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Archeological Intensive Survey of Farm-toMarket Road 1463, Fort Bend County

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Final Report for Archeological Survey

Archeological Intensive Survey of Farm-to-
Market Road 1463, Fort Bend County

Houston District

Allen Bettis, Principal Investigator, Antiquities Permit No. 7828

CSJ: 0188-10-021

June 23, 2017

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated 12-16-14, and executed by FHWA and TxDOT.

Abstract

On behalf of the Texas Department of Transportation, SWCA Environmental Consultants (SWCA) conducted an intensive archeological survey on December 16, 2016, of approximately 87.5 acres of existing right-of-way (ROW) along Farm-to-Market road (FM) 1463 near Katy, Texas, for the purpose of upgrading and widening the roadway. Investigations occurred along FM 1463 between Interstate Highway (IH) 10 and FM 359. The total project area for roadway improvements constitutes 115.4 acres within new and existing ROW; however, access was limited to the 87.5 acres of existing ROW; access to 27.9 acres comprising new ROW was not available. Because the project will receive funding from the Federal Highways Administration, it qualifies as an undertaking as defined in Title 36 Code of Federal Regulations Part 800.16(y) and, therefore, was conducted in compliance with Section 106 of the National Historic Preservation Act (54 U.S. Code 306108). Furthermore, the project must also comply with the Antiquities Code of Texas (9 Natural Resources Code 191). Allen Bettis served as Principal Investigator under Texas Antiquities Code Permit No. 7828.

The total area of potential effects (APE) for the project is defined as the FM 1463 ROW between its juncture with IH 10 to the north and FM 359 to the south, totaling approximately 6.8 miles (10.9 kilometers [km]). The existing FM 1463 ROW is approximately 100 feet wide and the proposed new ROW is approximately 20 to 60 feet wide. Based upon typical roadway design, the depth of impacts is anticipated to be no more than 3 feet for the roadway, 10 feet in depth for the proposed storm water drainage, and up to 50 feet in depth for the bridge replacement across Willow Fork Creek.

The background review revealed that within 0.6 mile (1 km) of the APE there are eight previously conducted archeological investigations, two archeological sites (41FB279 and 41FB129) and one cemetery. A review of historic topographic maps indicated that 102 potentially historic buildings are present within 0.6 mile (1 km) of the APE, some of which are mapped directly adjacent to, but not within, the APE. Site 41FB279 is a buried prehistoric lithic scatter located on the east bank of Willow Fork. The site's eligibility for the National Register of Historic Places (NRHP) is currently listed as undetermined. Site 41FB129 is a prehistoric campsite located on the west bank of Willow Fork. Site 41FB129 is listed as not eligible for the NRHP.

Field investigations, consisting of a pedestrian survey, revealed that the APE has been modified by previous roadway construction, residential and commercial development, and utilities, lessening the potential for intact archeological deposits to be present within the APE. Other than modern debris, investigators did not identify any cultural materials within the APE during the pedestrian survey. Additionally, based on field observations, the 27.9 acres of proposed new ROW have been extensively developed and no further work is recommended. Based on the results of the survey, SWCA recommends a finding of "no historic properties affected," and no further archeological investigations are recommended within the surveyed portions of the APE. Finally, the location of associated facilities, such as detention ponds, have not yet been identified; therefore, no recommendations are provided for these pending facilities.

Project Identification

Date: June 21, 2017

Date(s) of Survey: 12/16/2016

Archeological Survey Type: Reconnaissance Intensive

Report Version: Draft Final

Jurisdiction: Federal State

Texas Antiquities Permit Number: 7828

District: Houston

County or Counties: Fort Bend

USGS Quadrangle(s): Katy (2995-331), Richmond NE (2995-324)

Highway: Farm-to-Market Road 1463

CSJ: 0188-10-021

Report Author(s): Dan Rodriguez

Principal Investigator: Allen Bettis, Texas Department of Transportation

Texas Historical Commission Approval

Signature

Date

Project Description

Project Type: Roadway improvement

Total Project Impact Acreage: 115.4 acres

New Right of Way (ROW) Acreage: 27.9 acres

Easement Acreage: 0 acres

Area of Pedestrian Survey: 87.5 acres of existing ROW

Project Description and Impacts: Construction activities would expand the existing roadway along FM 1463 from a two-lane to a four-lane, six-lane, and eight-lane, divided urban roadway with curb and gutter, center turn lanes, paved shoulders, and sidewalks. The proposed project would also include storm water drainage in open ditches and replacing the existing bridge at Willow Fork. The construction activities will take place within the existing ROW and proposed new ROW. The project is in Fort Bend County, Texas (Figure 1).

Area of Potential Effects (APE): The APE is defined as the proposed project length (6.8 miles), the existing ROW width (typically 100 feet), the proposed new ROW (20 to 60 feet), and the maximum 50-foot depth of construction impacts. The proposed project starts at the juncture of FM 1463 and Interstate Highway 10 and ends at the juncture of FM 1463 and FM 1093. The total project acreage is 115.4 acres (Figure 2).

Project Area Ownership: The proposed and existing ROW is currently owned and managed by the Texas Department of Transportation (TxDOT).

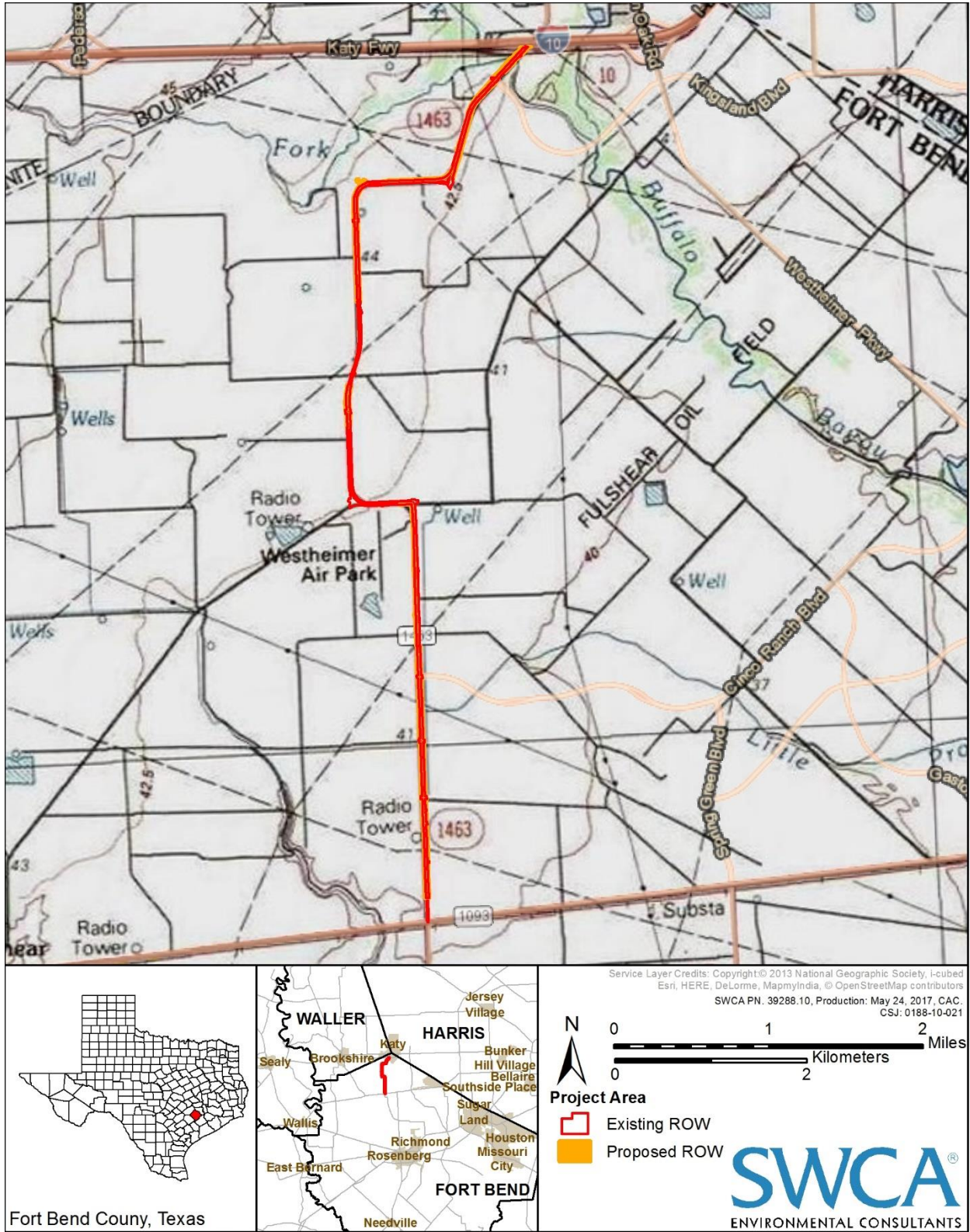


Figure 1. Project location.

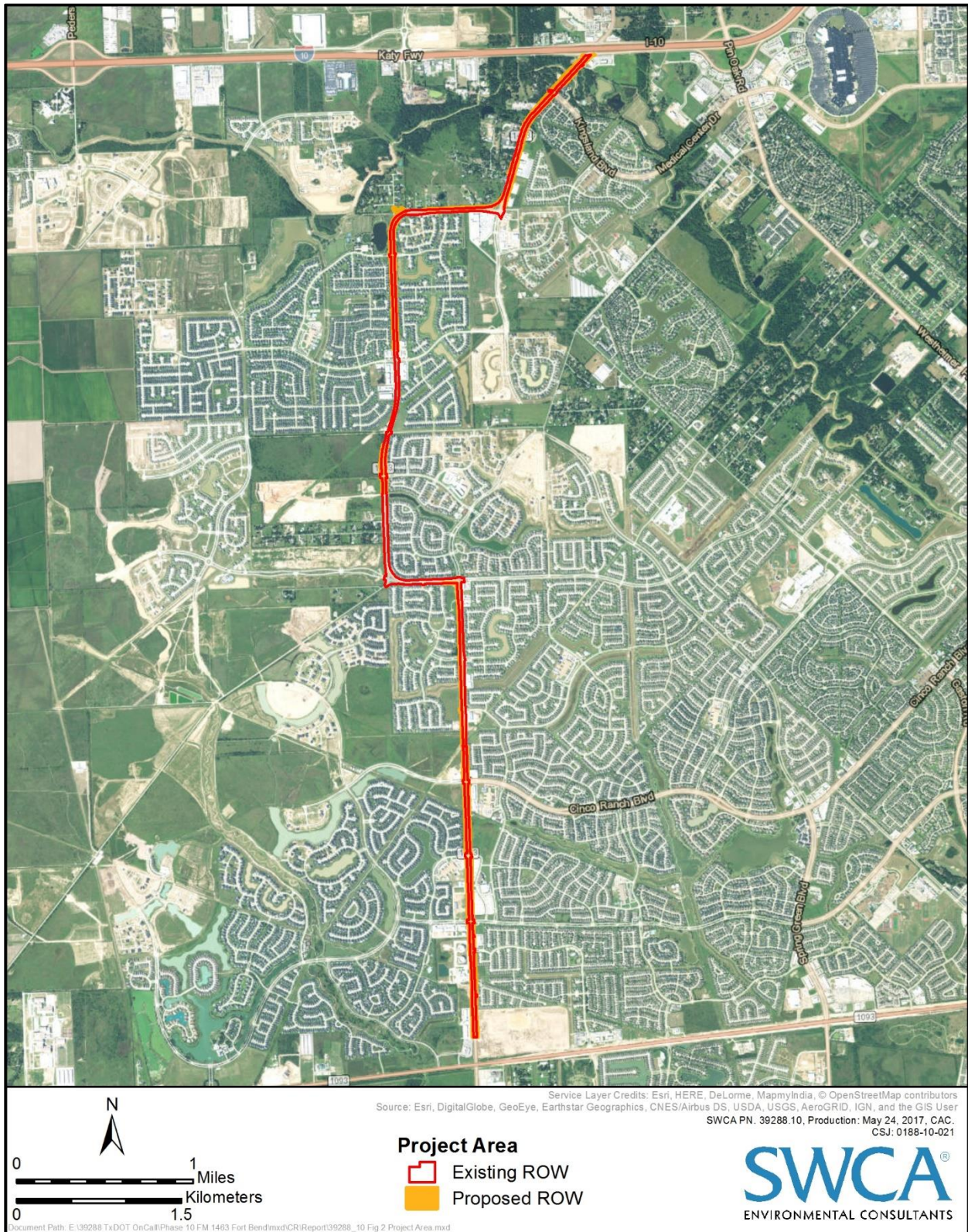


Figure 2. Project area.

Project Setting

Topography: The linear APE runs roughly north to south across a highly modified coastal plain. Elevation ranges from a maximum of 145 feet above mean sea level (amsl) to a low of 118 feet amsl, at Willow Fork, across the project area.

Geology: According to the Geologic Atlas of Texas, Sequin sheet, the APE is underlain by Middle Pleistocene age alluvial deposits of the Lissie formation. The proposed project area is composed of predominately clay and clay loam deposits (Barnes 2016; U.S. Geological Survey [USGS] 2016a).

Soils: The APE consists of a seven soil series (Figure 3). In order of predominance, the APE crosses the Katy fine sandy loam, Waller silt loam, Gessner fine sandy loam, Edna loam, Clodine loam, Snakecreek fine sandy loam, and Hatliff fine sandy loam. These soils are found on coastal prairies derived from the Lissie or the nearby Beaumont formation (Natural Resources Conservation Service 2016).

Land Use: Portions of the existing and proposed APE occur within commercial and residential properties in existing agricultural or commercial parcels adjacent to the existing FM 1463 ROW. Numerous buried utility markers were noted throughout the existing and proposed ROW.

Vegetation: Portions of the APE consist of manicured grass, concrete parking lots, or tall weeds adjacent to roadways (Figure 4).

Estimated Ground Surface Visibility: 10 percent, not including the existing roadway.

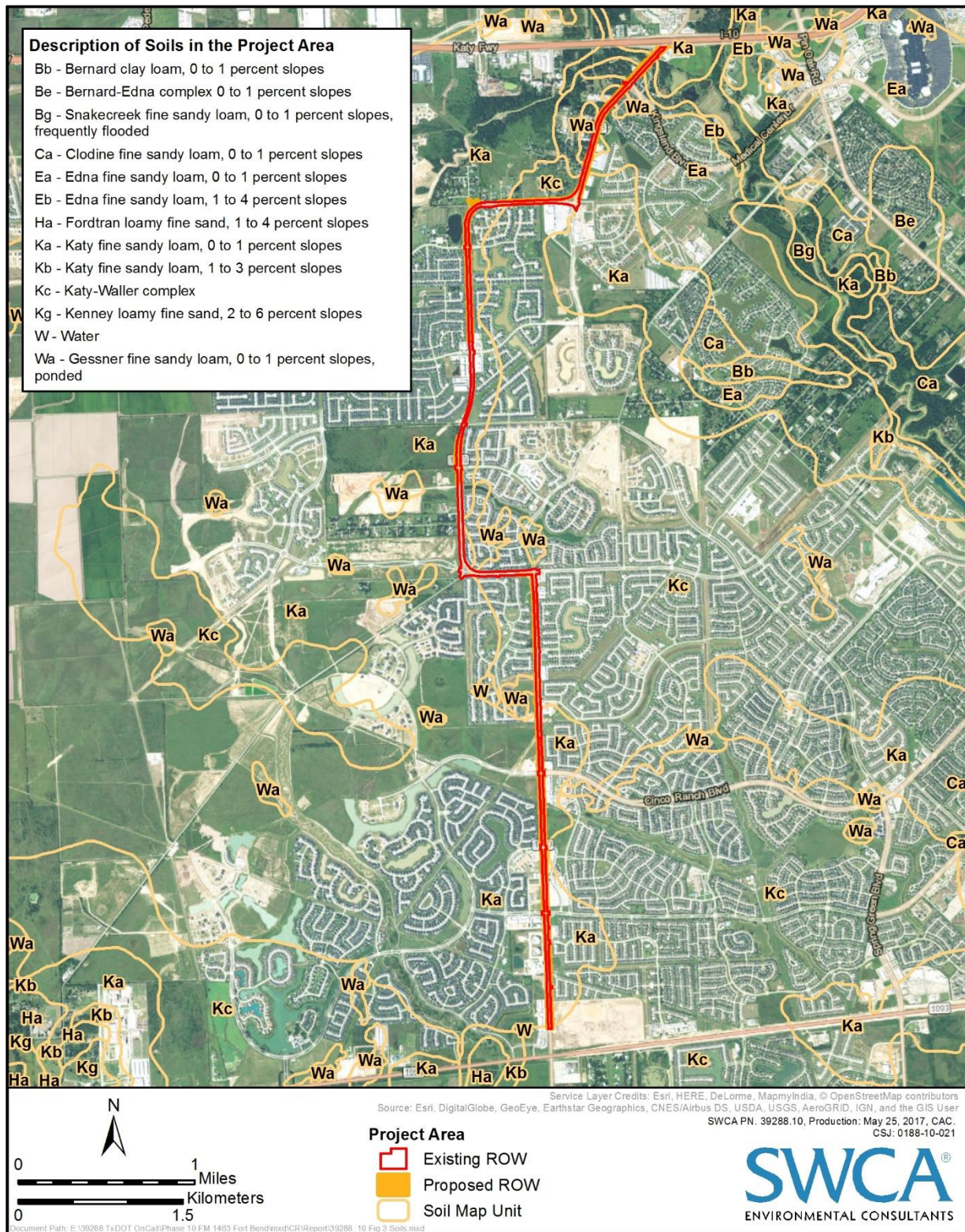


Figure 3. Mapped soils within the APE.



Figure 4. Overview of typical vegetation and common modifications in the APE; along the east side of FM 1463 near the southern terminus, facing north.

Previous Investigations and Known Archeological Sites: A background literature review was performed by Blanton & Associates Inc. in 2016 and updated by SWCA in December 2016. The background review determined that portions of the APE had been previously surveyed for cultural resources. Eight cultural resources surveys have been conducted within or directly adjacent to the proposed project APE, and two archeological sites (41FB279 and 41FB129) and one cemetery are within 0.6 mile (1 kilometer [km]) of the APE (Texas Historical Commission [THC] 2016) (Table 1). The Houston Potential Archeological Liability Map (HPALM), provided by the TxDOT Houston District was also included in this review.

Site 41FB279 is a buried prehistoric lithic scatter located on the east bank of Willow Fork. The site was recorded in 2000 and the area has since been heavily developed with an artificial lake and public pool facility. The NRHP status for the site is currently listed as undetermined.

Site 41FB129 is a prehistoric campsite located on the west bank of Willow Fork. The site was recorded in 1989 as having cobbles, lithic flakes, Goose Creek pottery sherds, and a Scallorn projectile point. The location of the site has since been heavily developed with a high-density suburb. Site 41FB129 is listed on the Texas Archeological Site Atlas (Atlas) as ineligible for the NRHP.

Table 1. Previous Cultural Surveys within 0.6 mile (1 km) of the Project Area

Sponsor/Client	Site(s) Discovered or Revisited	Distance from APE	Reference
Environmental Protection Agency	None	0.64 km	THC 2016
Local resident Bruce Duke	41FB129	0.536 km	THC 2016
TxDOT	None	0.04 km	THC 2016
I - Ten Poorman Investments Inc.	41FB279	0 km	THC 2016
Environmental Protection Agency	None	0 km	THC 2016
TxDOT	None	0 km	Butler 2012
U.S. Army Corps of Engineers Galveston	None	0.71 km	Cochran 2013
U.S. Army Corps of Engineers Galveston	None	0.34 km	THC 2016

The background review included an examination of 38 historic topographic maps dating from 1829 to 1975 within the Texas Historic Overlay (Foster et al. 2006) and the National Geologic Map Database (USGS 2016b) for evidence of historic-age resources that may exist within 0.6 mile (1 km) of the APE. SWCA archeologists identified 103 possible historic-age structures within the project area on maps dating from 1955 to 1971. Sixteen potential historic structures are located within 50 meters from the existing TxDOT ROW; however, no structures or associated historic-age artifacts were identified within the project APE.

Comments on Project Setting: The APE within the existing and proposed new ROWs has been extensively modified by roadway construction and maintenance, as well as surface and subsurface utilities. Additionally, modern infrastructure such as overhead and underground facilities, commercial and residential development, and drainage or flood control modifications have extensively modified the area.

Survey Methods

Surveyors: Dan Rodriguez, Mary Rodriguez

Methodological Description: Field investigations were designed to meet or exceed the THC Archeological Field Survey Standards. The investigations entailed a pedestrian survey of approximately 87.5 acres of existing ROW, focusing on, locations that appeared most favorable to contain intact cultural resources (e.g., areas with less-visible disturbance or fewer utilities). Using the HPALM data, the Blanton & Associates Inc. background review recommended the two areas with the highest archeological potential be surveyed, including portions of the APE at the Willow Fork Crossing south of IH 10, at the southern end where the APE crosses the floodplain of Flewellen Creek, as well as a surface survey of mounds in

the uplands adjacent to these drainages and in an area between Rose Lane and Churchill Farms Boulevard, respectively. The remainder of the APE was not recommended for survey. Due to the heavy degree of surface and subsurface modification of the existing and proposed ROW, survey efforts were reduced to pedestrian survey.

Other Methods: None

Collection and Curation: NO YES If yes, specify facility.

Comments on Methods: THC survey standards for a project of this size (i.e., 11–100 acres) require a minimum of one shovel test per two acres in settings that have potential for buried cultural materials. Because of the highly disturbed nature of the existing ROW and access limitations, SWCA met this requirement by pedestrian survey with a thorough surface inspection and documentation of existing disturbances. Given the existing pavement, fill, disturbances, rapid commercial development, privately owned land with unknown access, heavy below-surface grading for road infrastructure, and utilities, no locations were suitable for subsurface testing.

Survey Results

Project Area Description: The pedestrian survey revealed that road and underground utilities construction and maintenance have heavily impacted the majority of the existing ROW. Warning markers for, and evidence of, fiber optic and telephone cables are visible throughout the existing ROW (or adjacent to the roadway in proposed new ROW) and generally parallel both sides of the roadway (Figure 5). The topography of the APE is generally a man-made drainage ditch alongside the artificial raised road bed (see Figures 4 and 5).

Most of the north side of the APE is already developed into residential and commercial properties, whereas the south side of FM 1463 is currently under construction by commercial builders for shops and neighborhood entrances. The majority of the proposed new ROW consists of a 20- to 60-foot-wide expansion off the existing ROW and subject to the same heavy infrastructure and utility disturbances described above.



Figure 5. Overview of typical roadside impacts and marked utilities alongside FM 1463, facing south.

As specified in the work authorization, the investigations focused on three high probability areas defined by Blanton & Associates (2016): 1) areas along Willow Branch; 2) areas along Flewellen Creek; and 3) natural mounds between Rose Lane and Churchill Farms Boulevard (Figures 6–8). The two drainages are also identified by the HPALM as having the highest archeological potential. All the areas were visually assessed by SWCA and were determined to be heavily modified. The Willow Fork crossings showed extensive disturbance from culvert construction, deep ditches, and flagged buried utilities (Figure 9). Flewellen Creek, located west of the ROW near the southern end, flows nearby, but does not intersect the APE; recent developments have disturbed the ROW along the southern end (see Figure 8). The high probability area identified near Rose Lane showed extensive recent development into an entrance to a suburban development. The mounds initially identified had been mechanically modified and disturbed by buried utilities, road infrastructure, and grading for future housing development (Figure 10). Except for occasional modern debris typically associated with roadside environments, no cultural materials were identified.

As the existing ROW contained numerous utilities, paved areas, ditches, and fill sections, no shovel testing or other subsurface investigations were conducted. Where available, erosional profiles provided limited subsurface exposures.

Archeological Materials Identified: SWCA did not encounter any cultural resources other than modern roadside debris within the 87.5-acre existing APE.

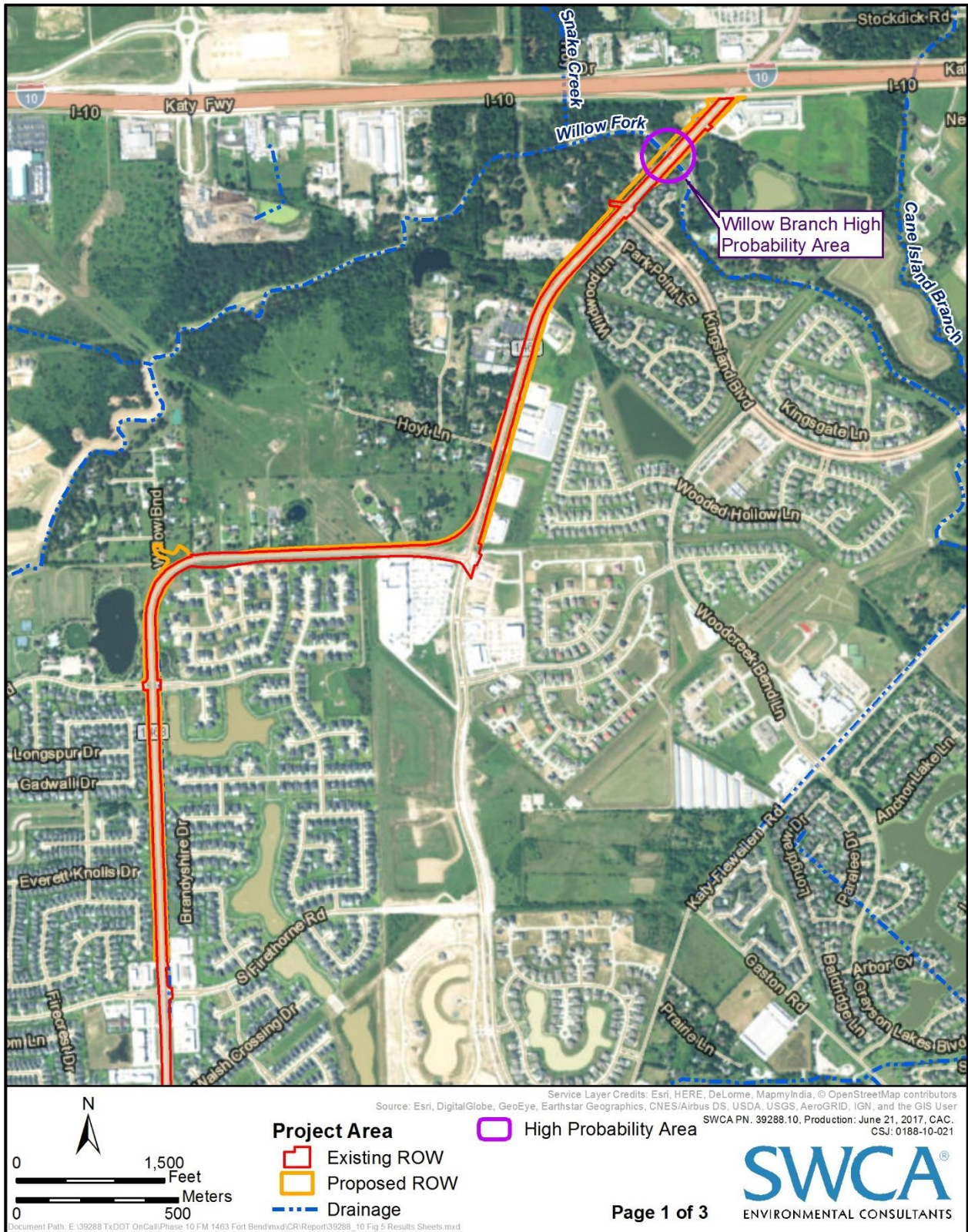


Figure 6. Map of results.

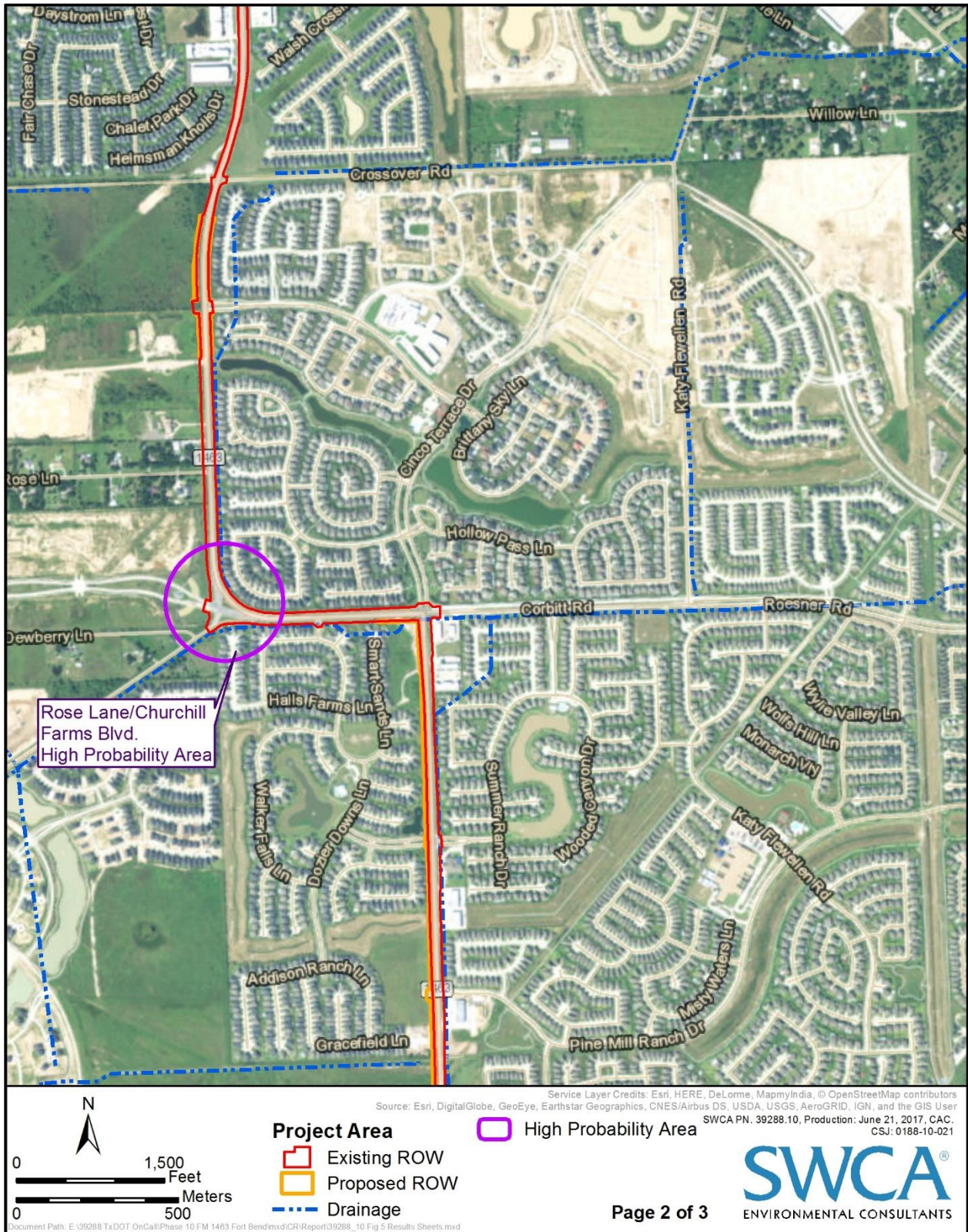


Figure 7. Map of results.

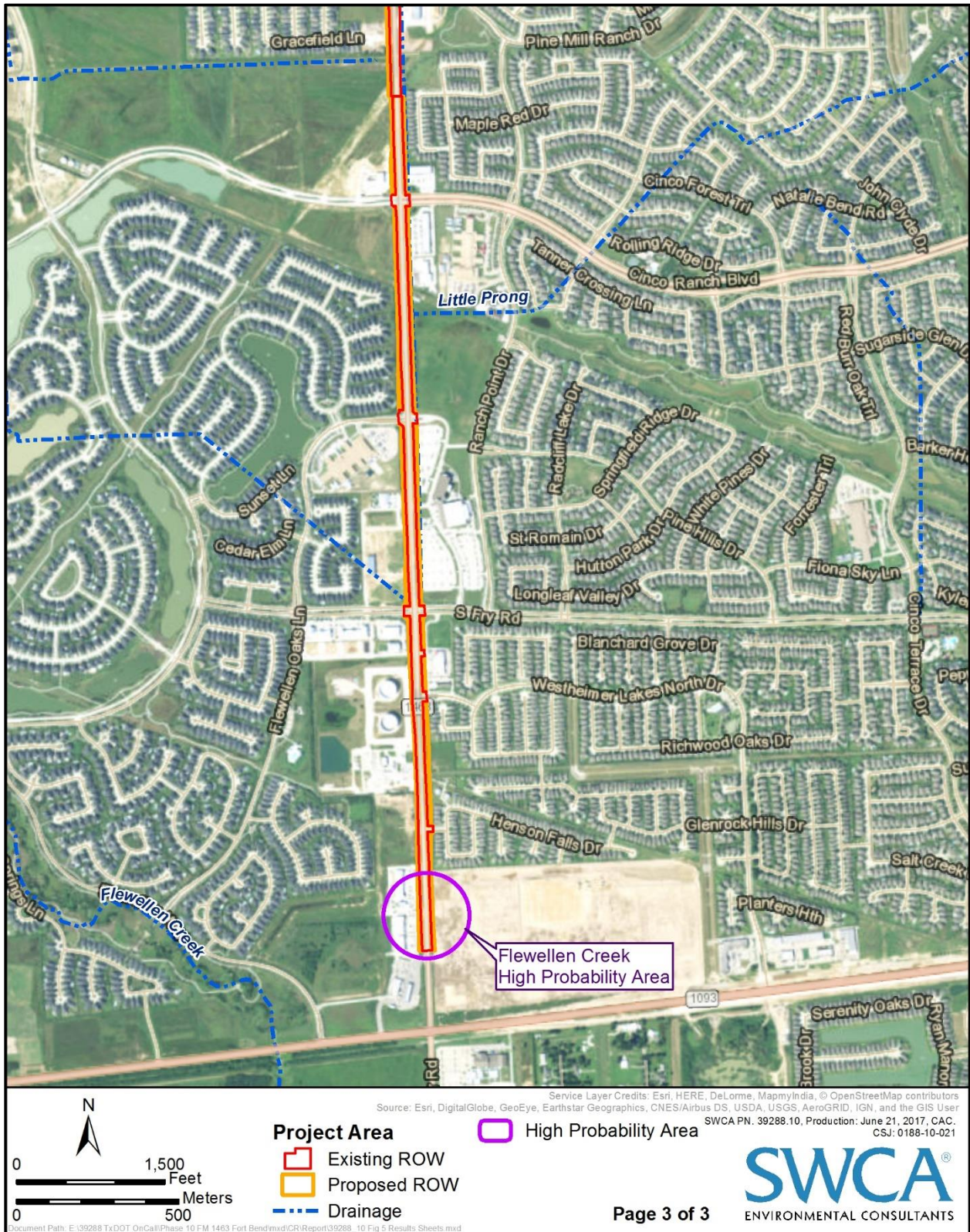


Figure 8. Map of results.



Figure 9. Willow Fork bridge crossing with extensive grading, erosion, and buried utilities; west side of FM 1463, facing northeast.



Figure 10. The 'mounded' upland area near Rose Lane now completely modified by commercial suburban development, facing northwest.

APE Integrity: The APE exhibits extensive prior disturbance from road construction, infrastructure, and surface and buried utilities, which have compromised the integrity of soil deposits and any cultural resources that might have been present within them.

Recommendations

Further Work: No further work is recommended within the surveyed portion of the APE. Additionally, because of extensive modifications, no further work is recommended for the 27.9 acres of proposed new ROW. The areas of new ROW typically consist utility corridors and developed areas with a low potential for archeological resources. Locations of related facilities such as detention ponds have not yet been identified; therefore, no recommendations are provided for these areas, although additional archeological assessments may be required.

Justification: Investigators did not encounter any cultural materials during intensive investigations of the APE. Additionally, the extensive roadway construction, commercial development, and placement of buried utilities throughout the existing ROW in the APE has largely mixed the topsoil and subsoil, greatly decreasing the potential for encountering intact cultural deposits. Therefore, no further investigations are recommended to assess deep impacts from project construction within the approximately 115.4 acres of proposed and existing ROW.

Investigations were conducted in compliance with the Antiquities Code of Texas and Section 106 of the National Historic Preservation Act. As per the federal and state implementing regulations at 36 CFR 800.4(b)(1) and 13 Texas Administrative Code 26, SWCA has made a reasonable and good faith effort to identify all cultural resources within the APE and recommends no further cultural resources investigation prior to construction.

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This report was written on behalf of the Texas Department of Transportation by



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