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Search Unmarked Historic Graves At The Comal Cemetery Bank Stabilization Project, City Of Nee Braunfels, Comal County, Texas

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Search Unmarked Historic Graves At The Comal Cemetery Bank Stabilization Project, City Of Nee Braunfels, Comal County, Texas

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**SEARCH FOR UNMARKED HISTORIC GRAVES
AT THE COMAL CEMETERY BANK STABILIZATION PROJECT, CITY
OF NEW BRAUNFELS, COMAL COUNTY, TEXAS**

by

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and

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LETTER REPORT NO. 901

submitted to

Freese and Nichols, Inc., Austin, Texas

and

The City of New Braunfels, Texas

by

Prewitt and Associates, Inc.
Cultural Resources Services
Austin, Texas

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ABSTRACT

The historic Comal Cemetery, with burials dating to the 1860s, is located on a high Pleistocene terrace on the south bank of the Guadalupe River in New Braunfels, Texas. Recent flooding episodes have highlighted the potential for erosion and undercutting of the 50-ft-high bluff that forms the northern edge of the cemetery. To protect the cemetery, the city plans to stabilize the riverbank by constructing a line of soldier piles (vertical-shaft concrete pillars) to form a 625-ft-long continuous retaining wall between the bluff edge and the known graves. In 2014, Prewitt and Associates, Inc. (PAI), archeologists monitored drilling of the upper 10 ft of five geotechnical boreholes along the soldier pile line. PAI then excavated a continuous 32-inch-wide trackhoe trench along the entire proposed line of soldier piles. Two unmarked grave shafts were found in the African American “Freedman Place” section, and the proposed route of the soldier pile line was then adjusted to avoid these graves. Additional trenching in this area revealed only undisturbed natural deposits. Consequently, the drilling of the 4-ft diameter soldier pile shafts along the final proposed construction line will not impact any unmarked historic graves. It is recommended that no further archeological investigations are needed, and the bank stabilization project may proceed as planned.

CURATION

No artifacts were collected for the Comal Cemetery Bank Stabilization Project at the Comal Cemetery. All of the project records and digital photographs will be curated at the Texas Archeological Research Laboratory, The University of Texas at Austin.

ACKNOWLEDGMENTS

This archeological project was conducted for the City of New Braunfels, and the work was coordinated with Adam Michie in Capital Programs Management and Parks and Recreation Department director Stacey Dicke. Our work was contracted through the city's engineering consultant, Freese and Nichols, Inc., where Leslie Boyd is the project manager.

Onsite mapping of our project area was coordinated by Steve Schultz and conducted by the Schultz Group, Inc., of New Braunfels. Manuel Hernandez mapped the archeological trenches and features. Kevin Mandeville for Brierley Associates, Inc., coordinated and directed the borehole drilling. The Comal Cemetery manager and sexton Larry Herrmann with Maintenance Management of San Marcos provided us with cemetery maps and shared his extensive knowledge of the changes that had occurred in our project area over the past two decades.

D&M Owens, Inc., in New Braunfels provided the machines and operators for the archeological trench excavations, backfilling, and site restoration, all of which was coordinated by Jimmy Owens. Patrick Ott and Jeremy Owens did most of the trackhoe trenching.

For Prewitt and Associates, Inc., Doug Boyd and Aaron Norment were co-principal investigators. The borehole monitoring was conducted by Boyd, Norment, Ross Fields, and Karl Kibler. Boyd and Norment monitored the mechanical grave search. Brian Wootan and Sandy Hannum compiled the figures in this report.

INTRODUCTION TO THE COMAL CEMETERY BANK STABILIZATION PROJECT

The City of New Braunfels, Texas, is concerned that erosion along the south bank of the Guadalupe River is encroaching upon the Comal Cemetery, a large municipal cemetery it owns and operates. The cemetery sits atop a high Pleistocene alluvial terrace immediately adjacent to the river, and continued erosion could undercut and collapse sections of the terrace, potentially causing graves to fall off into the river. The engineering firm of Freese and Nichols, Inc. (FNI), was contracted by the city to conduct a bank stabilization project that will protect the cemetery from failure due to continued erosion. Because the proposed stabilization work has the potential to impact unmarked graves along the northern boundary of the cemetery, FNI contracted with Prewitt and Associates, Inc. (PAI), to conduct an archeological survey to search for unmarked graves within the area of potential effect (Figure 1).

In 2010, John Milner Associates, Inc., prepared a Historic Preservation Plan for the City of New Braunfels that presented recommendations for the long-term care and maintenance of two historic cemeteries within the city limits: the New Braunfels Cemetery and the Comal Cemetery (JMA et al. 2010). This plan noted potential erosion problems along the deeply entrenched Guadalupe River, and two measures were recommended for the area near the Comal Cemetery: (1) investigate the rate at which the cliff edge of the cemetery along the river is eroding; and (2) develop a plan for relocating these graves and markers based on the results of the investigations (JMA et al. 2010:89). The location of the threatened portion of the cemetery was portrayed on a detailed cemetery plot map showing the oldest sections of the cemetery (Figure 2).

Following up on these recommendations, the city and its consulting engineers determined that the best course of action to protect the cemetery is to stabilize the alluvial cutbank of the Guadalupe River next to the old part of the Comal Cemetery. A bank stabilization strategy proposed by FNI called for the installation of approximately 75 soldier piles along a 625-ft-long corridor running parallel to the cutbank. The soldier piles will be 4-ft-diameter drilled vertical shafts filled with concrete that form a retaining wall intended to prevent destabilization and collapse of the 50-ft-tall cutbank. In this case, the proposed soldier piles will be drilled approximately 70 ft deep. They will be spaced at 8-ft intervals, so that there will be approximately 4 ft of alluvial sediment between the edges of each soldier pile. The line of soldier piles will be set back from the edge of the bluff about 8 to 15 ft, but outside the areas where there are marked graves. Once in place, the vertical soldier pile retaining wall will be just inside the edge of the bluff, and it will act as a barrier to stop the failure of the south bank of the Guadalupe River in the vicinity of the cemetery.

For discussion purposes, the project area is considered to be the full 625-ft length of the proposed line of soldier piles. Because this proposed construction had the potential to impact unmarked graves that might be present, the City of New Braunfels was required to follow laws in the Texas Antiquities Code and the Texas Health and Safety Code pertaining to historic cemeteries and unmarked graves. FNI contracted with PAI

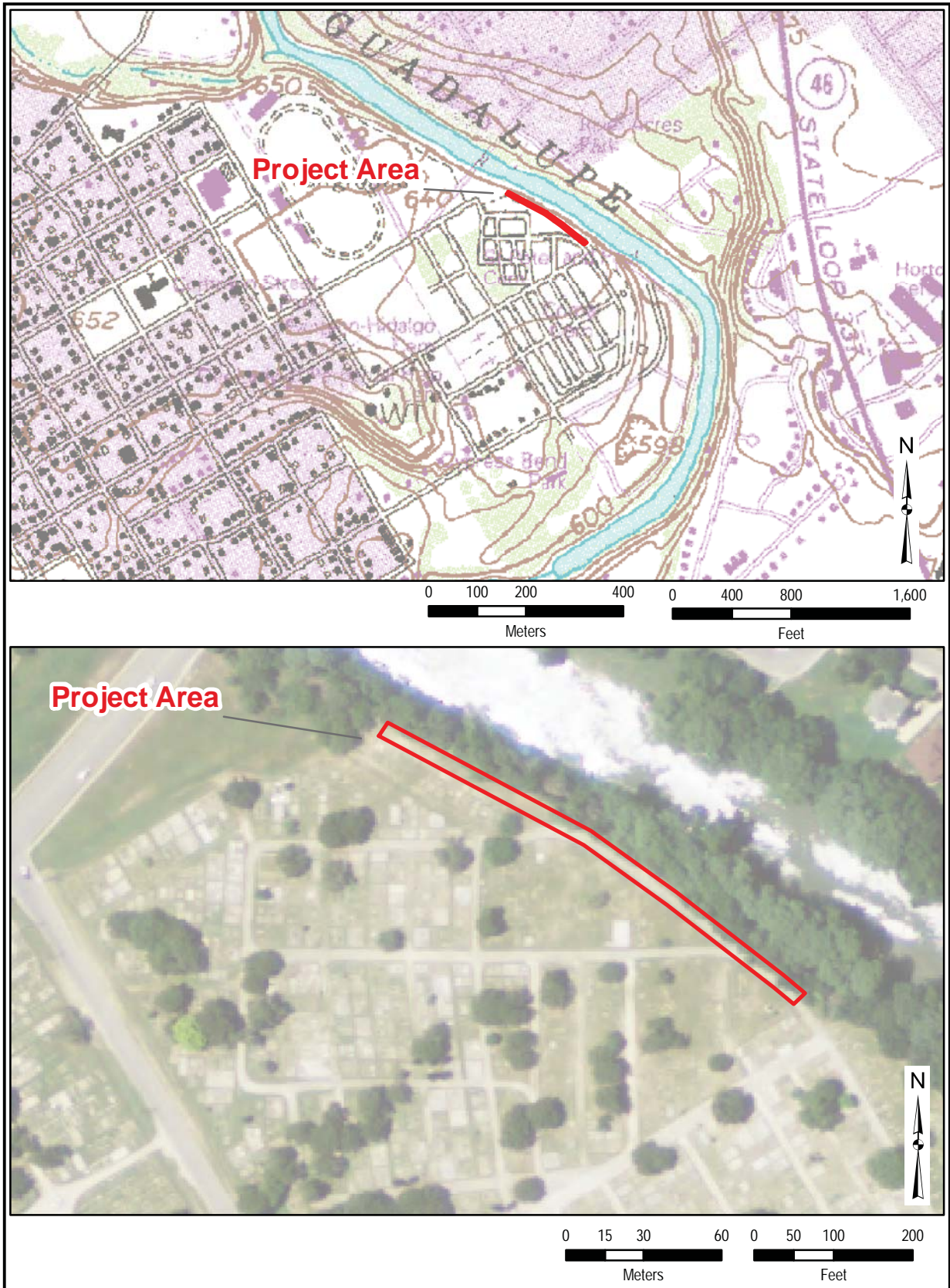


Figure 1. Project location maps. Top: USGS topographic map showing the location of the project area along the north edge of the Comal Cemetery. Bottom: 2012 aerial photograph showing the location of the project area adjacent to the alluvial terrace bluff edge.



Figure 5-78. Comal Cemetery Treatment Plan - North

Figure 2. Comal Cemetery Treatment Plan map by JMA et al. (2010; Figure 5-78). This map shows the northwestern corner of the cemetery, which is the old part of the cemetery containing nineteenth-century burials. Note that the grave plots in all of the older sections are oriented east to west, while the grave plots in later sections were oriented southwest to northeast and aligned with the modern roads. The area for potential cutbank erosion is highlighted.

to conduct the cultural resources compliance. The Texas Historical Commission issued Texas Antiquities Permit No. 6993 to principal investigator Doug Boyd.

The work conducted by PAI for the bank stabilization project included three onsite tasks at the Comal Cemetery: (1) documenting the existing graves located within approximately 30 ft of the bluff edge; (2) monitoring the drilling of five geotechnical boreholes along the project corridor; and (3) excavating and monitoring a mechanical trench running the full length of the project corridor. These tasks were completed in August–October 2014.

GEOLOGICAL AND GEOMORPHOLOGICAL BACKGROUND

New Braunfels is situated in the Balcones Fault Zone, one of the major carbonate regions of Texas (Smith and Veni 1994:7–8). Commonly known as the Balcones Escarpment, this fault zone is characterized by complex karst geology, with many large artesian springs emerging where groundwater is pushed up through faults. The presence of Comal Springs and other major springs along the Balcones Escarpment is due to the deep geological faults that allow fresh water to emerge from the underlying Edwards Aquifer.

The Comal Cemetery sits on a high Pleistocene terrace of the Guadalupe River, which is deeply entrenched at this location. The soils in the project area are characterized by the U.S. Department of Agriculture (1984) as Krum clay, which is a deep soil on nearly level (0–1 percent slope) high stream terraces and valley fills. The upper 19 inches is a dark brown clay that is essentially a cumulic A horizon formed on the top of the ancient high alluvial terrace. Krum soils are lighter brown clay from 19 to 49 inches, and they transition to a yellowish brown clay at 49 inches. Based on this sediment profile, it was considered likely that the fill of intrusive grave shafts would appear as a mottled mix of dark brown, brown, and yellowish brown sediment, and this fill would be expected to provide a good visual contrast with the surrounding homogenous undisturbed sediments. Given the geomorphic setting of the project area and views of the cutbank from the opposite side of the Guadalupe River, it was expected that an intrusive grave shaft would be easily recognizable in the light-colored sediments at depths of 3 to 5 ft. Subsequent mechanical trenching at the cemetery proved this assumption to be valid.

THE COMAL CEMETERY HISTORICAL BACKGROUND

New Braunfels was established in 1845, and two main cemeteries served the community in the nineteenth century (Greene 2010; JMA et al. 2010). The New Braunfels Cemetery was platted in 1845, and some of the first interments there were the many victims of a cholera epidemic that were buried in a mass grave in 1846. The New Braunfels Cemetery served as the community's only cemetery for some 23 years (Chapter 4 in JMA et al. 2010).

In 1868, the Comal Cemetery was established to provide necessary burial space for a rapidly growing population (JMA et al. 2010).¹ The Comal Cemetery first appears on an 1868 map of New Braunfels as a rectangular tract labeled “Graveyard”; it appears with a German cross and a size notation of “8 ac.” (Figure 3a). This location was next to the Guadalupe River and was well north of town when it was established.

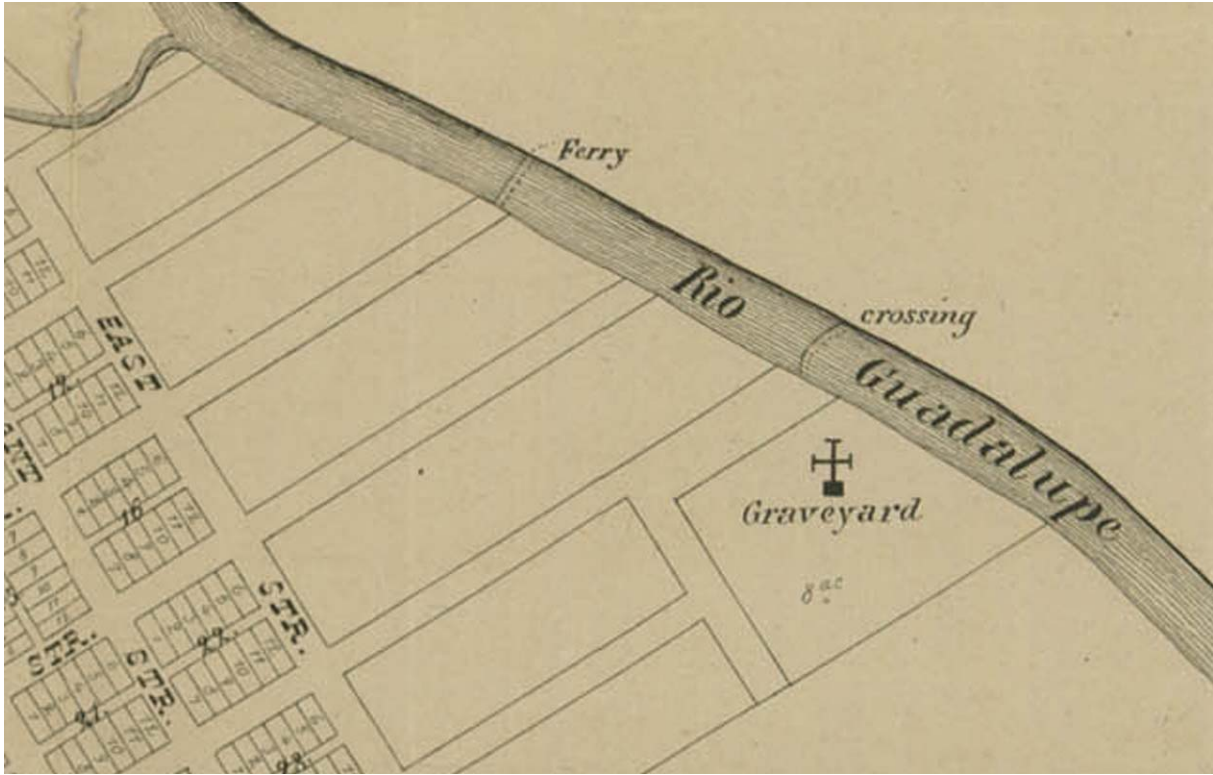
Archival records show that the property became a formal cemetery in April 1868, when eight acres of land were given to the city to serve as its main burial ground. The earliest documented use of the cemetery in the sexton’s recordbook was the burial of Fredrich (Fritz) Hartwig on August 12, 1873. The oldest part of the cemetery is the original 8 acres in the northwest corner bounded by Common Street (on the northwest side), the Guadalupe River (on the northeast side), and it is this latter area that is most threatened by cutbank erosion. As shown in Figure 2, the roads, grave plots, and rows of grave plots within the original 8-acre cemetery are oriented north-south and east-west. In the later additions to the cemetery, the roads, graves, and rows of graves are oriented differently (skewed by approximately 45 degrees), with the axes running northeast-southwest and northwest-southeast. Consequently, it is easy to spot the original cemetery property on any aerial image of the cemetery.

By the time Augustus Koch created his *Birds Eye View of New Braunfels* in 1881, the Comal Cemetery was well established. The cemetery appears off in the distance as a fenced area enclosing many trees and tall headstones, and the No. 16 is listed in the map legend as “CEMETERY” (see Figure 3). At this time, the cemetery was completely isolated on the northeast side of town with no houses or development nearby.

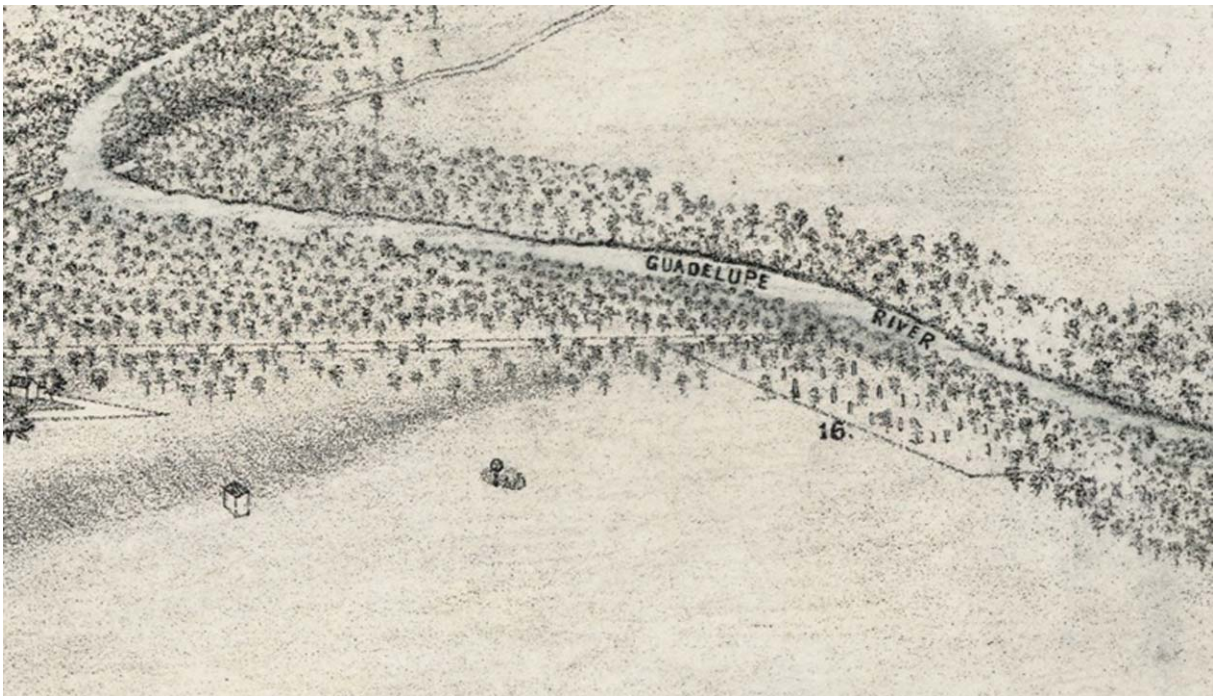
Within the original 8-acre cemetery, and once enclosed by a separate fence, is a section next to the river that was called “Freedman’s Place” (JMA et al. 2010:73, Figures 5-11, 5-12). This section was set aside for the burial of African American freedmen when the cemetery property was first surveyed in 1868 (JMA et al. 2010:66). The Freedman’s Place is labeled as such on current maps used by the cemetery manager (Larry Herrmann, personal communication 2014).

Over many decades since its creation, the Comal Cemetery continued to be used by the city as its main municipal cemetery. It has been expanded several times, with many sections being added to the southeast of the original 8 acres. The cemetery now encompasses almost 25 acres and contains more than 12,500 marked graves (JMA et al. 2010:67–68; Parks and Recreation Department 2014). The Parks and Recreation Department (2014) and the City of New Braunfels Cemetery Committee (2014) currently oversee the operation and preservation of the historic cemetery. The city is responsible for the basic maintenance of the cemetery, the sale of cemetery plots, and keeping the burial records (JMA et al. 2010:68). Maintenance of the cemetery has been contracted out to a private firm for many years, and Larry Herrmann has been the cemetery sexton and maintenance supervisor for the last 20 years (Larry Herrmann, personal communication 2014). The Comal Cemetery was designated as a Texas Historic Cemetery by the Texas Historical Commission in 2000 (Parks and Recreation Department 2014).

¹ The historical summary of the Comal Cemetery in this section is taken primarily from Chapter 5 of the 2010 Historic Preservation Plan (JMA et al. 2010) prepared for the City of New Braunfels.



a



b

Figure 3. The Comal Cemetery as depicted on historic maps in 1868 and 1881. (a) 1868 *Map of New-Braunfels* (Anonymous 1868); (b) 1881 *Birds Eye View of New Braunfels* (Koch 1881). On this map the number 16 is identified in the legend as “Cemetery.”

DOCUMENTATION OF EXISTING GRAVES NEAR THE PROJECT CORRIDOR

On August 26, 2014, PAI archeologists documented all of the existing graves located within ca. 30 ft of the project corridor. The documentation consisted of taking digital photographs of each grave plot and headstone. The digital photographs were keyed to sequential grave numbers plotted on large-scale aerial photographs. In addition, the Shultz Group, Inc., another contractor working for FNI, conducted detailed mapping of the entire project corridor. The surveyors used GPS mapping equipment to plot the Guadalupe River water edge and bluff edge and all of the surface features on top of the bluff within at least 40 ft of the edge.

The goal of this mapping and documentation was to record the surface manifestations of the graves nearest the project corridor so that the information could be used to restore them to their original condition if any graves were accidentally damaged during the construction project.

MONITORING OF GEOTECHNICAL BOREHOLES

The second field task involved monitoring the mechanical drilling of five geotechnical boreholes (Figure 4) spaced about 140–160 ft apart along the proposed line of soldier piles. PAI coordinated with the geotechnical consultants, Brierley Associates, Inc., regarding the drilling schedule. A PAI archeologist was present for the drilling of the upper 10 ft of each of the five boreholes, with the monitoring occurring on five different days (August 26 and 27, September 16, 17, and 19). The archeologists examined all of the fill and core sections removed from the drill holes to look for any evidence that might indicate the presence of an unmarked grave.

All of the borehole sediments exhibited the same general stratigraphic profile. The upper 18 to 24 inches was a brown (10 YR 4/3) to pale brown (10 YR 6/3 or 6/4) silty loam to silty clay loam. The next zone was a very pale brown (10 YR 7/3, 7/4, 8/3, or 8/4) silt that extended to a depth of 10 ft. This sediment tended to be lighter in color with depth. Some gravel lenses, composed primarily of small pea-sized gravels with occasional larger nodules, were observed at depths of 3 ft or deeper. All of these profiles denote a weak cumulic A horizon developed on the surface of the alluvial terrace, and this upper zone was noticeably darker than the underlying B horizon silt.

From an archeological perspective, the stratigraphy revealed by the boreholes meant that any intrusive excavation such as a grave shaft would likely be filled with mottled sediment (a mix of light and dark materials). Such intrusive backfilled holes should be easily distinguishable from the surrounding undisturbed natural sediments, especially in the lighter-colored sediments below 2 ft deep. After the borehole excavations were completed, the Shultz Group surveyors mapped the locations and added the data to their project area maps.

MECHANICAL TRENCHING OF THE PROJECT CORRIDOR

The mechanical trenching of the project corridor was conducted on three days from September 30 to October 2, 2014. The work consisted of excavating and backfilling trenches each day to form one continuous trench running parallel to the Guadalupe River cutbank, between the known graves and the cutbank edge. The work started at the northwestern end of the project area and proceeded to the southeastern end. The trenches were dug using a small John Deere 75D trackhoe fitted with a 32-inch-wide bucket with a smooth blade. Near the end of the trenching, the Shultz Group surveyors mapped the locations of the archeological trenches.

During the mechanical investigations, portions of two shafts of unmarked historic graves were discovered in a trench, and the trackhoe was then used to dig a shallow excavation block to expose the complete outline of each grave shaft. The grave shaft locations were documented and mapped by the Shultz Group surveyors. After consultation with the FNI engineers and the city project managers, the work moved to the north of the original trench and a new trench parallel to the first one was excavated



Figure 4. Photograph of the drilling in progress at Borehole 1. View is to the east, and the orange-flagged stake is the baseline mapping point 10 + 00 ft. Note the proximity of the marked graves.

away from the newly discovered graves (see the “Onsite Meeting to Discuss Unmarked Graves” below). No additional graves were encountered in this trench. Consequently, the project managers and engineers decided to adjust the project corridor, moving the line of proposed soldier piles so that it follows the continuous line of archeological trenches where no graves were found.

Figures 5, 6, and 7 are maps of the project area that show the geotechnical boreholes and archeological trenches in relation to the Guadalupe River cutbank and the marked graves and roads in the Comal Cemetery. The maps are sequential, from the northwest to the southeast, and the locations of the expanded block excavation and the two unmarked graves are shown in Figure 6. The mechanical trench segments are numbered 1-5, in the order they were excavated, and each is discussed in more detail below. The length, depth, and beginning and ending points for these trenches are summarized in Table 1. In the discussions that follow, relative locations within the trenches are stated as a straight line distance (in feet) measured from the baseline mapping stake at the northwest end of the project corridor (stake designated as 10 + 00 ft).

Trench 1

The Trench 1 excavation started about 1 ft to the southeast of the baseline mapping stake designated as 10 + 00 ft. The trench was excavated to the southeast, going over the center of Borehole 1 and ending over the center of Borehole 2. This trench was excavated to a depth of 50 to 60 inches, exposing dark A horizon sediment from 18 to 24 inches overlying lighter colored sediments (Figure 8). This contrasting sediment was observed over the full length of the trench. The lower zone contained sporadic concentrations of well-rounded gravels (up to fist-sized) in discontinuous layers that varied in depth from 30 to 60 inches deep. Some of the gravels were well cemented with calcium carbonate, so much so that the trackhoe had a difficult time digging through the layer in places.

Three anomalies were observed in Trench 1. The previously excavated Borehole 1 was observed at 12 ft. It appeared from the surface down to the bottom of the trench at 54 inches. The second anomaly was a wooden fence post remnant and posthole at 19 ft. The posthole was observed in the north wall of Trench 1 from 24 to 51 inches deep. The wooden post remnant was in the upper part of the posthole, and this obviously represented a post that was removed long ago, probably from an old fence line. The third anomaly was a 20-inch-long section of corroded iron pipe, 1.25 inch diameter, lying horizontally at a depth of 12 inches. The trackhoe broke off this section of the pipe, and its unbroken end had an expanded coupling with interior threads that were heavily corroded. An in situ section of the pipe found in the north wall of the trench (at 144 ft on the project corridor line) extended northward beyond the trench. This pipe segment, in the upper A horizon, is about the same size as the pipes used to build the old iron and wire fence along the west side of the cemetery (the Common Street side). Some sections of the old fence are gone and were replaced at the northwest corner of the cemetery, so this pipe segment probably represents a piece of the old cemetery fencing that was discarded along the edge of the cemetery.

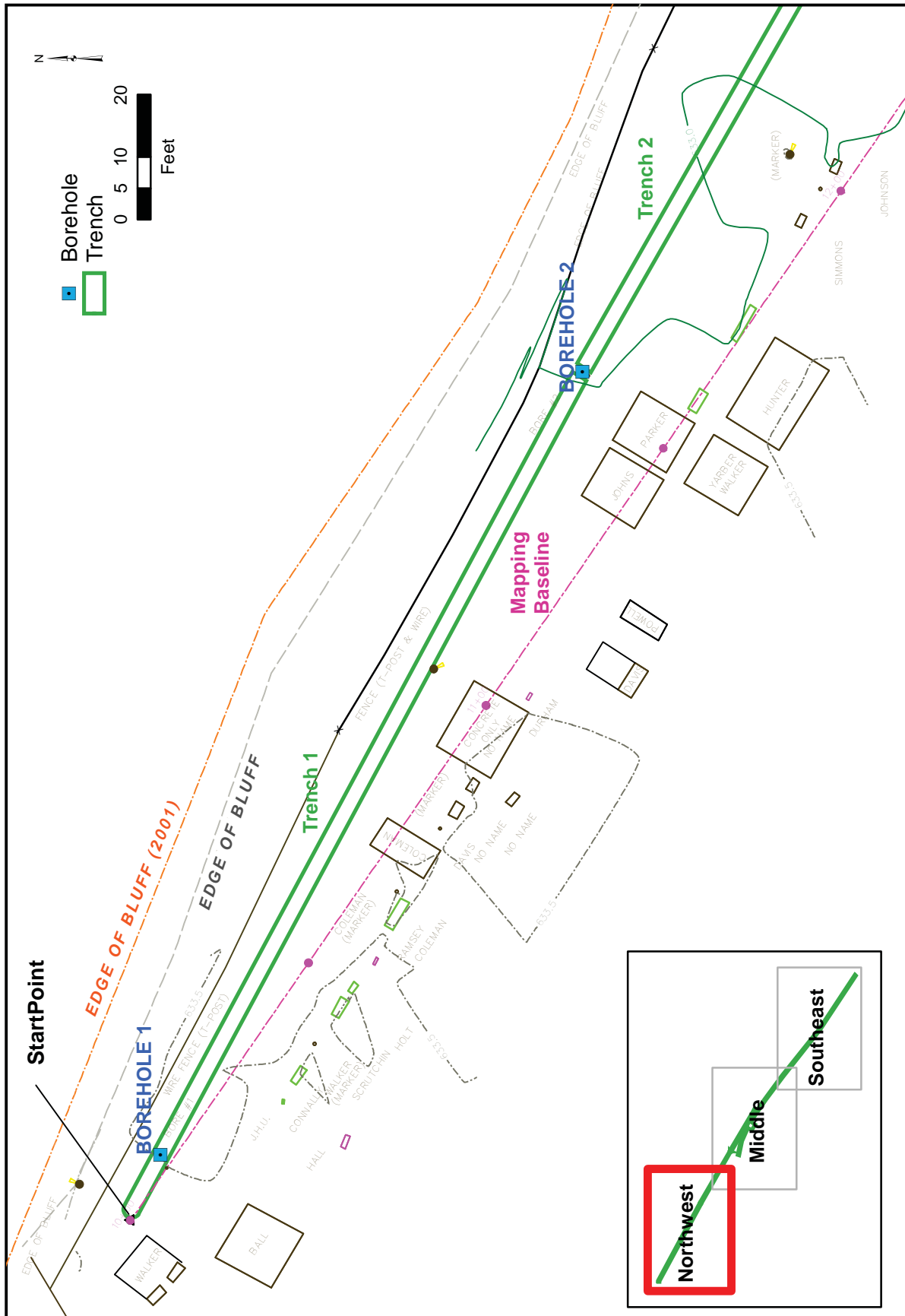


Figure 5. Map of the bank stabilization project area, northwest end.

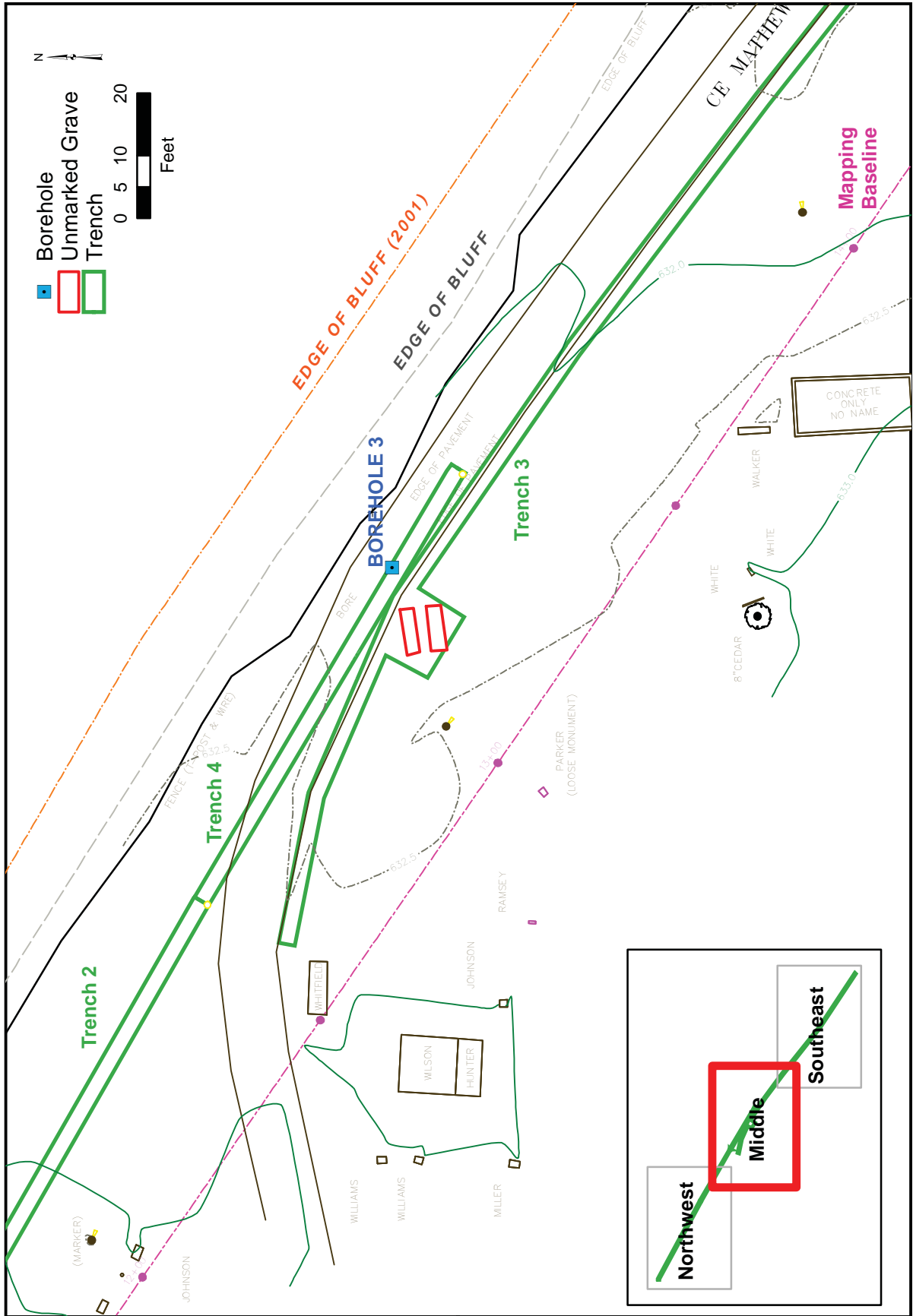


Figure 6. Map of the bank stabilization project area, middle section.

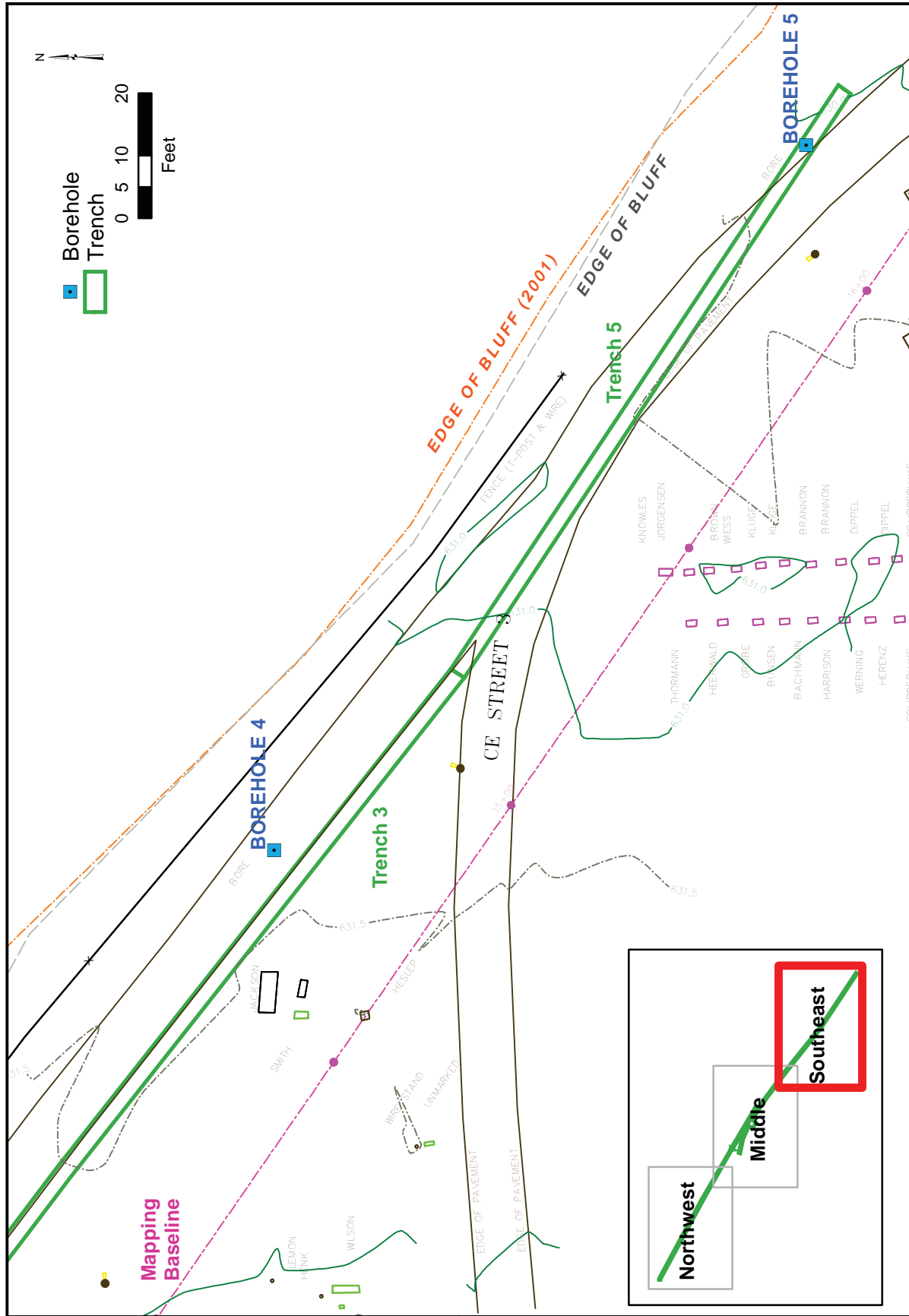


Figure 7. Map of the bank stabilization project area, southeast end.

Except for the anomalies noted above, the sediments exposed over the full length of Trench 1 appeared natural and undisturbed. It was obvious that any intrusive grave shafts in this sediment should be easily visible in the light-colored sediment at a depth of 3 ft or less.

Trench 2

Trench 2 started at Borehole 2 and was excavated southeast toward Borehole 3, but it ended when it intersected the paved road (called Mather Street on cemetery plot maps). This 104-ft-long trench was excavated between 4.5 and 4 ft deep, and it revealed the same basic stratigraphy seen in Trench 1. However, the gravelly layer was much denser and harder in Trench 2 than in Trench 1, and the Trench 2 gravels were much larger (several over 10 inches in maximum size).

No features or unusual sediment anomalies were encountered in Trench 2, but three unusual items were observed in the trench fill. One is a 10-inch-long, 1-inch-diameter section of iron pipe that had old breaks on both ends (found at about 160 ft on the corridor line). One chert flake was found in sediments from the lower part of the A horizon at about 170 ft. It appeared to be a large tertiary biface thinning flake. A careful examination of the sediment and stratigraphy in this area revealed no other prehistoric artifacts.

A very large limestone cobble that measured approximately 22x9x8 inches was found at 194 ft. It came from the base of the A horizon, well above the natural gravel layer. It is

Table 1. Summary of trench data*

Trench No.	Starting Point**	Ending Point**	Trench Length (ft)	Cumulative Distance as Measured Along Project Corridor Line	Notes
T1	10 + 02	11 + 52	150	2–52	Starts 1 foot southeast of first baseline mapping stake and runs through Borehole 1.
T2	10 + 52	12 + 56	104	152–256	Starts at Borehole 2.
T3	12 + 56	15 + 13	257	256–513	Trench 3 was dug along the south edge of paved road, following the road curve. The expanded block excavation and two unmarked grave shafts are in and south of Trench 3 (from 307–319 ft).
T4**	12 + 56	13 + 34	78	256–334	Trench 4 runs parallel to a 78-ft-long section of the northwest end of Trench 3. The southeast end of Trench 4 abuts Trench 3 (from 306–334 ft).
T5	15 + 13	16 + 25	112	513–625	Ends 10 ft southeast of Borehole 1.
TOTAL			701 ft	623 ft	

* All trenches are 32 inches wide and were excavated between 32 and 60 inches deep

** The starting and ending points for each trench are relative to the mapping baseline that runs parallel to the project corridor.



a



b

Figure 8. Photographs of Trench 1. (a) View of Trench 1 looking southeast. Note the contrast between the dark A horizon and the underlying light-colored sediment. (b) Profile of the north wall of Trench 1, looking north. This location is approximately 100 ft southeast from the start of the trench. Note the dark A horizon over light-colored sediment and the gravelly fill at the bottom of the trench. Scale rod is 1 meter tall in 10-cm increments (39.4 inches in ca. 4-inch increments).

too large to have been a natural gravel and is most likely a manuport, perhaps brought in as a temporary headstone and later discarded along the edge of the cemetery.

Trench 3

If we had continued trenching in a single line, Trench 3 would have started at the southeast end of Trench 2 and cut through the paved roadway. However, the City of New Braunfels wanted to leave this section of paved road intact if possible, since they did not know how long it might be before the bank stabilization construction actually began. To leave the road intact, we simply jumped to the opposite (south) side of the road from the point where Trench 2 ended. Thus, Trench 3 started on the south side of the paved road (Mather Street), within about 9 ft from the concrete platform over the grave of Judge R. Whitfield (1919–1970). It then followed the curve of the road (1 ft south of the pavement) and was dug to a depth of 30 to 40 inches.

As the trench excavation was straightened out following the edge of the roadway, a distinct soil anomaly was observed in the floor of the trench (at 312 ft) southeast end. The excavation was halted immediately, and hand excavation was done to expose the soil anomaly. It quickly became apparent that we had a large section of mottled fill (dark, medium, and light sediment mixed together) representing an intrusive feature, probably a historic grave shaft. The mottled soil was visible at 12 inches below the surface in the dark A horizon, and it continued down to the bottom of the trench at 30 inches below the surface in the light-colored sediment. The north edge of this anomaly was a very straight vertical line in the trench wall, and it was traced as a straight horizontal line in the bottom of the trench. Based on the latter, it was predicted that the grave shaft continued to the south of this trench. We used the trackhoe to scrape a large rectangular area, about 9x12 ft, down to a depth of 12 inches. With a little hand shoveling to clean the area, we quickly exposed two grave shafts that appeared as distinct rectangles of mottled sediment in the undisturbed darker A horizon (Figure 9).

Onsite Meeting to Discuss the Unmarked Graves

When the two unmarked graves were discovered in Trench 3 just south of the paved cemetery road (Mather Street), it was clear that they were inside or very close to the Freedman's Place section. It is not unexpected to find unmarked graves in historic African American cemeteries or sections within cemeteries. For many African American cemeteries, the descendant communities have moved on or been displaced, and grave markers were often ephemeral and disappeared through time. Numerous archeological investigations document the prevalence of unmarked graves in nineteenth-century African American cemeteries, and it is not uncommon for large numbers of graves to have no formal grave markers or no surface manifestations at all (e.g., Davidson 2004; Dockall and Powell 1996; Foster and Nance 2002; Freeman et al. 2006; Lee and Bruseth 2008; Peter et al. 2000; Tiné and Boyd 2003). There are even documented cases in which grave markers were intentionally removed from African American cemeteries and burial areas (Chesky 2009; Young 2009).



a



b

Figure 9. Photographs of the unmarked graves found in Trench 3, before Trench 4 was excavated. (a) Overview of Trench 3 and the 9x12-ft block excavation to expose the unmarked grave. View is to the southeast, and the trackhoe is near the southeast end of Trench 3. (b) Closeup oblique overhead view of the unmarked grave shafts exposed in the expanded block excavation. View is to the west, and both graves are oriented east-to-west. Scale is 1 meter in 10-cm increments.

On the afternoon after the unmarked graves were found, an onsite meeting was held to discuss the situation and consider options for the placement of the proposed line of soldier piles. PAI archeologists (Doug Boyd and Aaron Norment), the D&M Construction contractor (Jimmy Owens), and the Comal Cemetery maintenance supervisor (Larry Herrmann) met with representatives from FNI (Les Boyd and Tina Standard) and the City of New Braunfels (Adam Michie). Based on a visual inspection of the unmarked grave locations relative to the detailed map of cemetery plots, everyone agreed that the two graves were probably inside historically mapped cemetery plots. Comparing the large-scale cemetery plot map with the grave locations, it was determined that the unmarked graves were probably in the last two or three plots on the northern end of Row 14 (with the cemetery rows running north-to-south, and Row 1 being along the eastern edge of Freedman's Place). Shultz Group surveyors then took GPS readings on the locations of these two unmarked graves, and their later mapping data proved these initial interpretations to be correct. Figure 10 shows the location of the two unmarked graves relative to the cemetery plots. The locations of the two graves are considered approximate due to the inherent inaccuracies of rectifying our project maps with the cemetery plot maps, but the error factor is probably minimal.

Based on the examination of the cemetery plot map during the onsite meeting, it appeared likely that the current paved Mather Street approximates the location of an old road that has marked the northern and northeastern boundaries of the Freedman's Place for many decades, perhaps since its inception. If the modern road represented an old boundary of this cemetery section, then it seemed less likely that additional graves would be found to the northeast.

Everyone agreed that the best option for the bank stabilization project was to dig another archeological trench line down the paved road and just north of the unmarked graves. This new trench (to be called Trench 4) would begin at the southeast end of Trench 2 and continue in a straight line past the south edge of Borehole 3 and about 15 ft past the two unmarked graves (see Figures 5, 6, and 7). If no more unmarked graves were found, this new trench segment would become the project corridor (i.e, the line of proposed soldier piles would follow this trench centerline), with the alignment switching from Trench 4 back over to Trench 3 in the latter 15 ft where the south edge of Trench 4 and north edge of Trench 3 overlap.

The final decision made during the onsite meeting was that the final trench should begin at the southeast end of Trench 3 and continue in a straight line through the center of Boreholes 4 and 5, ending a point 10 ft beyond Borehole 5. This final trench (to be called Trench 5) would cross over a long section of the Mather Street pavement, ending up with a shorter segment running off of the pavement (on north side of Mather) at the southeastern end.

Immediately after the onsite meeting, the D&M Construction crew made arrangements to bring in a mechanical disk saw and a dump truck the following morning. They would saw a 48-inch-wide cut in the paved road sections (to allow for a 32-inch-wide trench cut) and use the trackhoe to strip up the pavement. They would then use the Bobcat to pick up the pavement sections and place them into the dump truck, and haul all of the pavement material offsite.



Figure 10. Closeup map of the Freedman's Place within the Comal Cemetery. Section of original map provided by the Comal Cemetery manager Larry Herrmann. The approximate locations of the two unmarked graves are shown.

Trench 4

As planned during the onsite meeting, Trench 4 was excavated from the southeast end of Trench 2 for 78 ft in a straight line, with the north edge of the trench running 12 inches south of Borehole 3. This placed the south edge of Trench 4 about 16 inches away from the northeast corner of Unmarked Grave 1 (the northernmost of the two unmarked graves). Trench 4 was excavated 15 ft beyond the end of the expanded block excavation around the two unmarked graves (Figures 11 and 12).

Almost all of Trench 4 was dug inside the pavement of the Mather Street roadway, with a 4-ft-wide strip of the pavement having been cut out and removed prior to the trench excavation. Trench 4 was dug 32 to 44 inches deep, and it revealed the same general stratigraphic profile as the other trenches. It had 18–20 inches of dark A horizon sediment



Figure 11. Photograph of the completed excavation of Trench 4, with previously excavated Trench 3 (on the left) already backfilled. View is to the northwest with the previously excavated and backfilled Trenches 1 and 2 in the background. The red-handled brush at right center marks the location of Borehole 3, and the two boxes at left center mark the heads of the two unmarked graves (the shallow scrape has also been backfilled).

overlying a homogenous light-colored sediment with very few gravels. These deposits were clearly intact over the entire length of the trench, and nothing unusual was found.

Trench 5

Trench 5 excavation began at the southeast end of Trench 3, and it continued in a straight line for 112 ft. It ran directly over Borehole 5 and ended 10 ft beyond the borehole (see Figure 13). Except for about 20 ft at the southeast end, this trench was dug under Mather Street, with a 4-ft-wide section of the pavement having been cut and removed before the trenching began. This trench was dug to a depth of 32 to 44 inches deep, and it revealed the same stratigraphy as Trench 3, with few or no gravels observed in the light-colored sediment. Nothing unusual was found and all of the sediments were undisturbed except for the clay-filled location of Borehole 5.

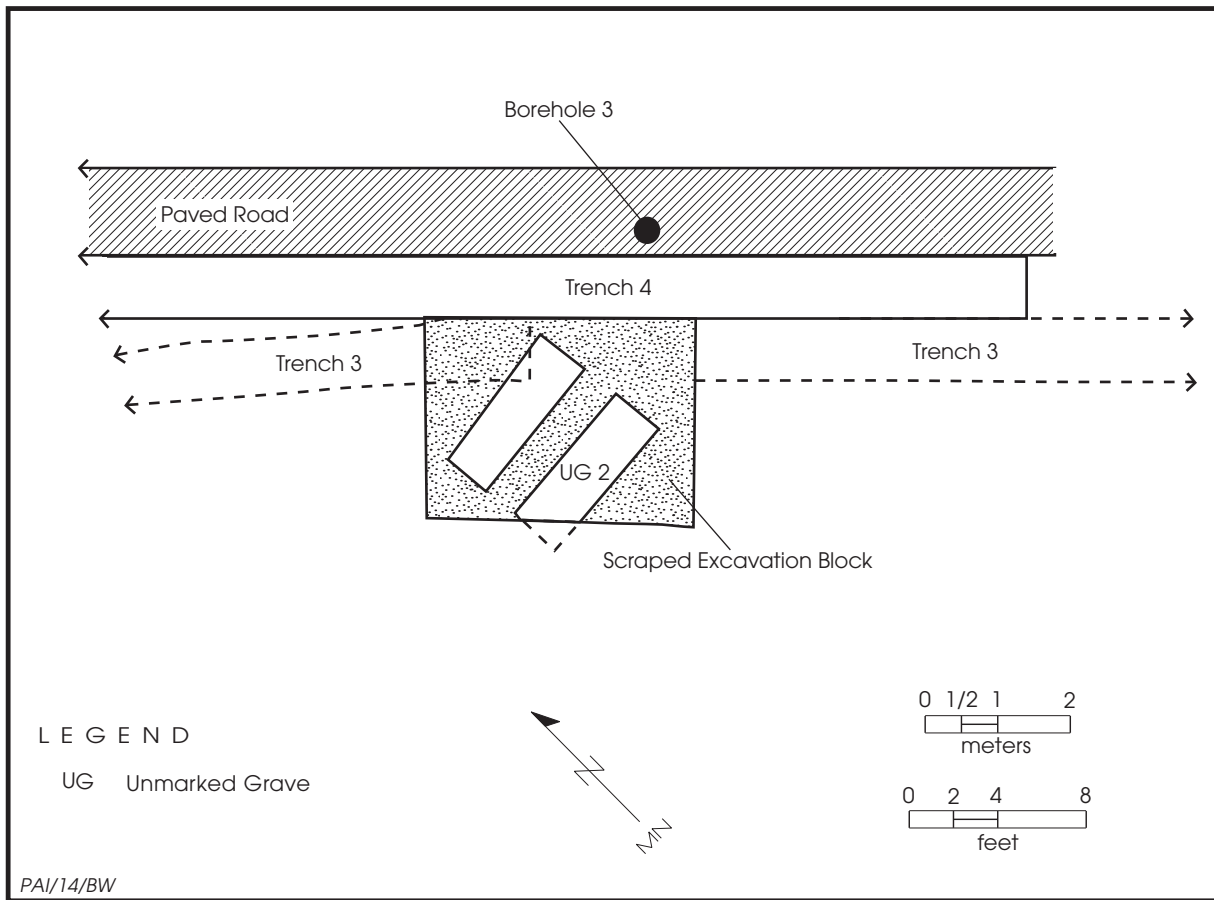


Figure 12. Closeup map showing the spatial relationships between Trenches 3 and 4, the expanded shallow scrape excavation block, and the two unmarked grave shafts. Note the “Adjusted Project Corridor” where the line transitions from Trench 4 to Trench 3.

SUMMARY AND RECOMMENDATIONS

The stabilization of the Guadalupe River cutbank is essential for the long-term protection of the Comal Cemetery. The cemetery is situated on a high Pleistocene-age terrace, and the river has begun actively undercutting this landform. The City of New Braunfels has initiated this bank stabilization project to avoid the catastrophe that could occur if the river continues to erode the cutbank. The goal of this archeological project was to locate any unmarked historic graves that might be impacted by the construction associated with the bank stabilization.



Figure 13. View of Trench 5 looking northwest down the project corridor. The southeast end of the trench is in the foreground, and the trackhoe is near the northwest end. The arrow points to Borehole 5, a clay-filled circle in the bottom of the trench.

When this project was in the planning stages, it was unclear how easily unmarked graves could be detected at this location. Every grave search project is unique, and the ability to find grave shafts during mechanical scraping depends on the specific geology and soils of each project area. The borehole monitoring suggested that the sediments were undisturbed, and the subsequent mechanical trenching revealed that the dark A horizon over lighter-colored deposits was consistent throughout the project corridor—stratigraphic conditions that were ideal for detecting intrusive grave shafts.

The mechanical trenching was conducted over a three-day period, with the trenches being excavated and backfilled the same day (Figure 14). PAI archeologists monitored the trenching closely, but only two unmarked graves were discovered. These graves were located on the northeastern edge of the African American section called Freedman's

Place, and both graves appear to be among the northernmost grave plots that appear on the Comal Cemetery plot maps (see Figure 10). Another trench segment was excavated north of where these graves were found, and no additional unmarked graves were found. This provided an alternate route for the construction corridor, which was realigned as necessary to avoid these graves.

Construction activities associated with the bank stabilization project will not impact or disturb any unmarked historic graves if the proposed line of soldier piles runs down the centerline of the selected archeological trenches following this route (from northwest to southeast):

- Trench 1—entire length, ca. 151 ft (starting at baseline mapping stake 10+00)
- Trench 2—entire length, ca. 104 ft (starting at southeast end of Trench 1)
- Trench 4—partial length, ca. 63 ft (starting at southeast end of Trench 2 and ending near Borehole 3)
- Trench 4/3 Overlap—ca. 15 ft (starting in Trench 4 near Borehole 3 and running in a straight line to end in Trench 3 directly south of the southeast end of Trench 4)



Figure 14. Overview photo of the project corridor with all of the archeological trenches backfilled. View is to the northwest with the southeast end of Trench 5 in the foreground. The Bobcat in the distance is at the location where the unmarked graves were found in the African American section.

- Trench 3—partial length, ca. 179 ft (starting at the southeast end of the Trench 4/3 Overlap, and following Trench 3 along the south edge of Mather Street to its southeast end at the junction between Street 3 and Mather Street.
- Trench 5—entire length, ca. 112 ft (starting at southeast end of Trench 3 and running in a straight line through Borehole 5, ending 10 ft beyond the borehole)

Figure 15 shows the final route recommended for the project construction activities, and it encompasses a total distance of approximately 624 ft. If the proposed soldier pile drill holes are all excavated following the centerline of this alignment, no archeological monitoring of the construction drilling is needed and no further archeological investigations are recommended.

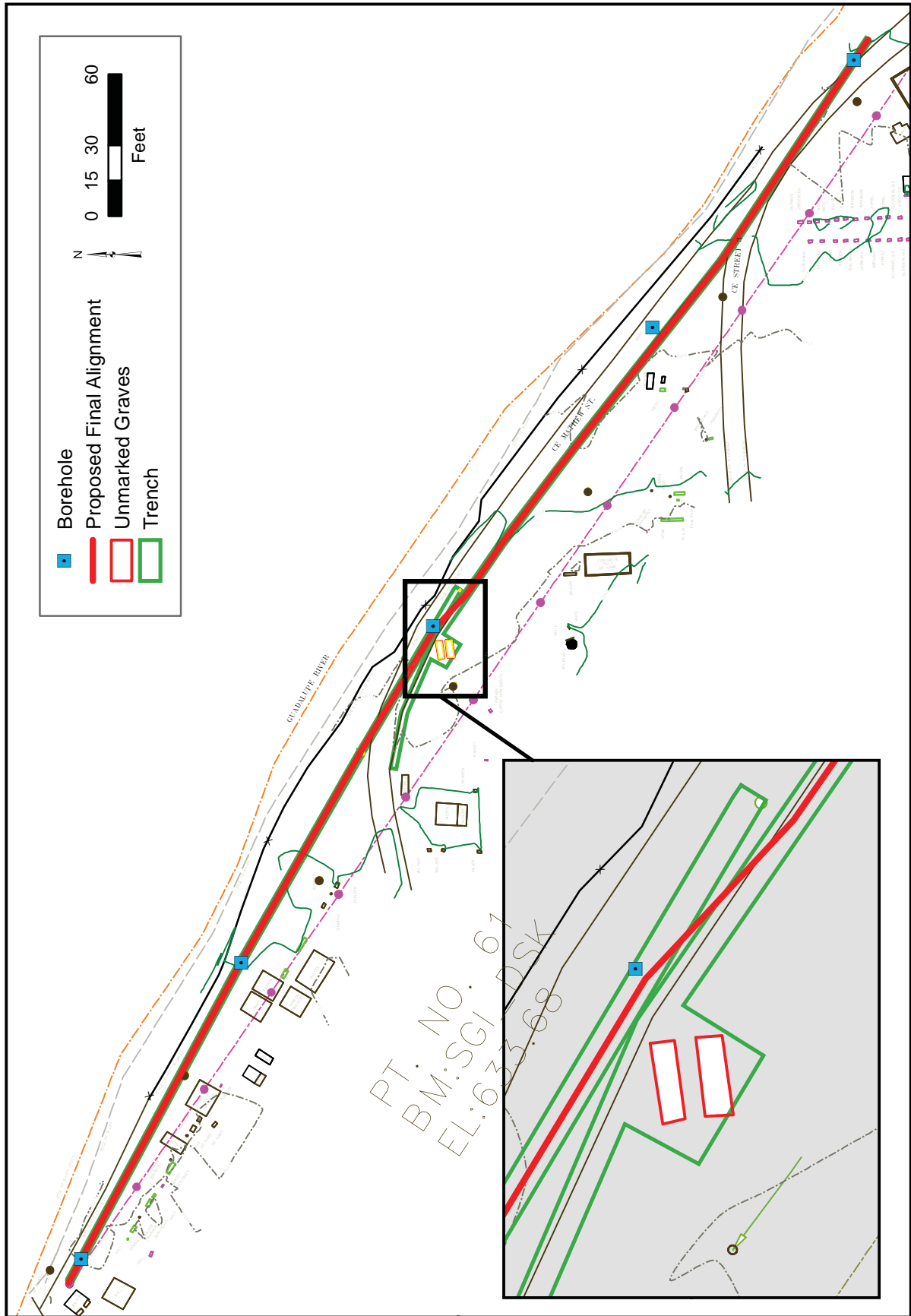


Figure 15. Proposed final alignment of the project corridor where the line of soldier pile drill holes can be excavated without impacting any

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