation as an SAL, based on the lack of cultural integrity, research potential, and overall prior disturbances.

Site 41CM368 is a mid-twentieth century drainage ditch and associated rock wall. Based on current construction plans, the installation of the earthen berm will not adversely affect the canal or rock wall. No further work is recommended; however, if construction plans change, additional archival research is recommended to determine the site's potential for designation as an SAL.

SWCA has made a reasonable and good faith effort to identify cultural resource properties within the APE. As no properties were identified that may meet the criteria for designation as an

SAL, according to 13 TAC 26.8, SWCA recommends no further cultural resources work within the project area.

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