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June 4, 2012

Christine Bergren
Office of Waste / MC 124
Waste Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

**Reference: Pescadito Environmental Resource Center – Webb County
Municipal Solid Waste (MSW) – Proposed Permit No. 2374
Supplemental Response to Parts I and II Application
CN603835489/RN106119639**

Dear Ms. Bergren:

On behalf of Rancho Viejo Waste Management, LLC (RVWM), I want to thank you and other Texas Commission on Environmental Quality (TCEQ) staff for meeting with representatives of RVWM on May 17, 2012 to discuss the continued technical review of the referenced Municipal Solid Waste (MSW) permit application. As you know, our current application for a MSW permit consists of Parts I and II, and thus is what TCEQ refers to as a “bifurcated” application. During our meeting we discussed and agreed upon an appropriate level of documentation to demonstrate that §330.61 (m) – Floodplains and wetlands statement – of this MSW application meets the requirements with respect to wetlands. This letter serves as the requested documentation.

We understand that we will need to have a Section 404 permit (wetlands permit) issued by the US Army Corps of Engineers (USACE) for this project. Although we have expended considerable time and expense to study the wetlands, we have not yet submitted the wetlands permit application to USACE. The analyses and documentation are summarized on page 33, Part II, of the permit application. We intend to submit the Section 404 Permit application to the USACE in the near future.

We have previously informed TCEQ representatives that the process to obtain the wetlands permit for this project will be lengthy, and that we will not have completed this permit during TCEQ’s review of Parts I and II of the application. However, during our meeting on May 17, 2012, it was requested that the applicant submit additional documentation of the efforts to date to study the site and prepare for the submission of the wetlands permit. The following Attachments are included with this letter:

Christine Bergren

June 4, 2012

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Attachment	Description
A	Site Visit Summary of Findings and Recommendations
B	Waters of the US Delineation Report with Transmittal Letter
C	USACE Preliminary Jurisdictional Determination Form
D	USACE Correspondence
E	TXRAM Data
F	Biological Evaluations for Pescadito Environmental Resource Center
G	USFWS and TPWD Correspondence

We believe these attachments demonstrate our compliance with Rule 330.553 and our ongoing efforts to obtain necessary permitting from USACE. We will continue to work on this until we have the necessary permit from USACE for whatever wetland impacts we will be proposing.

Please contact me if you have any questions.

Very truly yours,



James F. Neyens, P.E.

cc: Earl Lott, Director

Enclosures

Attachment A
Site Visit Summary of Findings and
Recommendations



MEMORANDUM

To: James Neyens, P.E., TRC

From: Barrett Clark and Deborah Blackburn, TRC

Date: December 2, 2009

Subject: **Site Visit Summary of Findings and Recommendations — Rancho Viejo, Webb County, Texas Proposed Landfill**

On November 2 and 3, 2009, TRC staff performed a site assessment that included a threatened and endangered species habitat assessment and waters of the U.S. jurisdictional determination, including an approximate wetland boundary assessment, at the proposed Rancho Viejo study area (Site) located in Webb County, Texas. For the purposes of this study, the Site was an area of approximately 1,200 acres located near the northeast corner of Rancho Viejo, as presented on an aerial photograph-based map (Figure 1). It should be noted that the wetland boundary assessment was conducted by the identification of hydrophytic vegetation and was not intended to satisfy the wetland criteria presented in the United States Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual; a wetland delineation in accordance with USACE guidelines would be required to accurately assess the presence and extent of wetlands located at the Site.

Prior to conducting fieldwork, TRC conducted a thorough review of existing site information including:

- U.S. Geological Survey. 7.5 minute quadrangle topographical map, Burrito Tank Quad, Webb County, Texas. 1988.
- Natural Resources Conservation Service. Web Soil Survey. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>. Accessed October 30, 2009.
- Texas Parks and Wildlife Department (TPWD). Annotated County List of Rare Species, Webb County. Revised July 16, 2009. Accessed October 30, 2009.
- U.S. Fish and Wildlife Service (USFWS). National Wetland Inventory (NWI) Map, Webb County, Texas. 1989.

Threatened and Endangered Species Habitat Assessment

The TPWD Annotated County List of Rare Species for Webb County was obtained to determine the potential for encountering any rare, threatened, or endangered species at the Site; the list of state and federally listed threatened and endangered species is provided as Attachment 1.

The Site is located within the Texas Tamaulipan Thornscurb component South Texas Plains Ecological Region of Texas. Comprised of mostly gently rolling or irregular plains, the region is cut by arroyos and streams, and covered with low-growing vegetation. Overgrazing, fire suppression and droughts have contributed to the spread of brush and the decrease of grasses. Soils are varied and complex, highly alkaline to slightly acidic, ranging from deep sands to clays and clay loams. Caliche outcroppings and gravel ridges are common. The vegetation is dominated by drought-tolerant, mostly small leaved, and often thorn-laden small trees and shrubs, especially legumes. The most dominant woody species is honey mesquite. Where conditions are suitable, there is a dense understory of smaller trees and shrubs such as brasil, colima or lime pricklyash, Texas persimmon, lotebush, granejo, kidneywood, coyotillo, Texas paloverde, anacahuita, and various species of cacti. Xerophytic brush species, such as blackbrush, guajillo, and cenizo are typical on the rocky, gravelly ridges and uplands. Mid and short grasses are common, including cane bluestem, silver bluestem, multiflowered false rhodesgrass, sideoats grama, pink pappusgrass, bristlegrass, lovegrasses, and tobosa (Gould, 1975).

Soils listed for the site include Aguilares sandy clay loam within uplands and ridges of the northwest portion of the site, Brundage fine sandy loam within the claypan prairies and arroyo drainages of the central and southern portion of the site, Catarina clay within grasslands and arroyo drainages of the central and southern portion of the site, and Montell clay within upland clay flats of the northeast portion of the site.

Observed habitat within and around the Site primarily consists of rangeland. Observed vegetation included honey mesquite, retama, kidneywood, tamarisk, yucca, guajillo, cenizo, prickly pear, tasajillo, saladillo, leatherstem, silver leaf nightshade, althorn, tornillo, seaside oxeye, Berlandier's wolfberry, rattlebox, Bermudagrass, King Ranch bluestem, buffalo grass, buffelgrass, white tridens, curly mesquite, sideoats grama, lovegrass, and tobosa.

Observed wildlife included Harris's hawks, red-eared sliders, and a number of songbirds. A state-listed threatened indigo snake was observed along the arroyo that separates the two tanks (Figure 1). Habitat for this species was identified along arroyos and within dense brush. Potential habitat for the state-threatened reticulate collared lizard, Texas horned lizard, and Texas tortoise was also identified. Respectively, these species occupy a variety of habits including the open-brush grasslands and thornscrub vegetation, sandy to rocky sparsely vegetated areas, and areas of open brush with grass understory that are present at the site.

Although Johnston's frankenia, a federally- and state-listed endangered plant, was not observed during the site assessment, potential habitat was identified correlating with the Montell clay soils and the dwarf shrublands on saline, alkalkine, calcareous, clayey to sandy soils of valley flats and rocky slopes. This area extends from the central two tanks, covering the northeast quadrant of the site.

Approximate Wetland Boundary Assessment

Hydrology at the site is primarily influenced by precipitation and surface water runoff. The site contains a number of drainage features (i.e., arroyos) that originate from the north and northeast and convey surface water runoff into two large, centrally-located tanks. The northern of these two tanks collects surface water runoff from a system of drainages originating from the north while the southern of the two tanks collects water from a system of drainages originating from the northeast, as well as overflow and seepage from the northern tank. Overflow and seepage then outflow from the southern tank and eventually off-site. A second drainage feature originates off-site and conveys surface water runoff across the southeastern corner of the site.

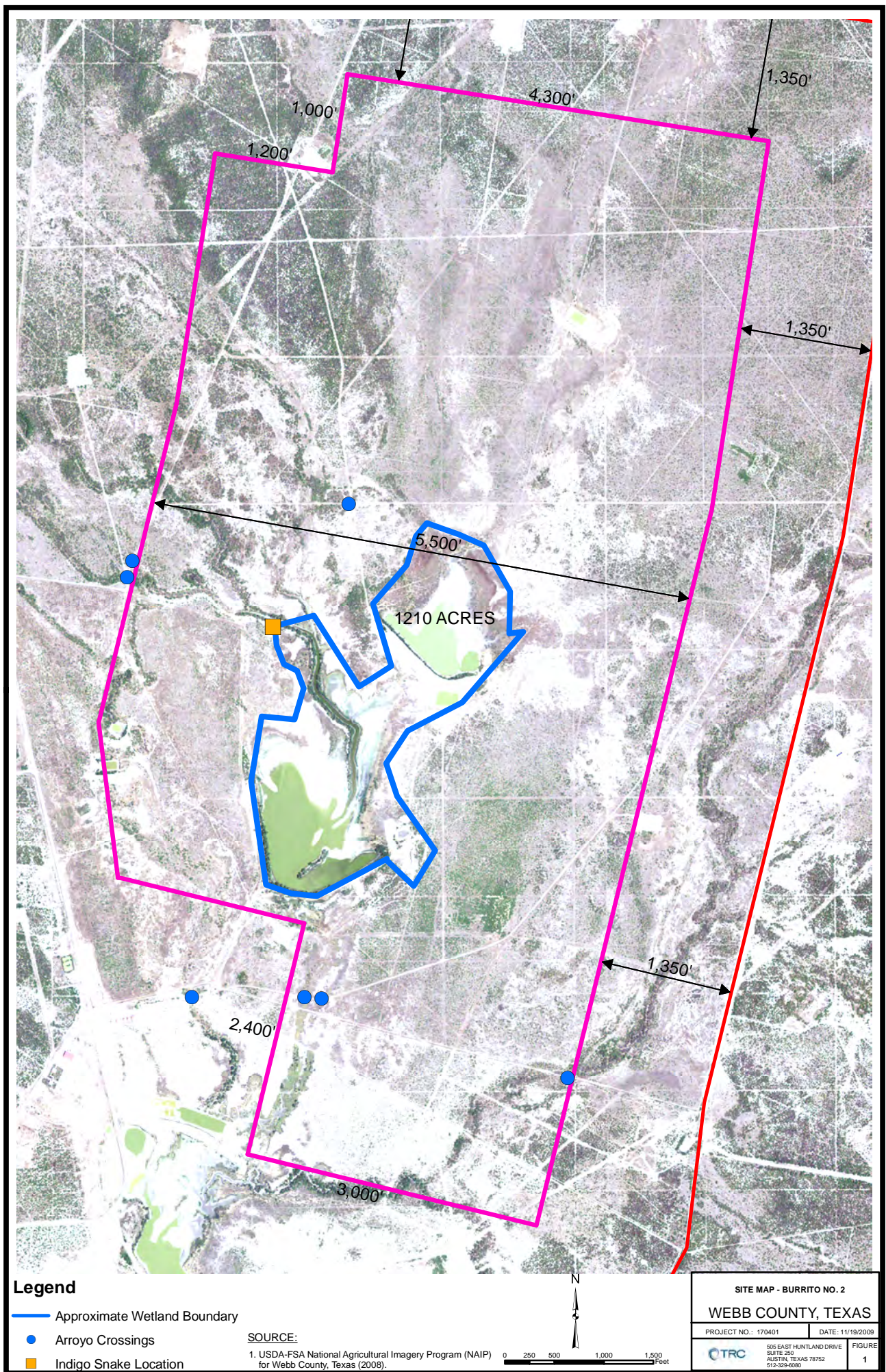
As previously mentioned, approximate wetland boundaries were identified by the presence of hydrophytic vegetation, which primarily included seaside oxeye and Berlandier's wolfberry (Figure 1). The combined area of the impounded tanks and potentially associated wetlands were conservatively estimated to be approximately 125 acres in size. The ordinary high water mark (OHWM) widths for the arroyos approximately ranged from 1 to 20 feet. It should be noted that several locations within the arroyos had no OHWMs and no tentatively identified wetlands exist within the arroyos except near the two tanks.

Recommendations

Observations at the site indicated the presence of sensitive natural resources at the site including the state-listed, threatened indigo snake, potential habitat for other state-listed, threatened species (i.e., reticulate collared lizard, Texas horned lizard, and Texas tortoise), potential habitat for the federally- and state-listed, endangered Johnston's frankenia, and potential wetlands associated with the impounded tanks. Therefore, it is recommended that a jurisdictional waters of the U.S. and wetlands delineation be performed to determine the presence and jurisdictional limits of the potential wetlands and arroyos.

It is also recommended to perform a species-specific survey to determine the presence or absence of Johnston's frankenia in the areas that contain suitable habitat conditions for this species (i.e. northeast quadrant of the Site). A species-specific survey is likely to be required should any federal permits need to be obtained or federal funds utilized as part of the project.

Additionally, development of a management plan for the protection of the indigo snake, reticulate collared lizard, Texas horned lizard, and Texas tortoise is recommended. An example of the measures typically included in an indigo snake management plan is provided in Attachment 2. These measures are also likely to be sufficient for the reticulate collared lizard, Texas horned lizard, and Texas tortoise.



ATTACHMENT 1

Annotated County List of Rare Species –Webb County

WEBB COUNTY

BIRDS

		Federal Status	State Status
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	DL	T
year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in US and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.			
Arctic Peregrine Falcon	<i>Falco peregrinus tundrius</i>	DL	
migrant throughout state from subspecies' far northern breeding range, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.			
Audubon's Oriole	<i>Icterus graduacauda audubonii</i>		
scrub, mesquite; nests in dense trees, or thickets, usually along water courses			
Baird's Sparrow	<i>Ammodramus bairdii</i>		
shortgrass prairie with scattered low bushes and matted vegetation; mostly migratory in western half of State, though winters in Mexico and just across Rio Grande into Texas from Brewster through Hudspeth counties			
Common Black-Hawk	<i>Buteogallus anthracinus</i>		T
cottonwood-lined rivers and streams; willow tree groves on the lower Rio Grande floodplain; formerly bred in south Texas			
Interior Least Tern	<i>Sterna antillarum athalassos</i>	LE	E
subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony			
Mexican Hooded Oriole	<i>Icterus cucullatus cucullatus</i>		
scrub, mesquite; nests in dense trees, or thickets, usually along water courses			
Mountain Plover	<i>Charadrius montanus</i>		
breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous			
Peregrine Falcon	<i>Falco peregrinus</i>	DL	T
both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (F. p. anatum) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, F.p. tundrius is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.			
Sennett's Hooded Oriole	<i>Icterus cucullatus sennetti</i>		

WEBB COUNTY

BIRDS

Federal Status State Status

often builds nests in and of Spanish moss (*Tillandsia unioides*); feeds on invertebrates, fruit, and nectar; breeding March to August

Western Burrowing Owl *Athene cunicularia hypugaea*

open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Wood Stork *Mycteria americana* T

forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

FISHES

Federal Status State Status

Blue sucker *Cycleptus elongatus* T

larger portions of major rivers in Texas; usually in channels and flowing pools with a moderate current; bottom type usually of exposed bedrock, perhaps in combination with hard clay, sand, and gravel; adults winter in deep pools and move upstream in spring to spawn on riffles

Headwater catfish *Ictalurus lupus*

originally throughout streams of the Edwards Plateau and the Rio Grande basin, currently limited to Rio Grande drainage, including Pecos River basin; springs, and sandy and rocky riffles, runs, and pools of clear creeks and small rivers

Rio Grande darter *Etheostoma grahami* T

Rio Grande and lower Pecos River basins; gravel and rubble riffles of creeks and small rivers; spawns in the winter

Rio Grande shiner *Notropis jemezianus*

Rio Grande and upper Pecos River basins; large, open, weedless rivers or large creeks with bottom of rubble, gravel and sand, often overlain with silt

Rio Grande silvery minnow *Hybognathus amarus* LE E

extirpated; historically Rio Grande and Pecos River systems and canals; reintroduced in Big Bend area; pools and backwaters of medium to large streams with low or moderate gradient in mud, sand, or gravel bottom; ingests mud and bottom ooze for algae and other organic matter; probably spawns on silt substrates of quiet coves

INSECTS

Federal Status State Status

Neojuvvenile tiger beetle *Cicindela obsoleta neojuvenilis*

bare or sparsely vegetated, dry, hard-packed soil; typically in previously disturbed areas; peak adult activity in Jul

WEBB COUNTY

MAMMALS

		Federal Status	State Status
Black bear	<i>Ursus americanus</i>	T/SA;NL	T

bottomland hardwoods and large tracts of inaccessible forested areas; due to field characteristics similar to Louisiana Black Bear (LT, T), treat all east Texas black bears as federal and state listed Threatened

Cave myotis bat	<i>Myotis velifer</i>
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colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore

Davis pocket gopher	<i>Geomys personatus davis</i>
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burrows in sandy soils in southern Texas

Ghost-faced bat	<i>Mormoops megalophylla</i>
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colonially roosts in caves, crevices, abandoned mines, and buildings; insectivorous; breeds late winter-early spring; single offspring born per year

Gray wolf	<i>Canis lupus</i>	LE	E
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extirpated; formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands

Jaguarundi	<i>Herpailurus yaguarondi</i>	LE	E
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thick brushlands, near water favored; 60 to 75 day gestation, young born sometimes twice per year in March and August, elsewhere the beginning of the rainy season and end of the dry season

Ocelot	<i>Leopardus pardalis</i>	LE	E
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dense chaparral thickets; mesquite-thorn scrub and live oak mottes; avoids open areas; breeds and raises young June-November

Plains spotted skunk	<i>Spilogale putorius interrupta</i>
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catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie

White-nosed coati	<i>Nasua narica</i>		T
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woodlands, riparian corridors and canyons; most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade

Yuma myotis bat	<i>Myotis yumanensis</i>
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desert regions; most commonly found in lowland habitats near open water, where forages; roosts in caves, abandoned mine tunnels, and buildings; season of partus is May to early July; usually only one young born to each female

MOLLUSKS

		Federal Status	State Status
False spike mussel	<i>Quincuncina mitchelli</i>		

WEBB COUNTY

MOLLUSKS

Federal Status

State Status

substrates of cobble and mud, with water lilies present; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins

Mexican fawnsfoot mussel *Truncilla cognata*

largely unknown; possibly intolerant of impoundment; possibly needs flowing streams and rivers with sand or gravel bottoms based on related species needs; Rio Grande basin

Salina mucket *Potamilus metnecktayi*

lotic waters; submerged soft sediment (clay and silt) along river bank; other habitat requirements are poorly understood; Rio Grande Basin

Texas hornshell *Popenaias popeii*

C

both ends of narrow shallow runs over bedrock, in areas where small-grained materials collect in crevices, along river banks, and at the base of boulders; not known from impoundments; Rio Grande Basin and several rivers in Mexico

REPTILES

Federal Status

State Status

Indigo snake *Drymarchon corais*

T

Texas south of the Guadalupe River and Balcones Escarpment; thornbush-chaparral woodlands of south Texas, in particular dense riparian corridors; can do well in suburban and irrigated croplands if not molested or indirectly poisoned; requires moist microhabitats, such as rodent burrows, for shelter

Reticulate collared lizard *Crotaphytus reticulatus*

T

requires open brush-grasslands; thorn-scrub vegetation, usually on well-drained rolling terrain of shallow gravel, caliche, or sandy soils; often on scattered flat rocks below escarpments or isolated rock outcrops among scattered clumps of prickly pear and mesquite

Spot-tailed earless lizard *Holbrookia lacerata*

central and southern Texas and adjacent Mexico; moderately open prairie-brushland; fairly flat areas free of vegetation or other obstructions, including disturbed areas; eats small invertebrates; eggs laid underground

Texas horned lizard *Phrynosoma cornutum*

T

open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September

Texas tortoise *Gopherus berlandieri*

T

open brush with a grass understory is preferred; open grass and bare ground are avoided; when inactive occupies shallow depressions at base of bush or cactus, sometimes in underground burrows or under objects; longevity greater than 50 years; active March-November; breeds April-November

PLANTS

Federal Status

State Status

Ashy dogweed *Thymophylla tephroleuca*

LE

E

WEBB COUNTY

PLANTS

Federal Status

State Status

Texas endemic; grasslands with scattered shrubs; most sites on sands or sandy loams on level or very gently rolling topography over Eocene strata of the Laredo Formation; flowering March-May depending to some extent on rainfall

Johnston's frankenia

Frankenia johnstonii

LE-PDL

E

dwarf shrublands on strongly saline, highly alkaline, calcareous or gypseous, clayey to sandy soils of valley flats or rocky slopes; mapped soils at many sites are of the Catarina and/or Maverick Series, other mapped soils include Copita, Brennan, Zapata, and Montell series; most sites are underlain by Eocene sandstones and clays of the Jackson Group or the Yegua and Laredo formations; a few are underlain by El Pico clay or the Catahoula and Frio formations shrublands; flowering throughout the growing season depending upon rainfall

Kleberg saltbush

Atriplex klebergorum

Texas endemic; usually occurs in sparsely vegetated saline areas, including flats and draws; in light sandy or clayey loam soils with other halophytes; occasionally observed on scraped oil pad sites; observed flowering in late August-early September, but may vary with rainfall, fruits are usually present in fall; because of its annual nature, populations fluctuate widely from year to year

Mccart's whitlow-wort

Paronychia maccartii

Texas endemic; known only from type specimen, substrate at type location described as "very hard-packed red sand", sand is probably of the Cuevitas-Randado Association; flowering period uncertain, type specimen collected in March in flower

Nickel's cory cactus

Coryphantha nickelsiae

Limestone outcrops and nearby alluvial or gravelly soils on hills or plains in grasslands or shrublands at low elevations; known sites in Mexico have been described as Chihuahuan Desert scrub; flowering August through September

ATTACHMENT 2

Example Protection Measures for the Indigo Snake

Example Protection Measures for Indigo Snake

An indigo snake protection/education plan shall be developed by the applicant for all construction personnel to follow. The plan should be provided to the Texas Parks and Wildlife Department (TPWD) for review at least 30 days prior to any clearing activities. The educational materials for the plan may consist of a combination of posters, videos, pamphlets, and lectures (*e.g.*, an observer trained to identify eastern indigo snakes could use the protection/education plan to instruct construction personnel before any clearing activities occur). Informational signs should be posted throughout the construction site and along any proposed access road to contain the following information:

1. Description of the eastern indigo snake, its habits, and protection under state law;
2. Instructions not to injure, harm, harass or kill this species;
3. Directions to cease clearing activities and allow the snake sufficient time to move away from the site on its own before resuming clearing; and
4. Telephone numbers of pertinent agencies to be contacted if a dead indigo snake is encountered. The dead specimen should be thoroughly soaked in water and then frozen.

Other measures for the protection of this species may result from the development of the protection and development plan.

Attachment B
Waters of the US Delineation Report

WATERS OF THE UNITED STATES DELINEATION REPORT

Pescadito Environmental Resource Center Project Webb County, Texas

**Prepared For: Rancho Viejo Waste Management, LLC
Webb County, Texas**

**Prepared By: TRC Environmental Corporation
Austin, Texas**



Revision No. 00
August 2011

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WATERS OF THE UNITED STATES DELINEATION REPORT

Pescadito Environmental Resource Center Project Webb County, Texas

Submitted By:

TRC Environmental Corporation
505 East Huntland Drive, Suite 250
Austin, Texas 78752

512.329.6080 (phone)
512.329.8750 (fax)

Prepared By: Barrett Clark

Reviewed By: Jason Sean Lancaster

Approved By: Deborah Blackburn

Revision No. 00
August 2011

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LIST OF APPENDICES

- Appendix A Survey Results - Aerial Photograph-Based Wetland Survey Maps
- Appendix B Survey Results - Included for Each Wetland Determination Data Point

ABBREVIATIONS AND ACRONYMS

AgB	Aguilares sandy clay soil, 0 to 3 percent slope
Bd	Brundage fine sandy loam, occasionally flooded
CaB	Catarina clay, 0 to 2 percent slopes
CBD	Cannot Be Determined
CfA	Catarina, occasionally flooded
FAC	Facultative Species Status
FACU	Facultative Upland Species Status
FACW	Facultative Wetland Species Status
FEMA	Federal Emergency Management Agency
GPS	Global Positioning System
JD	Jurisdictional Determination
MnB	Montell clay, 0 to 2 percent slopes
NASIS	National Soil Information System
NI	No Indicator Status
NWI	National Wetland Inventory
OBL	Obligate Wetland Species Status
OHWM	Ordinary High Water Mark
Project	Rancho Viejo Waste Management Subsurface Investigation Project
RPW	Relatively Permanent Water
TNW	Traditionally Navigable Water
TRC	TRC Environmental Corporation
UPL	Obligate Upland Species Status
U.S.	United States
USACE	United States Army Corps of Engineers
USDA – NRCS	United States Department of Agriculture – Natural Resource Conservation Service
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTM	Universal Transverse Mercator

1.0 INTRODUCTION

TRC Environmental Corporation (TRC) has been contracted by Rancho Viejo Waste Management, LLC to obtain environmental clearances and consultations for a proposed landfill project in Webb County, Texas (Project). The Project is located approximately 20 miles east of Laredo, Texas. A topographic vicinity map is included as Figure 1. A delineation of waters of the United States (U.S.) was conducted in April 2011 for the Project.

Pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, TRC conducted a survey of wetlands, waterbodies, and other special aquatic sites for the Project survey area. This wetland delineation report describes the results of delineation of waters of the U.S. conducted in April 2011.

2.0 METHODS

The wetland determination and delineation was performed using the routine on-site determination methods described in the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers [USACE], Environmental Laboratory 1987), hereafter referred to as the “1987 Manual,” and is consistent with the methods, guidelines, and indicators present in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* [Regional Supplement] (USACE 2010). The determination and delineation consisted of: (1) background data collection and assessment, (2) field investigation, and (3) reporting.

2.1 Background Data Review

Prior to initiation of the routine on-site investigation, existing background data and information were reviewed to provide information regarding the presence of previously identified wetlands, the location of hydric soils, and/or locations where jurisdictional wetlands could exist that have not been previously mapped. The background data reviewed consisted of the following materials:

- U.S. Geological Survey (USGS), 7.5-minute series quadrangle topographical maps, Burrito Tank Quadrangle in Webb County, Texas (USGS 1980)
- USDA – NRCS, National Soil Information System (NASIS) Database, National Hydric Soils List by State, Texas (USDA – NRCS 2011a)
- U.S. Department of Agriculture – Natural Resource Conservation Service (USDA – NRCS), Web Soil Survey Application (USDA – NRCS 2011b)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Wetlands Mapper Application (USFWS 2011)
- Federal Emergency Management Agency (FEMA), Map Service Center: FEMA Issued Flood Maps, Webb County, Texas, Flood Map ID 48479C1275C (FEMA 2011)

2.2 Field Investigation

An on-site determination and delineation of waters of the U.S. was conducted by a qualified wetland scientist within the Project survey area in April 2011.

The Project spatial boundaries were confirmed by aerial photograph interpretation and initial site reconnaissance. The survey area was then examined for the presence of atypical situations via site reconnaissance to identify any recent and sufficient natural or human-induced alteration that may have significantly changed the area vegetation, soils, and/or hydrology.

A site reconnaissance was conducted of all portions of the survey area to identify and develop an approximate location map of each different plant community type present to ensure all plant community types were included in the investigation. Each identified plant community type was further examined to determine the type(s) and number of vegetative layers in each community, including trees (woody overstory), shrubs (woody understory), herbs (herbaceous understory), and/or woody vines.

Observation points were established and documented within each vegetative community. The investigators determined whether normal environmental conditions were present at each observation point by considering whether: (a) hydrophytic vegetation and/or hydrologic indicators were lacking due to annual or seasonal fluctuations in precipitation or groundwater levels; and (b) hydrophytic vegetation indicators were lacking due to seasonal fluctuations in temperature.

Data points were recorded using a sub-meter Trimble Global Positioning System (GPS) unit. GPS data were recorded as NAD 1983 UTM coordinates. Soil pit sampling was conducted to determine the presence of hydric soil indicators, with plant communities identified and characterized for hydrophytic properties, indicator status, and percent cover. Particular wetland hydrology indicators were also identified.

Vegetation, soil, and hydrologic information for each sample plot was recorded on data forms and used to determine wetland boundaries. A description of the methods employed to assess each parameter is provided in Sections 2.2.1 to 2.2.3.

2.2.1 Hydrophytic Vegetation

According to the 1987 Manual, hydrophytic vegetation is defined as, “the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.” Plant species are further categorized according to their probability of occurrence in wetlands. Each plant species is assigned an “Indicator Status,” which ranges from Obligate Wetland (100% occurrence in wetlands) to Obligate Upland (does not occur in wetlands). Indicator status categories are further defined as follows:

- Obligate Wetland (OBL): A species that almost always (under natural conditions) occurs in wetlands (estimated probability greater than 99%).
- Facultative Wetland (FACW): A species that usually occurs in wetlands (estimated probability 67% - 99%), but occasionally is found in non-wetlands.
- Facultative (FAC): A species that is equally likely to occur in non-wetlands (estimated probability 34% - 66%).
- Facultative Upland (FACU): A species that usually occurs in non-wetlands (estimated probability 67% - 99%), but is occasionally found in wetlands.

- Obligate Upland (UPL): A species that almost always (under natural conditions) occurs in non-wetlands (estimated probability greater than 99%).
- No Indicator (NI): A species for which there is insufficient information to determine an indicator status ranking.
- Cannot Be Determined (CBD): A species that was only identified to the genus level. Therefore, no indicator could be assigned.

All plant communities investigated were characterized by identifying dominant plant species using the dominance test. For each stratum in the plant community (tree, sapling, shrub, herb, and woody vine), a list of plant species (Reed 1988) and their respective percent cover was recorded. Percent cover for each plant species was recorded within a 5-foot radius around a central observation point for herbaceous stratum, as well as a 15-foot radius for saplings and shrub strata and 30-foot radius for trees and woody vines strata. The total cover for each stratum may range from zero to over 100 percent, depending on the density and amount of overlapping of vegetation.

“Dominant” plants were classified using the 50/20 rule, under which any plant species that equaled or exceeded 50 percent of the total percent aerial coverage for each stratum, and any additional species comprising 20 percent or more of the same stratum, was classified as a dominant plant.

Vegetation was reevaluated using the prevalence index in cases where indicators of hydric soil and wetland hydrology were present, but the percentage of dominant species did not exceed 50 percent utilizing the dominance test. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code and the abundance as evaluated by percent cover is weighted. A site scoring less than 3 on the prevalence index meets the wetland hydrophytic vegetation criterion. The prevalence index is used in the Great Plains Regional Supplement to determine whether hydrophytic vegetation is present on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test.

2.2.2 Hydric Soils

According to the 1987 Manual, a hydric soil is defined as “a soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.” The presence or absence of hydric soils was determined by pit sampling to a depth of ten inches or more, and characterization of soil profile layers using Munsell soil color charts (X-Rite Incorporated 2009). The presence of hydric indicators was recorded, including, but not limited to, saturation, gleying, mottling, depleted matrix, and development of other redoximorphic features. The wetland boundary was placed between areas meeting the three wetland criteria and areas which do not meet the criteria. As a result, soil in both the assumed wetland and the surrounding upland were sampled to verify the wetland boundary.

2.2.3 Wetland Hydrology

Guidance in the 1987 Manual indicates that wetland hydrology is found in areas in which “the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively.” The frequency of soil inundation or saturation is dependent on a variety of factors, including topography, soil stratigraphy and soil permeability, in conjunction with the water source(s) of precipitation, runoff, stormwater, and groundwater discharge. Wetland hydrology is

classified according to the extent of soil saturation or inundation and ranges from permanently inundated to irregularly inundated or saturated. Those areas which are either intermittently or never inundated or saturated are not considered to have wetland hydrology.

Indicators of wetland hydrology include, but are not limited to, drainage patterns, drift lines, water marks, sediment and debris deposition, and visual observations and historical records. Wetland hydrology indicators were noted during the investigation.

2.3 Reporting

Maps illustrating the results of the survey are presented in Appendix A. Data collected in the field was subsequently entered onto the data forms presented in the Appendix B. Wetland delineation/GPS data were collected and recorded as NAD 1983 UTM coordinates. Photographs were also taken of the Project site and at data collection points. All survey results are presented in Appendices A and B.

3.0 RESULTS

3.1 Background Data Review

Desktop analysis of potential wetlands was evaluated by reviewing topographic maps (Figure 1; USGS 1980), aerial maps (Figure 2), soils data from the USDA – NRCS online web soil survey (Figure 3; USDA – NRCS 2011b), and wetlands data from the USFWS NWI Wetlands Mapper (USFWS 2011). This analysis provided an indication of the presence of wetlands and waterbodies, areas and soils likely to support hydrophytic vegetation, and photographic signatures of potential wetlands and waterbodies. The results of the background data review are included in the following sections.

3.2 Field Investigation

Seven palustrine, scrub-shrub wetlands (W109, W115, W118, W126, W127, W132, and W133) and one palustrine, emergent wetland (W130) were delineated during the survey. Eleven ephemeral streams (S103, S107, S108, S114, S119, S116, S120, S121, S123, S124, and S125) and nine stock tanks (WB101, WB104, WB106, WB110, WB111, WB113, WB117, WB128, and WB131) were also identified. Numerous erosional features are located throughout the Project survey area and are primarily a result of construction of the stock tanks.

Vegetation throughout the Project survey area has been affected by the presence of cattle. Severe overgrazing was observed throughout nearly all of the Project survey area, making identification of some vegetation (e.g., herbaceous species) impossible. Soil compaction, likely a result of the presence of cattle, was also observed in many areas, particularly around stock tanks WB104, WB128 and the wetlands associated with those systems. Subsequently, identification of wetland indicators was difficult in some areas.

Descriptions of vegetation, soils, and hydrology of the Project survey area are discussed below. Maps illustrating the results of the survey are presented in Appendix A. Data forms, photographs, and the documentation of the presence or absence of wetland vegetation, hydric soils, wetland hydrology, and waterbodies are provided in Appendix B.

3.2.1 Vegetation

Wetland and Riparian Plant Communities

All but one delineated wetland within the Project survey area consisted of palustrine, scrub-shrub habitats. These wetlands are dominated by woody vegetation including retama (*Parkinsonia aculeata*), twisted acacia (*Acacia schaffneri*), saltcedar (*Tamarix ramosissima*), Mexican devil-weed (*Aster spinosus*), sea ox-eye daisy (*Borrchia frutescens*), and rattlebox (*Sesbania drummondii*). Observed herbaceous vegetation includes smallhead sneezeweed (*Helenium microcephalum*), gulf cordgrass (*Spartina spartinae*), and Bermudagrass (*Cynodon dactylon*). Carolina wolfberry (*Lycium carolinianum*) and occasionally gulf cordgrass typically dominated the broad boundaries of the wetlands and often extended from within the limits of the wetlands into adjacent upland habitats.

One palustrine, emergent wetland (W130) is located within the Project survey area and is encircled by scrub-shrub wetland W127. Wetland W130 is dominated by herbaceous vegetation including Bermudagrass, smallhead sneezeweed, salt heliotrope (*Heliotropium curassavicum*), hierba del sapo (*Eringium heterophyllum*), and Plains coreopsis (*Coreopsis tinctoria*). Stunted, woody species including saltcedar, Mexican devil-weed, rattle box, and Carolina wolfberry are scattered in some areas of W130.

Riparian vegetation communities generally consisted of a composition of wetland and upland species (discussed below). Common species included retama, twisted acacia, saltcedar, honey mesquite (*Prosopis glandulosa*), Mexican devil-weed, Texas prickly pear (*Opuntia engelmannii*), rattlebox, smallhead sneezeweed, and gulf cordgrass.

Upland Plant Communities

Observed woody species included honey mesquite, dwarf screw-bean mesquite (*Prosopis reptans*), twisted acacia, blackbrush (*Acacia rigidula*), guajillo (*Acacia berlandieri*), knife-leaf condalia (*Condalia spathulata*), snake-eyes (*Phaulothamnus spinescens*), desert yaupon (*Schaefferia cuneifolia*), guayacan (*Guaiacum angustifolium*), allthorn (*Koeberlinia spinosa*), lotebush (*Ziziphus obtusifolia*), coma (*Sideroxylon celastrina*), goat-bush (*Castela texana*), paloverde (*Parkinsonia texana*), creosote (*Larrea tridentata*), whitebrush (*Aloysia gratissima*), Carolina wolfberry, oreja de perro (*Tiquilia canescens*), popote (*Ephedra antisiphilitica*), orange zexmenia (*Wedelia texana*), palma pita (*Yucca treculeana*), rough agave (*Agave scabra*), saladillo (*Varilla texana*), leather stem (*Jatropha dioica*), coppery false fanpetals (*Billieturnera helleri*), common goldenweed (*Isocoma coronopifolia*), Texas broomweed (*Gutierrezia texana*), Tulipan del monte (*Hibiscus martianus*), and sea ox-eye daisy.

Observed herbaceous species included sueada (*Sueada* sp.), Tiny Tim (*Thymophylla tenuiloba*), jicamilla (*Jatropha cathartica*), wooly tidestromia (*Tidestromia lanuginosa*), bitterweed (*Hymenoxys odorata*), whorled dropseed (*Sporobolus pyramidatus*), red grama (*Bouteloua trifida*), King Ranch bluestem (*Bothriochloa ischaemum*), and buffelgrass (*Pennisetum ciliare*).

Observed cacti species included Texas prickly pear, tasajillo (*Opuntia leptocaulis*), dog cholla (*Opuntia schottii*), rat-tail cactus (*Wilcoxia poselgeri*), nipple cactus (*Mammillaria heyderi*), longmamma nipple cactus (*Mammillaria sphaerica*), horse cripper (*Echinocactus texensis*), Berlandier's alicoeche (*Echinocereus berlandieri*), pitaya (*Echinocereus enneacanthus*), Fitch's hedgehog cactus (*Echinocereus reichenbachii* var. *fitchii*), root cactus (*Ancistrocactus scheeri*), and miniature barrel cactus (*Thelocactus setispinus*).

Species recorded near stock ponds, ephemeral streams, upland swales, and other low lying features within uplands included smallhead sneezeweed (*Helenium microcephalum*), bearded dalea (*Dalea pogonantha*), Carolina wolfberry, retama, sea ox-eye daisy, Gregg keelpod (*Synthlipsis greggii*), and gulf cordgrass.

3.2.2 Soils

Descriptions of these soils are provided by the USDA – NRCS National Cooperative Soil Survey (USDA – NRCS 2011b) and are provided below.

Hydric Soils

A review of the USDA – NRCS Soil Survey (USDA – NRCS 2011b) and Hydric Soils List by State (NRCS 2011a) identified no hydric soils within the Project survey area; consequently, no hydric soils are discussed. However, during the field survey, hydric soils were observed at delineated wetlands W109, W115, W118, W126, W127, W132, W130, and W133 (additional detail provided below and in Appendix B).

Non-Hydric Soils

A review of the USDA – NRCS Soil Survey indicates that the non-hydric soils within the Project survey area include clays, sandy clay loam, and sandy loam and lie on slopes that range from 0 to 3 percent. These deep soils are well- to moderately well drained with moderately or very slow permeability. Descriptions of non-hydric soils, as provided by the USDA – NRCS, are provided below.

Aguilares sandy clay loam, 0-3 percent slopes (AgB): The Aguilares sandy clay loam series consists of deep, well drained, moderately permeable, calcareous and moderately alkaline soils on uplands. This Aguilares soil map unit is found on broad, convex plains. The parent material consists of calcareous loamy residuum weathered from sandstone predominantly from the Jackson Formation. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 3 percent.

Brundage fine sandy loam, occasionally flooded (Bd): The Brundage fine sandy clay loam series consists of deep, moderately well drained, very slowly permeable, saline soils in upland valleys. This Brundage soil map unit is found on valleys along small drainageways and on smooth plains parallel to drainageways. The parent material consists of saline, loamy alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 1 percent.

Catarina Clay, 0 to 2 percent slopes (CaB): The Catarina Clay series consists of deep, moderately well drained, very slowly permeable, saline soils on upland plains and valleys. This Catarina soil map unit is found on broad and narrow valleys along drainageways and on smooth plains. The parent material consists of calcareous, saline, clayey alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 2 percent.

Catarina Clay, occasionally flooded (CfA): The Catarina Clay series consists of deep, moderately well drained, very slowly permeable, saline soils on upland plains and valleys. This Catarina soil map unit is found on narrow valleys along drainageways. The parent material consists of calcareous, saline, clayey alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 1 percent.

Montell clay, 0 to 2 percent, saline (MnB): Montell clay series consists of deep, moderately well drained, very slowly permeable, saline, clayey soil on upland plains and valleys. This Montell soil map unit is found on broad and narrow valleys along drainageways and on smooth plains. The parent material consists of clayey valley side alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slope ranges from 0 to 2 percent.

3.2.3 Hydrology

The Project survey area is located entirely within and near the upper limits of the International Falcon Reservoir Watershed (Hydrologic Unit Code [HUC]: 13080003; U.S. Environmental Protection Agency [USEPA] 2011c). According to the FEMA flood map, approximately 60 percent of the Project survey area is located in the 100-year floodplain. Maps presenting the wetland and waterbodies delineated within the Project survey area, as well as unique wetland and waterbody feature names, are provided in Appendix A.

Hydrology of the Project survey area and surrounding area is primarily associated with surface water runoff from infrequent precipitation events. The primary water flow regime of the surrounding watershed area is to the south and southwest, following numerous ephemeral drainage systems. Many constructed stock tanks area also located within the area. Within the Project survey area, surface water generally flows to the south and southeast, following localized topography and along ephemeral streams, upland swales, and erosional gullies into numerous stock tanks. The construction of stock tanks, as well as roads and pipeline right-of-ways, has likely fragmented drainage systems within the Project survey area and surrounding area. Subsequently, defined channels and ordinary high water mark indicators are not present along portions of the drainage systems.

Seven palustrine, scrub-shrub wetlands (W109, W115, W118, W126, W127, W132, W133), one palustrine, emergent wetland (W130), fourteen ephemeral streams (S103, S107, S108, S114, S119, S116, S120, S121, S122, S123, S124, S125, S134, S135), and nine stock tanks (WB101, WB104, WB106, WB110, WB111, WB113, WB117, WB128, WB131) are located within the Project survey area. Numerous erosional gullies are also located throughout the Project survey area and are primarily a result of construction of the stock tanks. The identified features can be separated into three drainage systems:

- Stock tanks WB110, WB111, WB113, and WB117, scrub-shrub wetlands W109, W115, and W118, ephemeral streams S108, S114, S116, and S119
- Stock tanks WB101, WB104, and WB106, scrub-shrub wetland W133, ephemeral streams S103, S107, S122, S123, S134, and S135
- Stock tank WB128 and WB131, scrub-shrub wetlands W126, W127, and W132, emergent wetland W130, ephemeral streams S120, S121, S124, and S125

Two scrub-shrub wetlands (W109, W115) are situated along an historic intermittent drainage system (S108/S114/S116/S119) that has been fragmented by the construction of roads and a series of impoundments and stock tanks (WB110, WB111, WB113, WB117). One upstream fork of this system originates off-site (S116), while another fork (S119) originates from within the limits of the Project survey area. Surface water eventually flows off-site *via* S108. Scrub-shrub wetland W118 is a remnant of the historic intermittent drainage system and is now an enclosed depression with no observed in- or outflow. The delineated area of wetlands W109, W115, and W118 are 0.19-acre (ac), 0.17 ac, and 0.19

ac, respectively. Stock tanks WB110, WB111, WB113, and WB117 are 0.14 ac, 0.40 ac, 0.43 ac, and 0.04 ac in size, respectively.

Wetland W133 is a relatively large (14.70 ac), scrub-shrub, fringe wetland adjacent to stock tank WB104 (13.58 ac), which receives surface water flow from two, small floodplains (Figure 5). Defined channels and/or ordinary high water mark (OHWM) indicators were observed along the eastern floodplain at ephemeral streams S103, S107, and S122. One stock tank (WB101; 0.49 ac) is located between S103/S107 and S122. The eastern floodplain from WB104 to the northern Project survey area boundary is presented as a dashed blue line on the USGS topographical map indicating an intermittent drainage system (Figure 1; USGS 1980). Defined channels and/or OHWM indicators were observed along the western floodplain at ephemeral streams S123, S134, and S135. The western floodplain is presented as a dashed blue line along S134, at the northern Project survey area boundary (Figure 1; USGS 1980). It is possible that the construction of stock tank WB101, roads, and/or pipeline right-of-ways has fragmented the two floodplain drainage systems associated with WB104, resulting in sheet water flow and no defined channel and/or OHWM indicators in some areas. A small stock tank (WB106; 1.01 ac) is also located south of the WB104 impoundment.

Located to the south and downgradient of WB104 is stock tank WB128 (26.68 ac), which receives surface water flow from ephemeral stream S121. Stream S121 originates off-site from the west and is confined by levees along much of its length within the Project survey area. Also originating off-site from the west is stream S120, an ephemeral tributary of S121. Stream S125 is a second, ephemeral tributary of S121 and originates from within the limits of the Project survey area. A relatively shallow and broad upland swale system, which is situated in a floodplain, is located upgradient of S125. A defined channel and OHWM indicators were observed along a segment of the upland swale at ephemeral stream S124. It is possible that the construction of roads and/or pipeline right-of-ways has fragmented the S124/S125 drainage system, resulting sheet water flow and no defined channel and/or OHWM indicators upgradient of S124 and between S124 and S125; on the USGS topographical map, this system appears as a dashed blue line extending off-site to the northwest from S121 (Figure 1; USGS 1980). Wetland W127 (28.46 ac) is situated between stock tanks WB 104 and WB128. An emergent wetland W130 (3.98 ac) is encircled by wetland W127; groundwater from the upgradient WB104 system likely influences these two wetlands, as well as stock tank WB128. A relatively small (0.59 ac) scrub-shrub wetland (W126) is located adjacent to the southwestern levee of S121, near the confluence of S121 and S125. A 2.00 ac scrub-shrub wetland (W132) is located adjacent to the WB128 impoundment; groundwater from the upgradient WB128 system likely influences this wetland. A small stock tank (WB131; 0.31 ac) is located nearby to the northeast.

4.0 JURISDICTION

Following the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States*, the USACE and the U.S. Environmental Protection Agency issued a guidance memorandum in June 2007 summarizing federal jurisdiction over waters of the U.S. under the Clean Water Act. A brief summary of the key points of that memorandum is outlined below.

The USACE and EPA will assert jurisdiction over the following waters:

- Traditional navigable waters (TNW);

- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent (relatively permanent waters; RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

The USACE and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and
- Wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary.

The USACE and EPA generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and do not carry a relatively permanent flow of water.

The USACE and EPA will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters; and
- Significant nexus includes consideration of hydrologic and ecologic factors.

Based on these criteria, all TNWs, RPWs (*i.e.*, perennial and intermittent streams), and their directly abutting wetlands identified within the Project survey area would be considered jurisdictional waters of the U.S. All non-directly abutting wetlands and non-RPWs would be examined on a case-by-case basis to determine if the significant nexus criteria were met before being considered a jurisdictional water of the U.S.

Ephemeral streams S103, S107, S108, S114, S116, S119, S120, S121, and S125 would be considered non-RPWs by the USACE. Palustrine, scrub-shrub wetlands W109, W115, W127, and W133 and palustrine, emergent wetland W130 would be considered directly abutting wetlands to a waterbody or waterbodies constructed within historically relatively permanent waters (unnamed tributaries of San Juanita Creek). Palustrine, scrub-shrub wetlands W118 and W126 would most likely be considered non-directly abutting wetlands. If impacts to wetlands W109, W115, W118, W126, W127, W130, W132, and W133 or streams S103, S107, S108, S114, S116, S119, S120, S121, and S125 are anticipated,

consultation with the USACE is recommended to determine if the agency will exert jurisdiction over those systems.

Stock tanks WB101, WB104, WB110, WB111, WB113, WB117, and WB128 are features that are excavations and/or impoundments of streams that would be considered historically RPWs by the USACE. If impacts to the stock tanks are anticipated, consultation with the USACE is recommended to determine if the agency will exert jurisdiction over those systems. Stock tanks WB106 and WB131 are features that are excavations and/or impoundments of dry land. Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing are generally not considered jurisdictional waters of the U.S. (51 FR, No. 219, page 41,217). However, WB106 and WB131 are located adjacent to excavations and/or impoundments of streams that would be considered non-RPWs by the USACE. If impacts to stock tanks WB106 and WB131 are anticipated, consultation with the USACE is recommended to determine if the agency will exert jurisdiction over those systems.

Defined channels and OHWM indicators were observed along ephemeral streams S122, 123, S124, S134, and S135. Although the five segments all originate and terminate in uplands, the USGS topographical map (Figure 1; USGS 1980) indicates that S122, S123, S124, S134, and S135 may have been components of contiguous drainage systems that were possibly fragmented by the construction of stock tank WB101, roads, and/or pipeline right-of-ways. However, the large upland expanses between these ephemeral streams and another relevant hydrological feature are very broad and nearly flat landforms that dissipate surface water flow and appear to provide no significant nexus to the nearest up- or downstream feature; given the semi-arid nature of the region and nearly level landforms of the area, the typical regime in these upland areas following a typical precipitation event would primarily be dissipation and evaporation, as well as some additional percolation into the soil. If impacts to S122, S123, S124, S134, and S135 are proposed, coordination with the USACE is recommended to determine if the agency will exert jurisdiction over those systems.

Several erosional gullies are present within the Project survey area and are a result of the construction of the stock tanks. The erosional gullies do not appear to be an important hydrological component of the area. The USACE generally will not exert jurisdiction over these systems.

5.0 CONCLUSIONS

TRC was contracted by Rancho Viejo Waste Management, LLC to conduct a determination and delineation of waters of the U.S. for the proposed Rancho Viejo Landfill Project. The determination was performed in order to identify the presence and delineate the boundaries of wetlands and other waters potentially subject to regulation by the USACE pursuant to Section 404 of the Clean Water Act.

Based on review of background data and the results of the field investigation, qualified wetland scientists from TRC determined that potentially jurisdictional wetlands and waters of the U.S. are present within the Project survey area and include seven palustrine, scrub-shrub wetlands (W109, W115, W118, W126, W127, W132, W133), one palustrine, emergent wetland (W130), nine ephemeral streams (S103, S107, S108, S114, S119, S116, S120, S121, S125), and nine stock tanks (WB101, WB104, WB106, WB110, WB111, WB113, WB117, WB128, WB131). Five ephemeral streams (S122, S123, S124, S134, and S135) that may have been components of contiguous drainage systems are also present within the Project survey area. Coordination with the USACE is recommended to determine if the agency will exert

jurisdiction over the identified systems within the Project survey area. Maps presenting the results of the determination and further details regarding the collected data are presented in Appendices A and B.

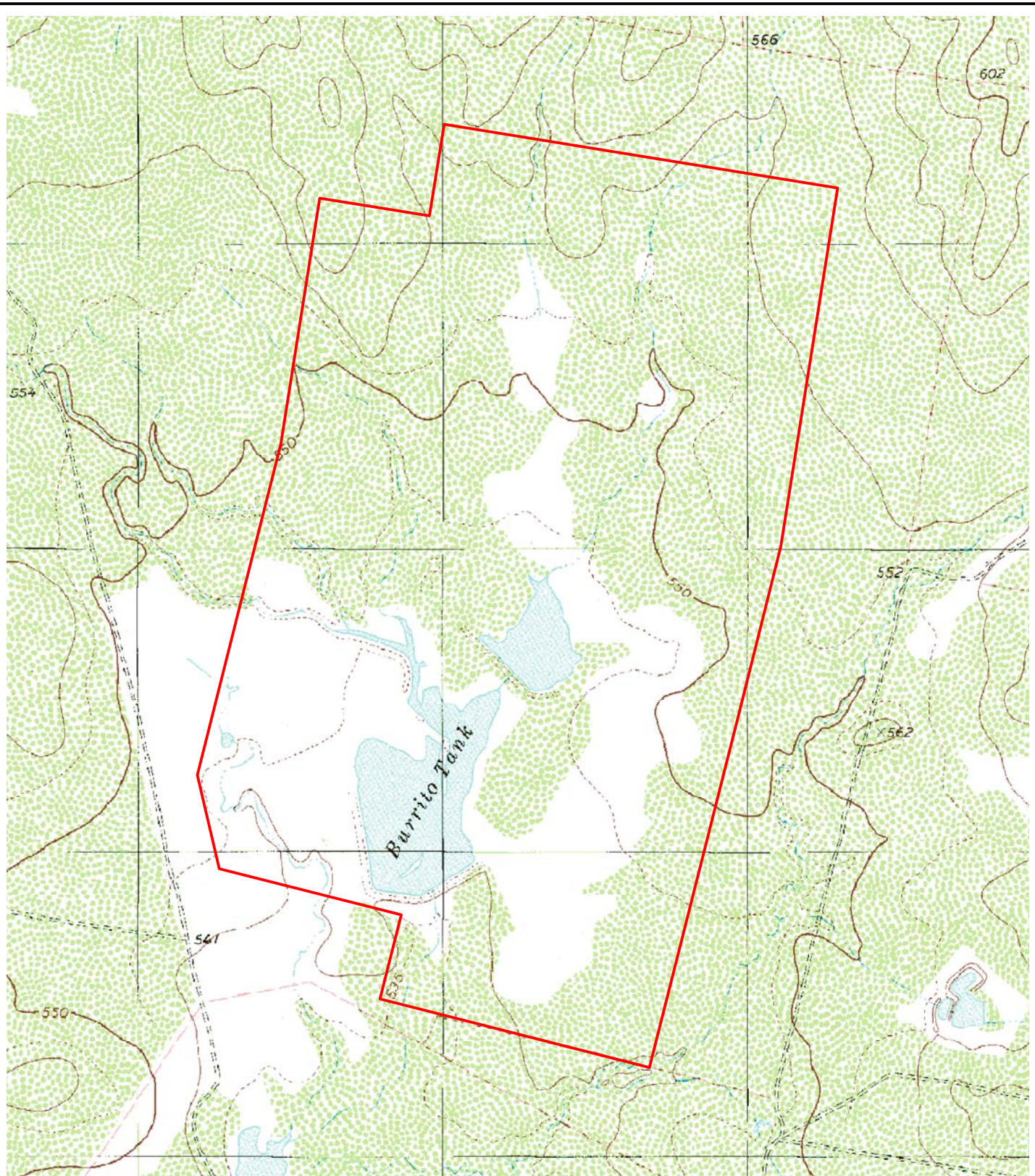
6.0 REFERENCES

- FEMA. 2011. Map Service Center: FEMA Issued Flood Maps. Webb County, Texas. Flood Map ID 484791275. Accessed on April 15, 2011, at:
<http://gis1.msc.fema.gov/Website/newstore/viewer.htm>.
- Reed, P. 1988. National List of Plant Species that Occur in Wetlands: Southeast (Region 6). Accessed April 15, 2011, at:
<http://www.fws.gov/pacific/ecoservices/habcon/pdf/National%20List%20of%20Plant%20Species%201988.pdf>.
- USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-1. U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- USACE, Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Corps of Engineers, Waterways Experiment Station, Wetlands Research Program, Technical Report Y-87-1. Vicksburg, MS. January 1987 - Final Report. 92 pp. + app.
- USDA – NRCS. 2011a. National Hydric Soils List by State. Accessed on April 15, 2011, at:
<http://soils.usda.gov/use/hydric/>.
- USDA – NRCS. 2011b. Soil Survey Division. Web Soil Survey. Accessed on April 15, 2011, at:
<http://websoilsurvey.nrcs.usda.gov/app/>.
- USEPA. 2011c. Surf Your Watershed Database. Accessed on April 15, 2011, at:
<http://cfpub.epa.gov/surf/locate/index.cfm>.
- USFWS. 2011. NWI Wetlands Mapper. Accessed on April 15, 2011 at:
<http://www.fws.gov/wetlands/Data/Mapper.html>
- USGS. 1980. 7.5-minute series quadrangle topographical map, Burrito Tank Quadrangle, Webb County, Texas.
- X-Rite, Incorporated. 2009. Munsell Soil Color Charts. Munsell Color Division, Grand Rapids, MI. Revised Edition.

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FIGURE 1
SITE LOCATION MAP

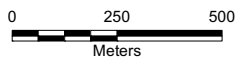
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LEGEND

— Survey Area

N



Source: U.S.G.S 7.5-Minute Series Topographic Map, Burrito Tank (1980), Texas.

SITE LOCATION MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



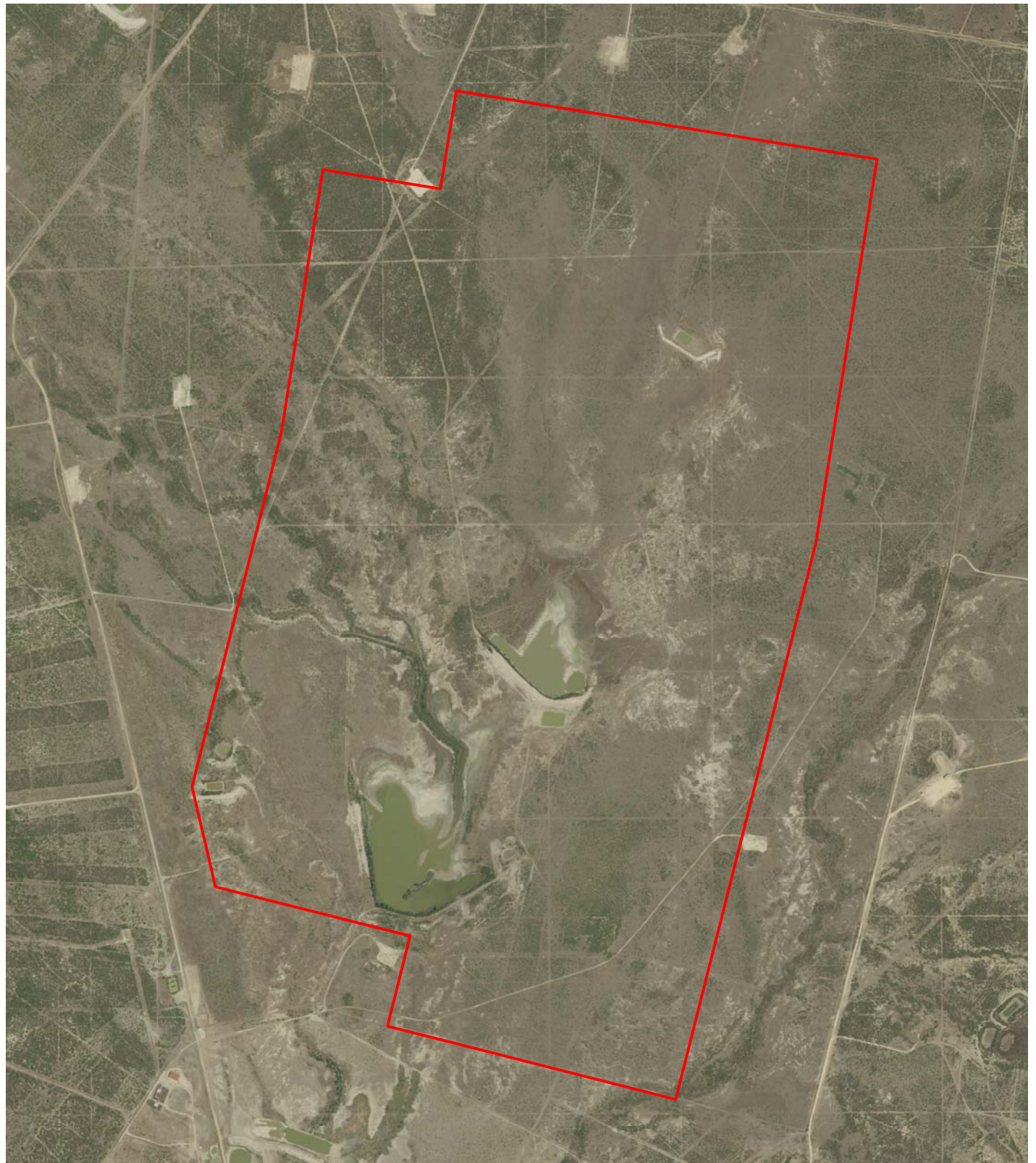
505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
1

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FIGURE 2
SITE LOCATION MAP

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LEGEND

— Survey Area

N



0 250 500
Meters

Source: National Agriculture Imagery Program
(NAIP), 2008.

SITE LOCATION MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



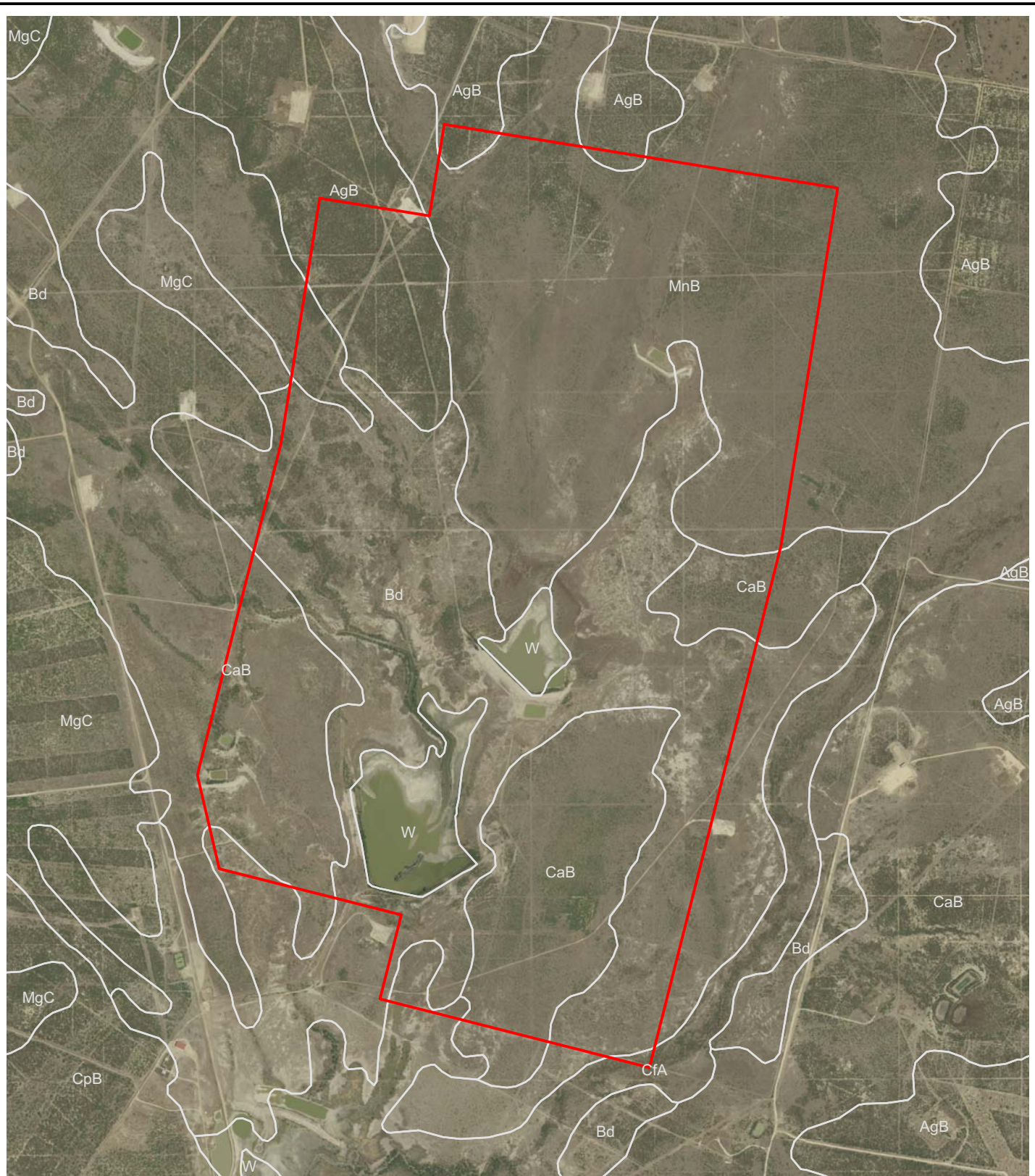
505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
2

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FIGURE 3
SOILS MAP

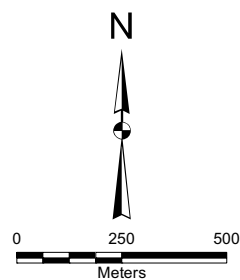
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LEGEND

- Survey Area
- Soil Map Unit Boundary

Source: Soil Survey Geographic (SSURGO)
Database for Webb County, Texas



SOILS MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
3

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FIGURE 4
USFWS NATIONAL WETLANDS INVENTORY MAP

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FIGURE 5
FEMA FLOOD INSURANCE RATE MAP

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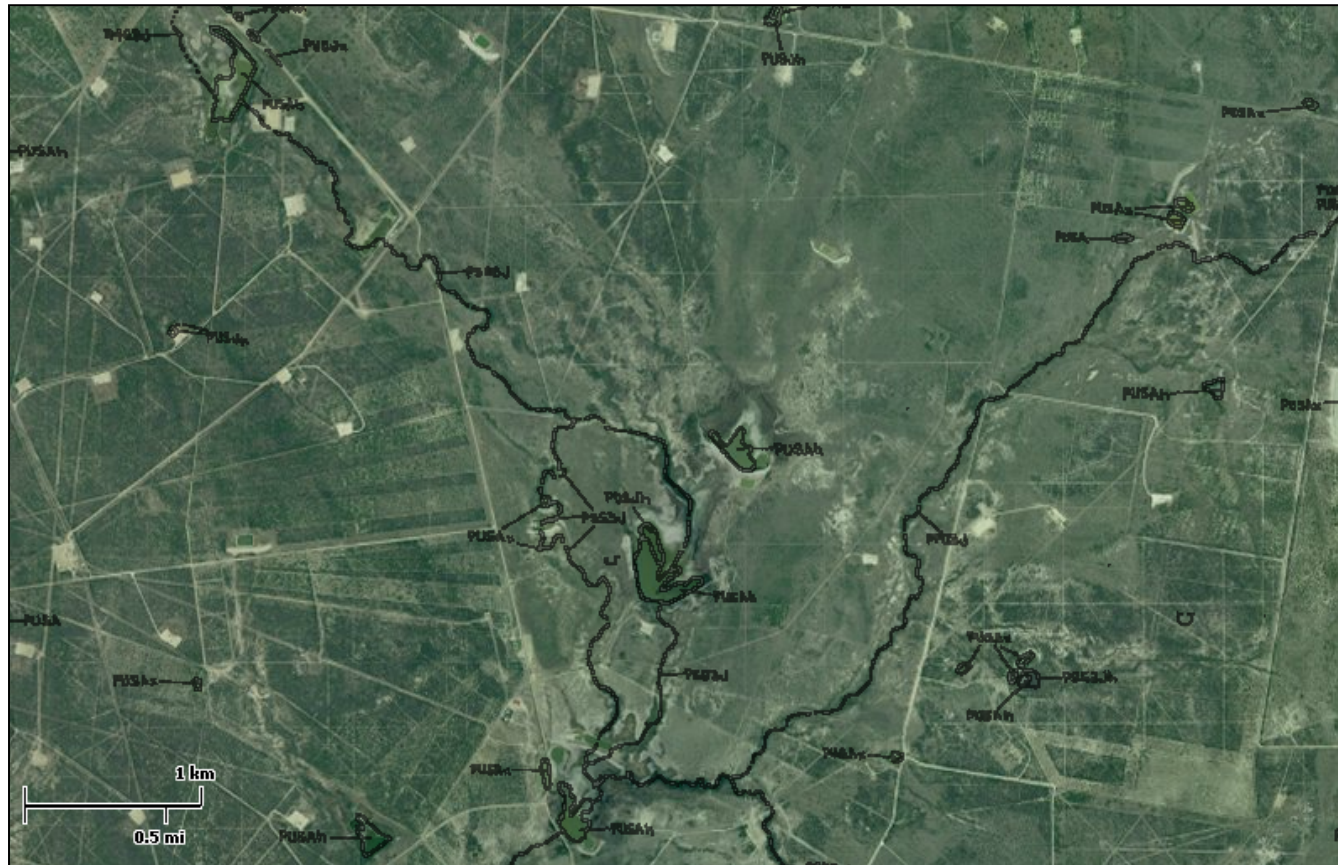


U.S. Fish and Wildlife Service

National Wetlands Inventory

Pescadito
Environmental
Resource Ctr

Aug 8, 2011



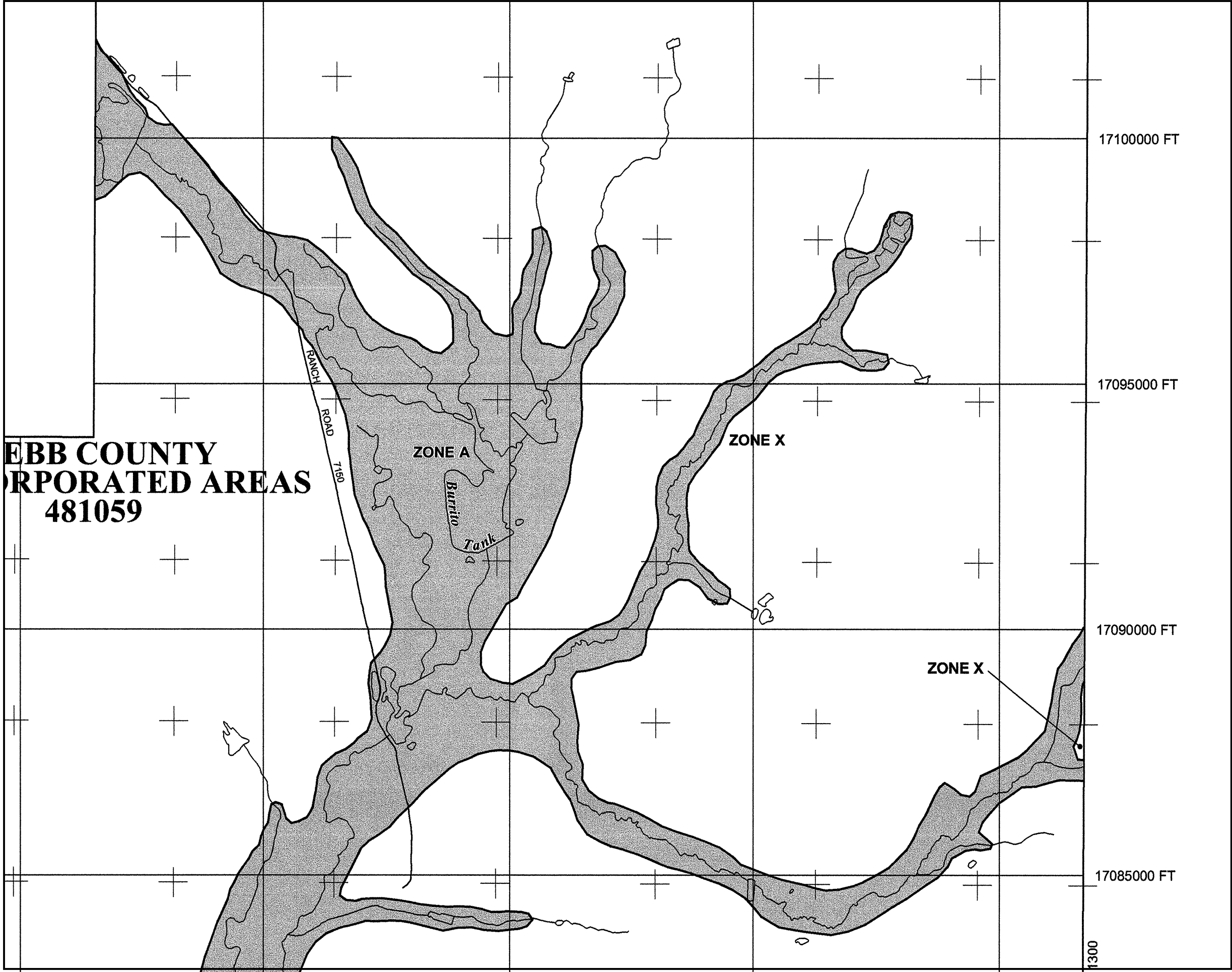
Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

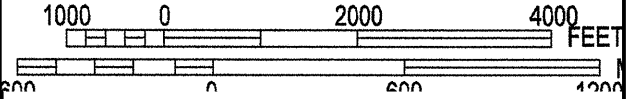
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

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MAP SCALE 1" = 2000'



PANEL 1275C

FIRM
FLOOD INSURANCE RATE MAP
WEBB COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 1275 OF 1700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
WEBB COUNTY	481059	1275	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



MAP NUMBER
48479C1275C

EFFECTIVE DATE
APRIL 2, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

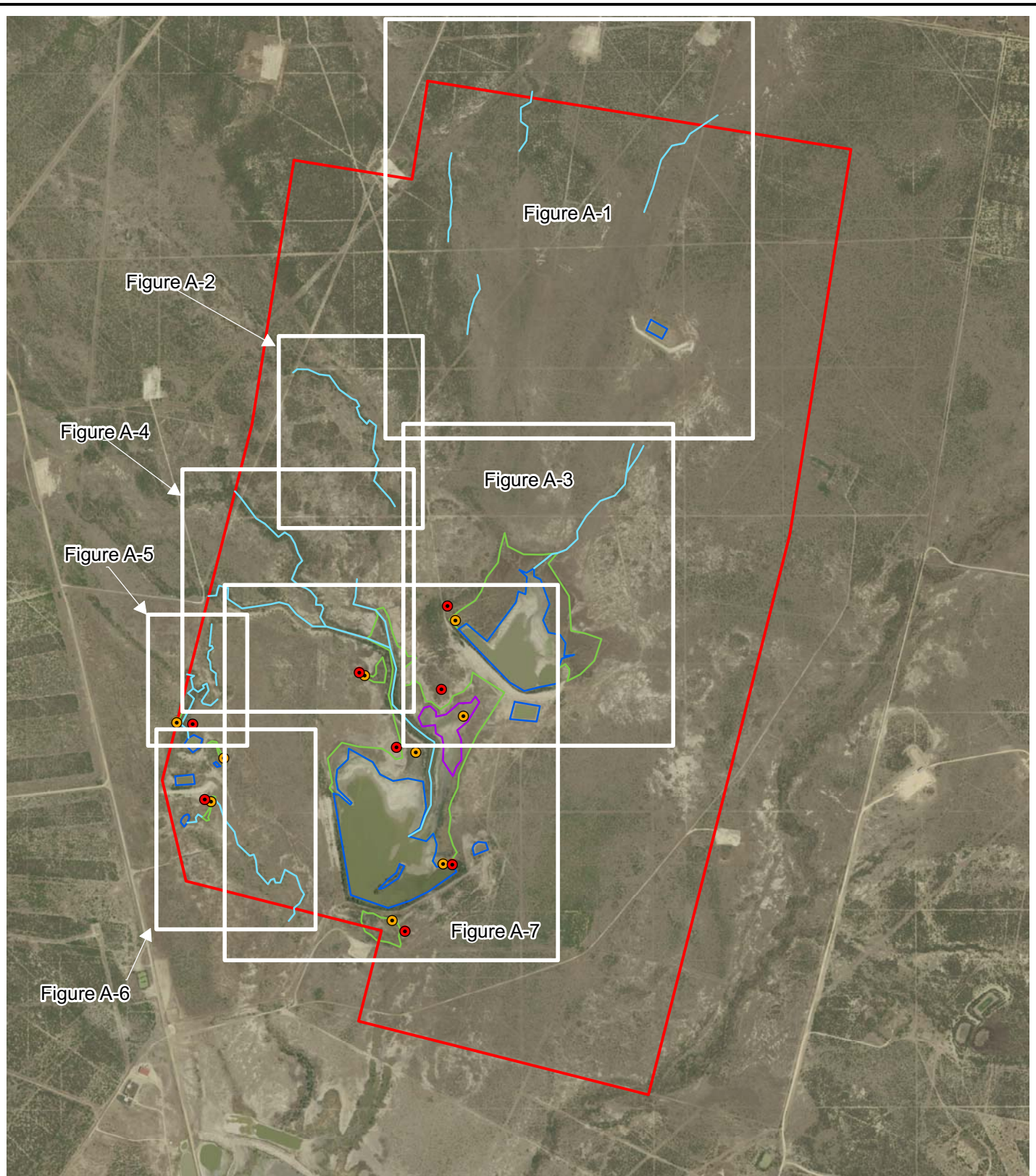
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APPENDIX A

SURVEY RESULTS -

AERIAL PHOTOGRAPH-BASED WETLAND SURVEY MAPS

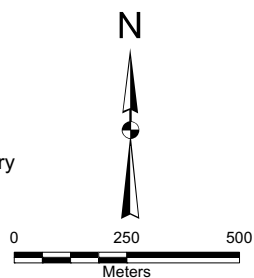
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LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Emergent (PEM) Wetland Boundary
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UPD)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS INDEX MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

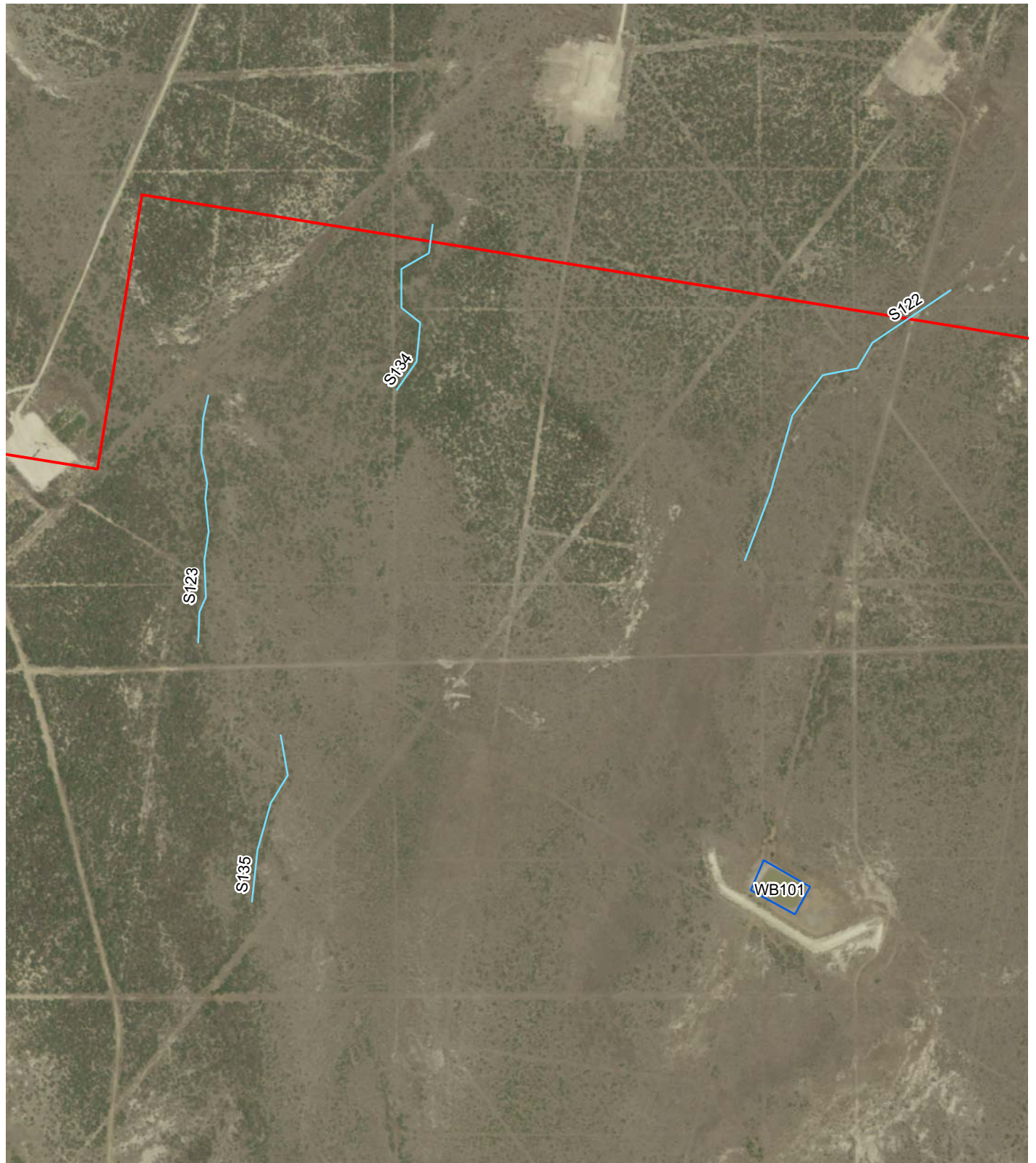
DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A

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LEGEND

- Survey Area
- Streams
- Stock Tanks

N



0 100 200
Meters

SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-1

Source: National Agriculture Imagery Program (NAIP), 2008.

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LEGEND

- Survey Area
- Streams

N



0 50 100
Meters

SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 6/21/2011

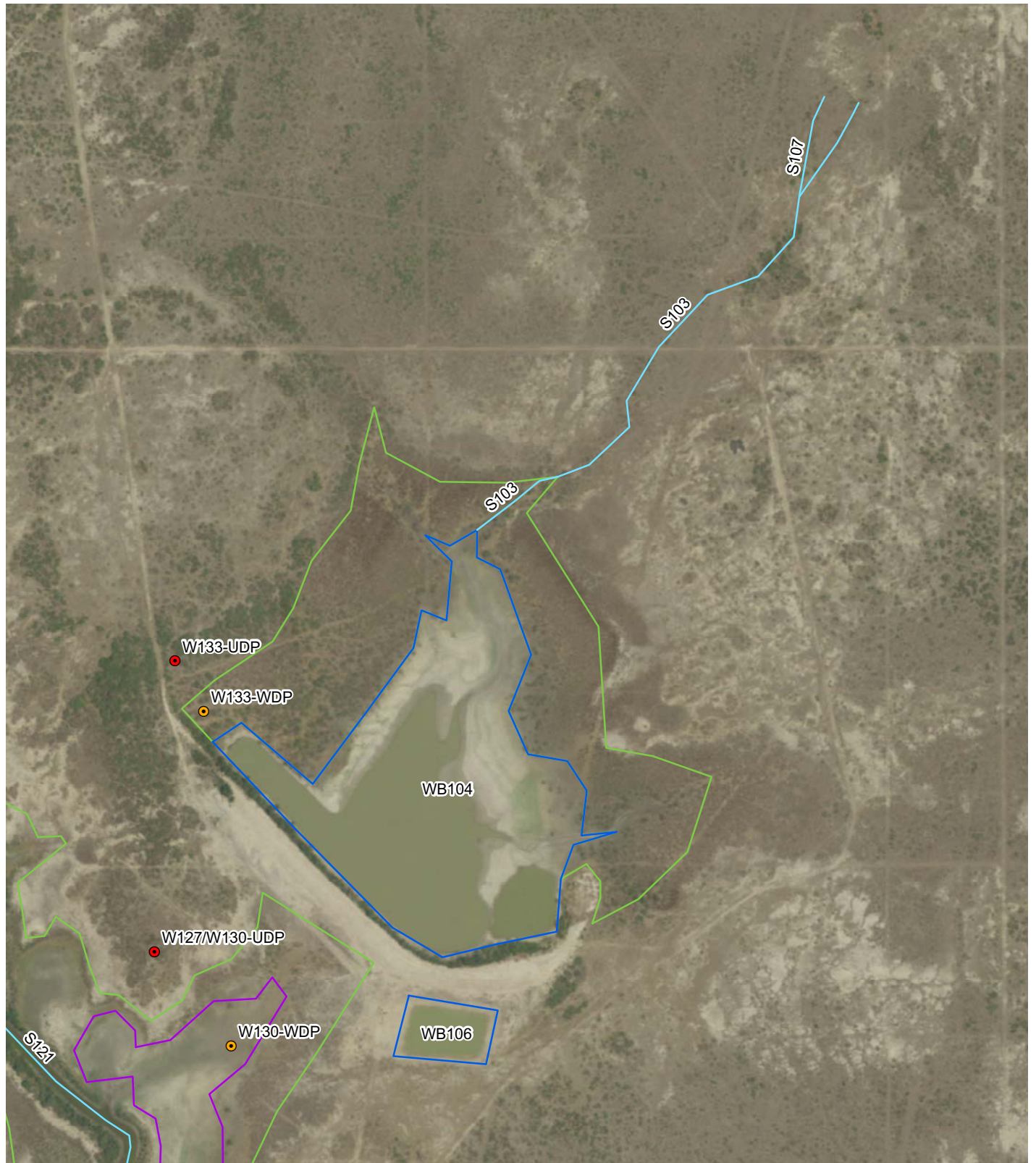


505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-2

Source: National Agriculture Imagery Program (NAIP), 2008.

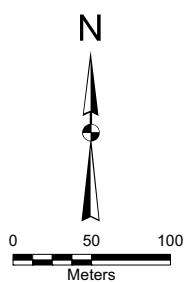
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LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Emergent (PEM) Wetland Boundary
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

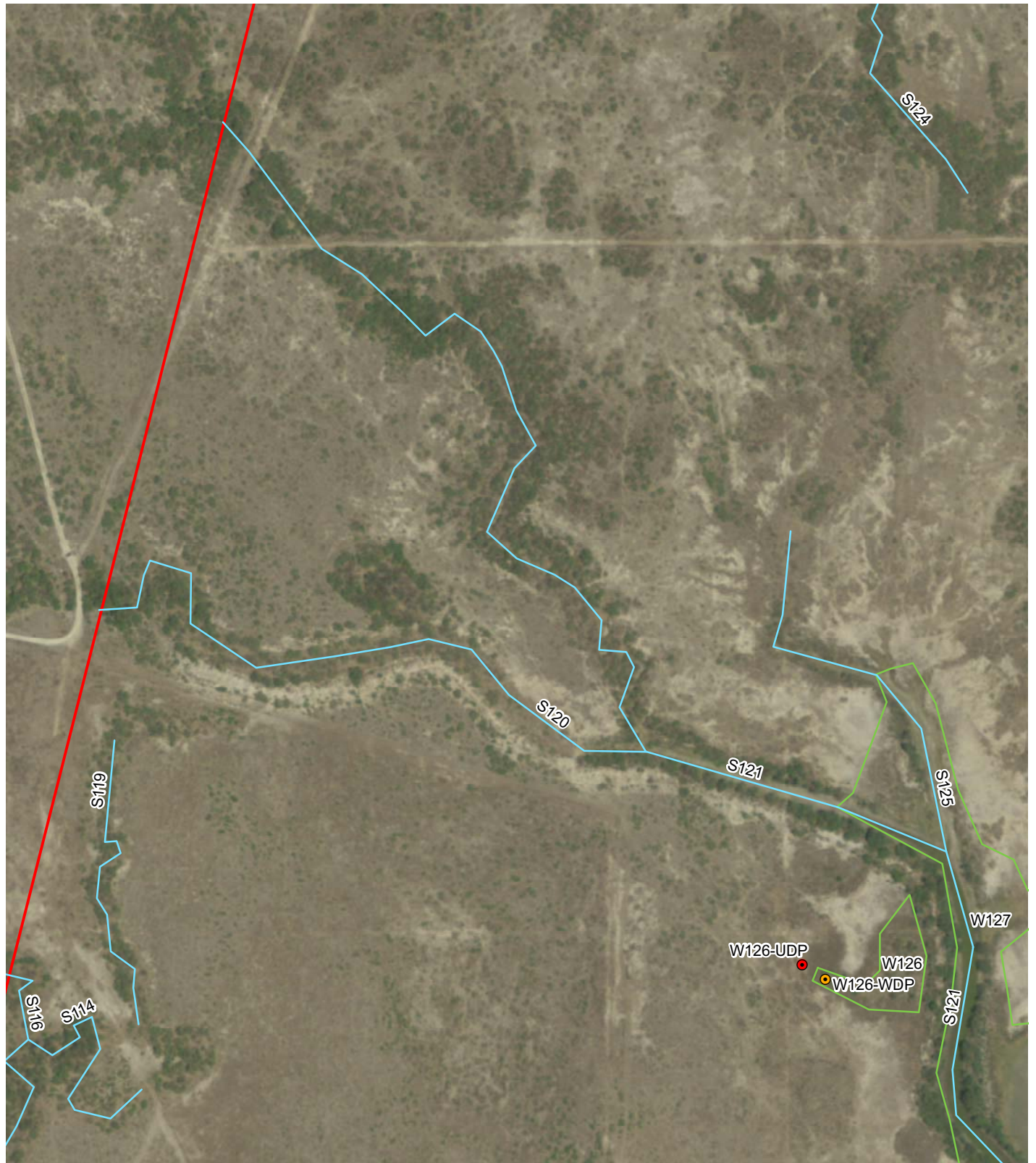
DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-3

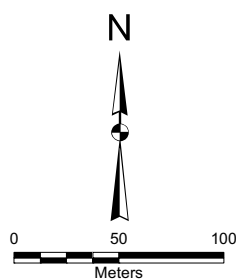
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LEGEND

- Survey Area
- Streams
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

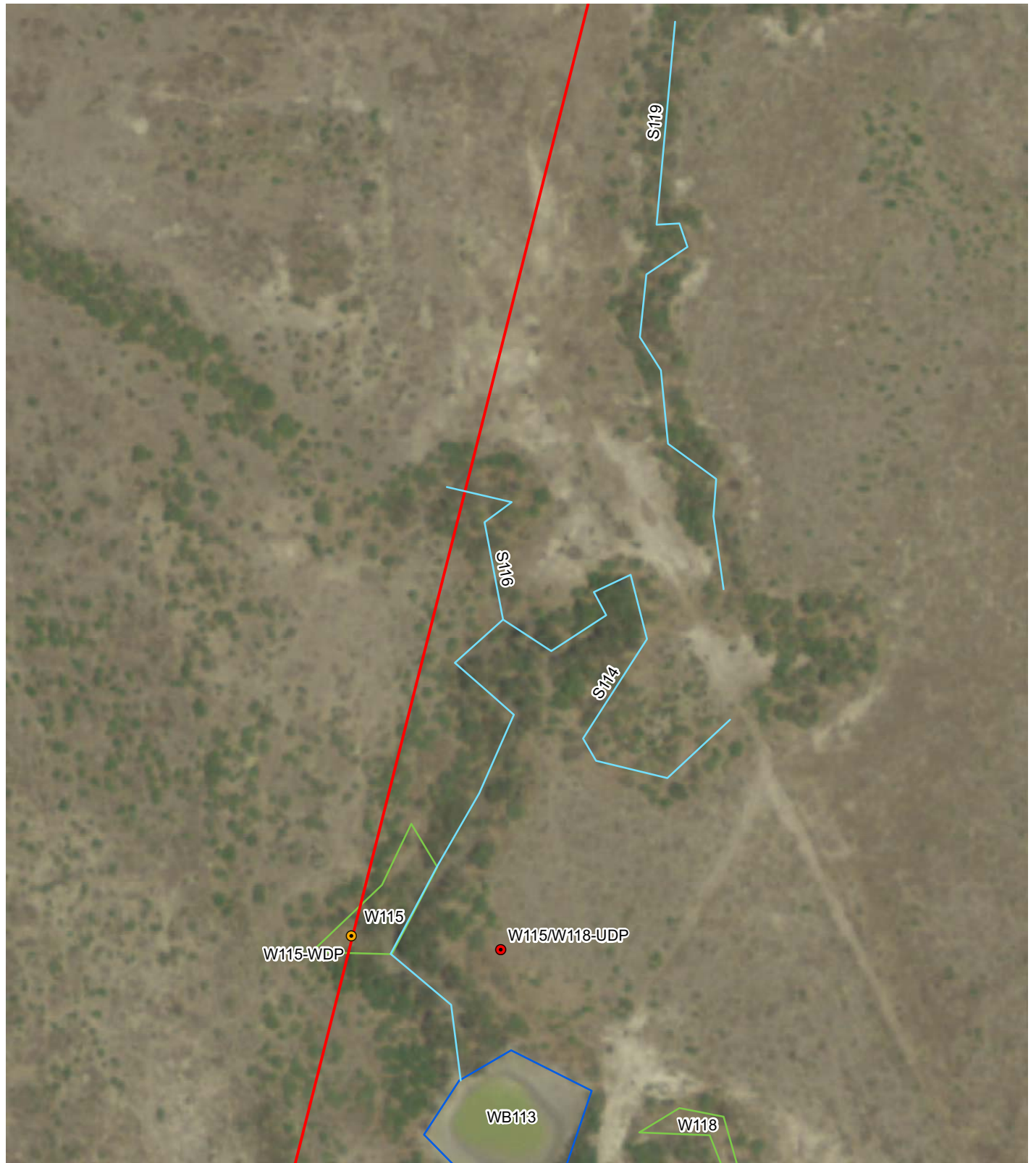
DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-4

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LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

N



0 25 50
Meters

SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 6/21/2011

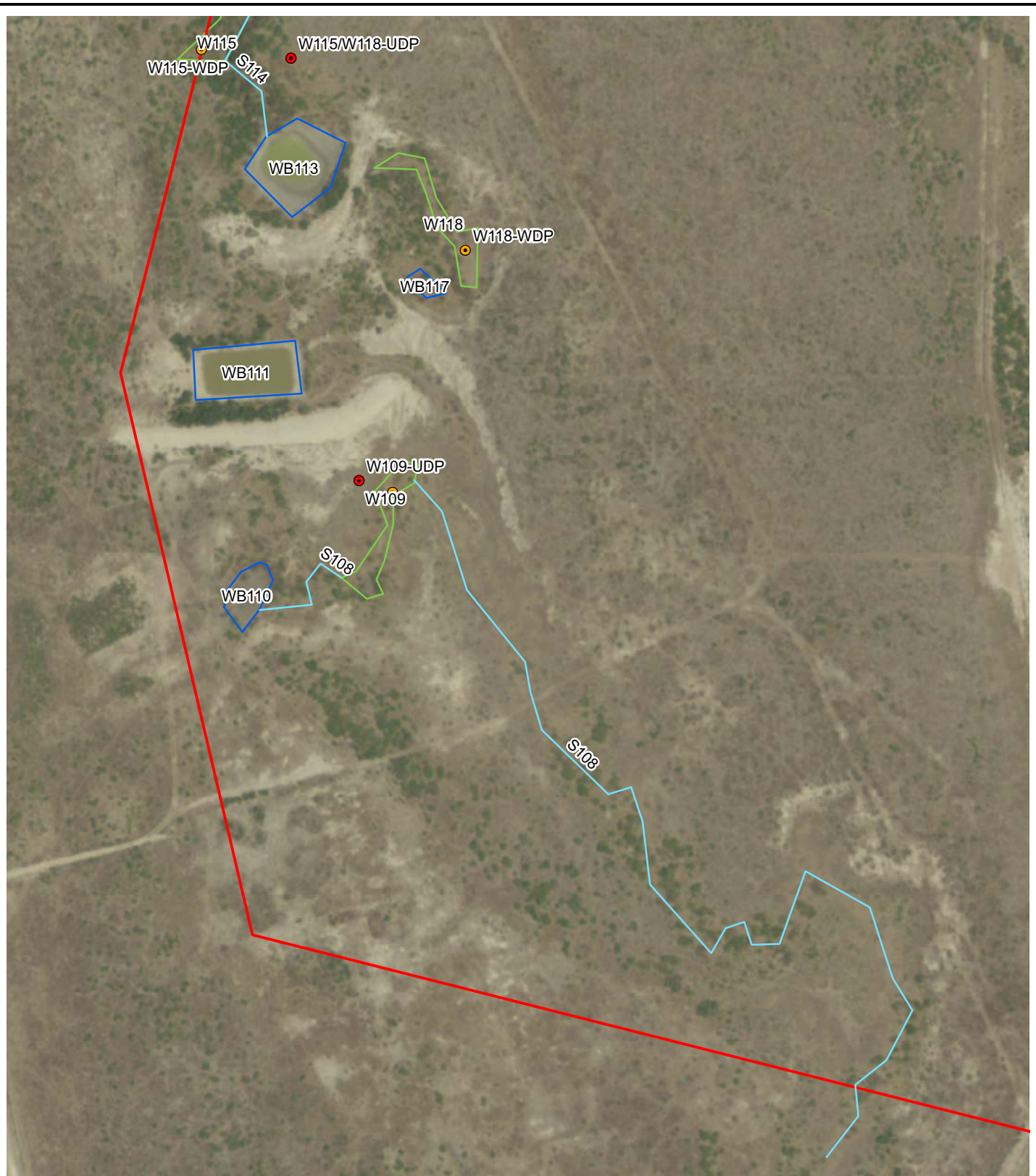


505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-5

Source: National Agriculture Imagery Program (NAIP), 2008.

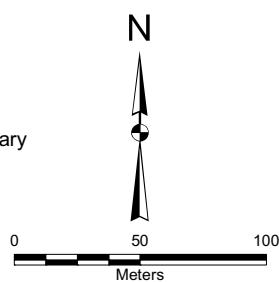
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LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

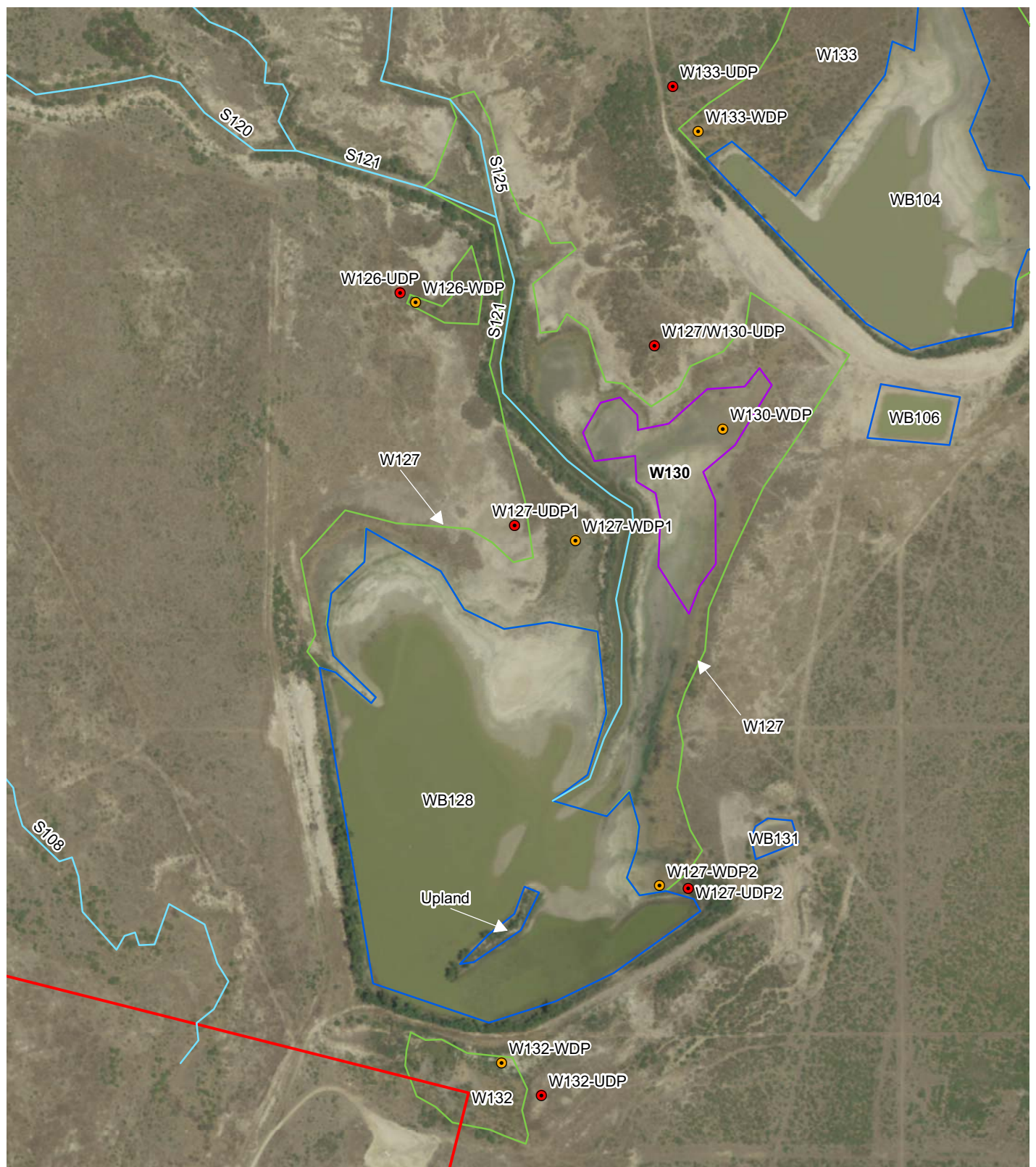
DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-6

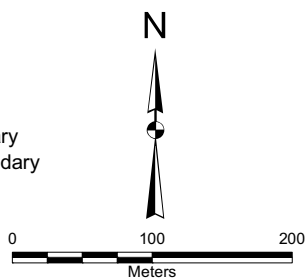
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LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Emergent (PEM) Wetland Boundary
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-7

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APPENDIX B
SURVEY RESULTS -
INCLUDED FOR EACH WETLAND DETERMINATION DATA POINT

- Wetland Determination Data Forms
- Photographic Log

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W109-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048393.622 N Long: 483296.342 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
1. <u>Prosopis glandulosa</u> (Mesquite,honey)	<u>5</u>	<u>Y</u>	<u>n/a</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	<u>5</u>	= Total Cover		
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Opuntia engelmannii</u> var. <u>lindheimeri</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	<u>10</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing. No species present with listed indicator status.

SOIL

Sampling Point: W109-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR4/2	100			N/A	N/A	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present?Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W109-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Drainageway Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): LRR I Lat: 3048387.371 N Long: 483314.876 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS located along ephemeral drainage (S108). Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10</u>)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>10</u>)				
1. <u>Helenium microcephalum (Sneezeweed, small-head)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W109-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR4/2	95	7.5YR4/6	5	C	M	Clay	
3-4	10YR6/3	100			N/A	N/A	Sandy	
4-18	10YR 3/2	100			N/A	N/A	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located within ephemeral drainage system (S108).

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W115/W118-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048624.906 N Long: 483259.123 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Prosopis glandulosa (Mesquite,honey)</u>	<u>15</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
2. <u>Acacia schaffneri (Acacia,twisted)</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>15</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) X Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>85</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area. No species present with listed indicator status.

SOIL

Sampling Point: W115/W118-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR4/2	100			N/A	N/A	Sandy	
3-18	10YR4/2	100			N/A	N/A	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u> X </u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W115-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Drainageway Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048629.461 N Long: 483209.961 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS located along ephemeral drainage (S114). Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Aster spinosus (Aster, spiny)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Aster spinosus (Aster, spiny)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W115-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	7.5YR4/2	95	5YR4/4	5	C	M	Clay	
					N/A	N/A	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W118-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Abandoned drainageway Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048519.898 N Long: 483354.649 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: PSS located along abandoned drainageway and is an enclosed depression. Historic ephemeral system (S108/S114/S119) interrupted by series of impoundments/stock tanks (W110, W111, W113, W117). Vegetation highly disturbed from severe overgrazing throughout project area.		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u>		= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>10</u>		= Total Cover		
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u>		= Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u>		= Total Cover		
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W118-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR4/2	98	2.5YR4/4	2	C	M	Sandy Clay	
					N/A	N/A	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present?Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W126-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048782.571 N Long: 483769.058 E Datum: _____
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>15</u>	= Total Cover		
Herb Stratum (Plot size: _____)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Opuntia engelmannii var. lindheimeri</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>20</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>80</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area.

SOIL

Sampling Point: W126-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR7/3	100			N/A	N/A	Sandy	
2-5	7.5YR4/4	100			N/A	N/A	Clay	Visible salt crystals
5-15	10YR4/3	100			N/A	N/A	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W126-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048772.829 N Long: 483784.291 E Datum: _____
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS located adjacent to ephemeral drainage levee/dike (S121) and within small low area/drainage. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5</u>)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>55</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W126-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR4/2	100			N/A	N/A	Sandy Clay	
2-6	10YR4/2	95	7.5YR4/4	5	C	M	Clay	
6-12	10YR6/3	98	7.5YR4/4	2	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-UDP1
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048551.46 N Long: 483907.416 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Herb Stratum (Plot size: <u>10</u>)				
1. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Tamarix ramosissima (Saltcedar)</u>	<u>2</u>		<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>22</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>80</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area.

SOIL

Sampling Point: W127-UDP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR7/2	100			N/A	N/A	Sandy	
2-16	7.5YR3/2	100			N/A	N/A	Sandy Clay	
					N/A	N/A	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes _____ No X**Remarks:**

Stunted hydrophyte growth compared with growth of same species within W127.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present?Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-UDP2
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Ridge Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): LRR I Lat: 3048195.083 N Long: 484052.996 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area. Soil compacted from livestock at W129-UDP.		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
1. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	<u>30</u>	<u>= Total Cover</u>		
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>20</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Aster spinosus (Aster, spiny)</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	<u>40</u>	<u>= Total Cover</u>		
Herb Stratum (Plot size: _____)				
1. <u>Cynodon dactylon (Grass, bermuda)</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Aster spinosus (Aster, spiny)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	<u>40</u>	<u>= Total Cover</u>		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>60</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W127-UDP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR5/2	100			N/A	N/A	Sandy	
3-10	10YR4/2	100			N/A	N/A	Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127/W130-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048730.584 N Long: 484019.776 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Isocoma coronopifolia (Goldenweed, common)</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Opuntia engelmannii var. lindheimeri</u>	<u>15</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Jatropha dioica (Leatherstem)</u>	<u>5</u>	_____	<u>n/a</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area. No species present with listed indicator status.

SOIL

Sampling Point: W127/W130-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR5/2	100			N/A	N/A	Sandy	
2-10	7.5YR4/2	100			N/A	N/A	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-WDP1
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048538.163 N Long: 483941.687 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Remarks: Large PSS abutting ephemeral stream S121 and stock tank W128. A portion of W127 is within sparsely to non-vegetated area caused by high soil salt content (hydric soil and few oxidized roots present). Levees are present ephemeral stream S121; similar hydrophytic vegetation, hydric soil, and hydrology indicators were observed within S121 and along its levees; therefore, levees are included within the W127 survey polygon. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: 10 _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Borrichia frutescens (Oxeye, sea)</u>	10	Y	FACW	
2. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	10	Y	FACW	
3. <u>Tamarix ramosissima (Saltcedar)</u>	5	Y	FACW	
4. _____	_____	_____	_____	
25 = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% 3 - Prevalence Test is ≤ 3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless d sturbed or problematic.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
0 = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W127-WDP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR7/2	100			N/A	N/A	Sandy	
2-10	7.5YR4/1+	95	7.5YR5/6	5	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**Type: _____
Depth (inches): _____**Hydric Soil Present?**Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-WDP2
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): LRR I Lat: 3048197.819 N Long: 484024.834 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area. Soil likely compacted from livestock.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Aster spinosus (Aster,spiny)</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Lycium carolinianum (Wolf-berry,carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Cynodon dactylon (Grass,bermuda)</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area.

SOIL

Sampling Point: W127-WDP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR5/2	100			N/A	N/A	Sandy	
2-12	10YR4/2	95	7.5YR4/4	5	C	M	Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W130-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048648.316 N Long: 484087.144 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PEM located within a PSS (W127) and downgradient of tank W104. Vegetation highly disturbed from severe overgrazing throughout project area. Soil compacted, likely from livestock.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> X 2 = <u>40</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>15</u> X 4 = <u>60</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>35</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>2.86</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Herb Stratum (Plot size: _____)				
1. <u>Cynodon dactylon (Grass, bermuda)</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% <u>X</u> 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Helenium microcephalum (Sneezeweed, small-head)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Aster spinosus (Aster, spiny)</u>	<u>5</u>		<u>FACW</u>	
4. <u>Eryngium nasturtiifolium (Hierba del sapo)</u>	<u>5</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>35</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>65</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing. Cynodon dactylon exhibiting stunted growth.

SOIL

Sampling Point: W130-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR5/2	98	7.5YR4/4	2	C	M	Sandy	
6-10	10YR4/2	95	7.5YR4/4	5	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

Soil compacted, likely from livestock.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W132-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3047991.051 N Long: 483908.196 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
= Total Cover				

Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				

Herb Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <u>Varilla texana (Saladillo)</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
= Total Cover				Hydrophytic Vegetation Present? Yes <u>X</u> No _____

Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
= Total Cover				

% Bare Ground in Herb Stratum _____				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing. No species present with listed indicator status.

SOIL

Sampling Point: W132-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u> X </u>	Depth (inches): _____

Wetland Hydrology Present?Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W132-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048023.448 N Long: 483868.978 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS downgradient of and abutting an impoundment of stock tank W128. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Tamarix ramosissima (Saltcedar)</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Spartina spartinae (Cordgrass, gulf)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Test is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W132-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR6/2	100			N/A	N/A	Sandy	
2-10	7.5YR4/2	98	5YR4/4	2	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W133-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048985.983 N Long: 484037.758 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Prosopis glandulosa (Mesquite,honey)</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ X 2 = _____ FAC species _____ X 3 = _____ FACU species _____ X 4 = _____ UPL species _____ X 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Acacia schaffneri (Acacia,twisted)</u>	<u>5</u>	_____	<u>n/a</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>55</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Lycium carolinianum (Wolf-berry,carolina)</u>	<u>5</u>	_____	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>35</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>65</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W133-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/2	100			N/A	N/A	Sandy Clay	
4-18	7.5YR4/2	100			N/A	N/A	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present?

Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W133-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048941.718 N Long: 484062.844 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Large PSS abutting ephemeral stream S103 and stock tank W104. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W133-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-10	7.5YR4/2	98	5YR4/3	2	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:



Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐



Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 1		
Feature: Stock Tank WB101		
Date: 4/19/2011		
Comments: Stock tank WB101. Facing north.		
Photograph ID: 2		
Feature: Stream S103		
Date: 4/19/2011		
Comments: Ephemeral stream S103. Facing south (downstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 3		
Feature: Stream S103		
Date: 4/19/2011		
Comments: Ephemeral stream S103. Facing north (upstream).		
Photograph ID: 4		
Feature: Ephemeral stream S107		
Date: 4/19/2011		
Comments: Ephemeral stream S107, a short tributary of S103. Facing north (upstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 5		
Feature: Stock Tank WB104 and Wetland W133		
Date: 4/19/2011		
Comments: Stock tank SB104 and wetland W133 (left of photo). Facing south.		
Photograph ID: 6		
Feature: Wetland W133 and Stock Tank W1B104		
Date: 4/21/2011		
Comments: Wetland W133 (background) at the edge of stock tank WB104 (foreground). Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 7			
Feature: Wetland W133			
Date: 4/21/2011			
Comments: Wetland W133. Facing north.			
Photograph ID: 8			
Feature: Soil at W133-WDP			
Date: 4/19/2011			
Comments: Soil at W133-WDP wetland data point.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 9			
Feature: Upland Habitat at W133-UDP			
Date: 4/19/2011			
Comments: Upland habitat at W133-UDP upland data point. Facing north.			
Photograph ID: 10			
Feature: Soil at W133-UDP			
Date: 4/20/2011			
Comments: Soil at W133-UDP upland data point.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 11			
Feature: Stock Tank WB106			
Date: 4/19/2011			
Comments: Stock tank WB106. Facing north.			
Photograph ID: 12			
Feature: Wetland W109 (W109-WDP)			
Date: 4/20/2011			
Comments: Wetland W109 at W109-WDP. Facing south.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 13			
Feature: Soil at W109-WDP			
Date: 4/20/2011			
Comments: Soil profile at W109-WDP wetland data point.			
Photograph ID: 14			
Feature: Upland habitat at W109-UDP			
Date: 4/20/2011			
Comments: Upland habitat at W109-UDP upland data point. Facing north.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 15		
Feature: Soil at W109-UDP		
Date: 4/20/2011		
Comments: Soil profile at W109-UDP upland data point.		
Photograph ID: 16		
Feature: Stock Tank WB110		
Date: 4/20/2011		
Comments: Stock tank WB110. Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 17		
Feature: Stock Tank WB111		
Date: 4/20/2011		
Comments: Stock Tank WB111. Facing east.		
Photograph ID: 18		
Feature: Stock Tank WB113		
Date: 4/20/2011		
Comments: Stock Tank WB113. Facing south.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 19		
Feature: Stock Tank WB113 at Stream S114		
Date: 4/20/2011		
Comments: Stock tank WB113 at ephemeral stream S114. Facing north.		
Photograph ID: 20		
Feature: Wetland W115 and Stream S114		
Date: 4/20/2011		
Comments: Wetland W115 (left of photo), located adjacent to ephemeral stream S114 (background). Facing north (upstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 21		
Feature: Stream S114		
Date: 4/20/2011		
Comments: Ephemeral stream S114. Facing north (upstream).		
Photograph ID: 22		
Feature: Upland Habitat at W115/W118-UDP		
Date: 4/20/2011		
Comments: Upland habitat at W115/W118-UDP upland data point. Facing east.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 23		
Feature: Soil at W115/W118-UDP		
Date: 4/20/2011		
Comments: Soil at W115/W118-UDP upland data point.		
Photograph ID: 24		
Feature: Stock Tank WB117		
Date: 4/20/2011		
Comments: Stock Tank WB117. Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 25		
Feature: Wetland W118		
Date: 4/20/2011		
Comments: Wetland W118, located within an abandoned drainage channel created by stock tank construction. Facing north.		
Photograph ID: 26		
Feature: Stream S116		
Date: 4/20/2011		
Comments: Ephemeral stream S116. Facing north (upstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 27		
Feature: Stream S120		
Date: 4/20/2011		
Comments: Ephemeral stream S120 (left of photo). Facing east (downstream).		
Photograph ID: 28		
Feature: Streams S120 and S121		
Date: 4/20/2011		
Comments: Confluence of ephemeral stream S120 (left of photo) and S121 (foreground and background). Facing east (downstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 29		
Feature: Stream S123		
Date: 4/21/2011		
Comments: Ephemeral stream S123. Facing downstream (south).		
Photograph ID: 30		
Feature: Stream S124		
Date: 4/21/2011		
Comments: Ephemeral stream S124. Facing south (downstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 31		
Feature: Stream S125		
Date: 4/21/2011		
Comments: Ephemeral stream S125. Facing south (downstream).		
Photograph ID: 32		
Feature: Wetland W126		
Date: 4/21/2011		
Comments: Wetland W126. Facing west.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 33		
Feature: Soil at W126-WDP		
Date: 4/21/2011		
Comments: Soil at W126-WDP wetland data point.		
Photograph ID: 34		
Feature: Upland habitat at W126-UDP		
Date: 4/21/2011		
Comments: Upland habitat at W126-UDP upland data point. Facing west.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 35		
Feature: Soil at W126-UDP		
Date: 4/21/2011		
Comments: Soil at W126-UDP upland data point.		
Photograph ID: 36		
Feature: Wetland W127 at W127-WDP1		
Date: 4/21/2011		
Comments: Wetland W127 at W127-WDP1. Facing south.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 37		
Feature: Soil at W127-WDP1		
Date: 4/21/2011		
Comments: Soil at W127-WDP1 wetland data point.		
Photograph ID: 38		
Feature: Sparse Vegetation at W127 and Stock Tank WB128		
Date: 4/21/2011		
Comments: Area of sparse vegetation at W127, a result of saline soils. Stock tank WB128 in background. Facing south.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 39		
Feature: Soil at W127		
Date: 4/21/2011		
Comments: Hydric soil at sparsely vegetated area of W127.		
Photograph ID: 40		
Feature: Upland habitat at W127-UDP1		
Date: 4/21/2011		
Comments: Upland habitat at W127-UDP1 upland data point. Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 41			
Feature: Soil at W127-UDP1			
Date: 4/21/2011			
Comments: Soil profile at W127-UDP1 upland data point.			
Photograph ID: 42			
Feature: Wetland W127 at W127-WDP2 and Stock Tank WB128			
Date: 4/21/2011			
Comments: Fringe area of wetland W127, near W127-WDP2. Stock tank WB128 in background. Facing southwest.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 43		
Feature: Soil at W127-WDP2		
Date: 4/21/2011		
Comments: Soil at W127-WDP2 wetland data point.		
Photograph ID: 44		
Feature: Upland habitat at W127-UDP2		
Date: 4/21/2011		
Comments: Upland habitat at W127-UDP2 upland data point. Facing southeast.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 45		
Feature: Soil at W127-UDP2		
Date: 4/21/2011		
Comments: Soil profile at W127-UDP2 upland data point.		
Photograph ID: 46		
Feature: Wetland W127 at Stream S121		
Date: 4/21/2011		
Comments: Wetland W127 at ephemeral stream S121 (left of photo). Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 47			
Feature: Wetland W127 at W104 Impoundment			
Date: 4/21/2011			
Comments: Wetland W127 (background) at W104 impoundment (foreground). Facing south.			
Photograph ID: 48			
Feature: Wetland W130			
Date: 4/21/2011			
Comments: Wetland W130. Facing south.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 49			
Feature: Soil at W130-UDP1			
Date: 4/21/2011			
Comments: Soil at W130-WDP wetland data point.			
Photograph ID: 50			
Feature: Upland habitat at W127/W130-UDP			
Date: 4/21/2011			
Comments: Upland habitat at W127/W130-UDP upland data point. Facing northwest.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 51		
Feature: Soil at W12/W130-UDP		
Date: 4/21/2011		
Comments: Soil at W127/W130- UDP upland data point.		
Photograph ID: 52		
Feature: Stock Tank WB131		
Date: 4/21/2011		
Comments: Stock tank WB131. Facing west.		

PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 53			
Feature: Wetland W132			
Date: 4/21/2011			
Comments: Wetland W132. Facing southeast.			
Photograph ID: 54			
Feature: Soil at W132-WDP			
Date: 4/21/2011			
Comments: Soil at W132-WDP wetland data point.			

PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 55		
Feature: Upland Habitat at W132-UDP		
Date: 4/21/2011		
Comments: Upland habitat at W132-UDP upland data point. Facing east.		
Photograph ID: 56		
Feature: Soil at W132-UDP		
Date: 4/21/2011		
Comments: Soil at W132-UDP upland data point.		

Attachment C
USACE Preliminary Jurisdictional Determination
Form

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office	Fort Worth District	File/ORM #	SWF-2011-00398	PJD Date:	8/30/2011
State	TX	City/County	Webb	Name/Address of Person Requesting PJD	Deborah Blackburn 505 East Huntland Drive Suite 250 Austin, Texas 78752
Nearest Waterbody:	Burrito Tank	Location: TRS, LatLong or UTM:	27.5581, -99.1636		
Identify (Estimate) Amount of Waters in the Review Area:			Name of Any Water Bodies on the Site Identified as Section 10 Waters:		
Non-Wetland Waters:			Tidal:		
Stream Flow:			Non-Tidal:		
13711 linear ft 9.4 width acres Ephemeral					
Wetlands: 46.3 acre(s) Cowardin Class: Palustrine, scrub-shrub			Date of Field Trip: April 2011		
			<input checked="" type="checkbox"/> Office (Desk) Determination <input checked="" type="checkbox"/> Field Determination:		

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☐ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is:
- ☒ Photographs: ☐ Aerial (Name & Date):
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Dan Meier 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011
State TX City/County WEBB Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
S119	27.563	-99.169	Riverine	699' x 7'	Non-Section 10 non-wetland
S120	27.564	-99.166	Riverine	1496' x 10'	Non-Section 10 non-wetland
S121	27.562	-99.163	Riverine	4868' x 12'	Non-Section 10 non-wetland
S125	27.565	-99.164	Riverine	906' x 10'	Non-Section 10 non-wetland
			Riverine		Non-Section 10 non-wetland

Notes:

All listed streams are ephemeral. Listed amounts for streams are linear feet x average ordinary high water mark width.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office	Fort Worth District	File/ORM #	SWF-2011-00398	PJD Date:	8/30/2011
State	TX	City/County	Webb	Name/ Address of Person Requesting PJD	Deborah Blackburn 505 East Huntland Drive Suite 250 Austin, Texas 78752
Nearest Waterbody:	Burrito Tank	Location: TRS, LatLong or UTM:	27.5581, -99.1636		
Identify (Estimate) Amount of Waters in the Review Area:			Name of Any Water Bodies Tidal: _____ on the Site Identified as _____ Section 10 Waters: Non-Tidal: _____		
Non-Wetland Waters: _____ Stream Flow: _____ 13711 linear ft 9.4 width _____ acres Ephemeral					
Wetlands: 46.3 acre(s) Cowardin Class: Palustrine, scrub-shrub			<input checked="" type="checkbox"/> Office (Desk) Determination <input checked="" type="checkbox"/> Field Determination: _____ Date of Field Trip: April 2011		

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study: _____
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is: _____
- ☒ Photographs: ☐ Aerial (Name & Date): _____
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Dan Messer 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011
State TX City/County WEBB Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W133	27.565	-99.160	Palustrine, scrub-shrub	14.70 ac	Non-Section 10 wetland
S103	27.566	-99.158	Riverine	1745' x 4'	Non-Section 10 non-wetland
S107	27.569	-99.156	Riverine	297' x 3'	Non-Section 10 non-wetland
S108	27.559	-99.169	Riverine	2269' x 9'	Non-Section 10 non-wetland
S114	27.562	-99.170	Riverine	1216' x 10'	Non-Section 10 non-wetland
S116	27.562	-99.170	Riverine	215' x 8'	Non-Section 10 non-wetland

Notes:

All listed streams are ephemeral. Listed amounts for streams are linear feet x average ordinary high water mark width.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office	Fort Worth District	File/ORM #	SWF - 2011 - 00398	PJD Date:	8/30/2011
State	TX	City/County	Webb	Name/ Address of Person Requesting PJD	Deborah Blackburn 505 East Huntland Drive Suite 250 Austin, Texas 78752
Nearest Waterbody:	Burrito Tank				
Location: TRS, Lat/Long or UTM:	27.5581, -99.1636				
Identify (Estimate) Amount of Waters in the Review Area:				Name of Any Water Bodies on the Site Identified as	
Non-Wetland Waters:				Tidal:	
Stream Flow:				Non-Tidal:	
linear ft width acres					
N/A					
Wetlands: 46.3 acre(s) Cowardin Class: Palustrine, scrub-shrub				Date of Field Trip: April 2011	
				<input checked="" type="checkbox"/> Office (Desk) Determination <input checked="" type="checkbox"/> Field Determination:	

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is:
- ☒ Photographs: ☐ Aerial (Name & Date):
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Dan Messer 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011
State TX City/County WEBB Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W109	27.559	-99.169	Palustrine, scrub-shrub	0.19 ac	Non-Section 10 wetland
W115	27.561	-99.170	Palustrine, scrub-shrub	0.17 ac	Non-Section 10 wetland
W118	27.561	-99.169	Palustrine, scrub-shrub	0.19 ac	Non-Section 10 wetland
W126	27.563	-99.164	Palustrine, scrub-shrub	0.59 ac	Non-Section 10 wetland
W127	27.560	-99.163	Palustrine, scrub-shrub	28.46 ac	Non-Section 10 wetland
W132	27.556	-99.164	Palustrine, scrub-shrub	2.00 ac	Non-Section 10 wetland

Notes:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011

State TX City/County Webb
Nearest Waterbody: Burrito Tank
Location: TRS, LatLong or UTM: 27.5581, -99.1636
Name/Address of Person Requesting PJD: Deborah Blackburn
505 East Huntland Drive
Suite 250
Austin, Texas 78752

Identify (Estimate) Amount of Waters in the Review Area: Name of Any Water Bodies Tidal: _____
on the Site Identified as _____
Section 10 Waters: Non-Tidal: _____
Non-Wetland Waters: Stream Flow: _____
linear ft width 42.59 acres N/A
Wetlands: 3.98 acre(s) Cowardin Class: Palustrine, emergent
☒ Office (Desk) Determination
☒ Field Determination: Date of Field Trip: April 2011

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps _____
- ☐ Corps navigable waters' study: _____
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is: _____
- ☒ Photographs: ☐ Aerial (Name & Date): _____
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Dan Messer 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

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1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

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Appendix A - Sites

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011
State TX City/County WEBB Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
WB117	27.560	-99.169	n/a	0.04 ac	Non-Section 10 non-wetland
WB128	27.558	-99.164	n/a	26.68 ac	Non-Section 10 non-wetland
WB131	27.558	-99.161	n/a	0.31 ac	Non-Section 10 non-wetland
			n/a		Non-Section 10 non-wetland
			n/a		Non-Section 10 non-wetland
			n/a		Non-Section 10 non-wetland

Notes:

Resources with "N/A" are stock tanks (palustrine open water habitat) less than 2.0 meters deep.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011

State TX City/County Webb

Nearest Waterbody: Burrito Tank

Location: TRS,
LatLong or UTM: 27.5581, -99.1636

Name/
Address of
Person
Requesting
PJD
Deborah Blackburn
505 East Huntland Drive
Suite 250
Austin, Texas 78752

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters:

Stream Flow:

 linear ft width 42.59 acres N/A

Wetlands: 3.98 acre(s) Cowardin
Class: Palustrine, emergent

Name of Any Water Bodies
on the Site Identified as
Section 10 Waters: Tidal:
Non-Tidal:

☒ Office (Desk) Determination

☒ Field Determination: Date of Field Trip: April 2011

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
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 - ☐ Office does not concur with data sheets/delineation report.
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- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
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- ☐ State/Local wetland inventory map(s):
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- ☐ 100-year Floodplain Elevation is:
- ☒ Photographs: ☐ Aerial (Name & Date):
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Dan Meen 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011
State TX City/County WEBB Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W130	27.561	-99.162	Palustrine, emergent	3.98 ac	Non-Section 10 wetland
WB104	27.563	-99.159	n/a	13.58 ac	Non-Section 10 non-wetland
WB106	27.562	-99.159	n/a	1.01 ac	Non-Section 10 non-wetland
WB110	27.560	-99.170	n/a	0.14 ac	Non-Section 10 non-wetland
WB111	27.560	-99.170	n/a	0.40 ac	Non-Section 10 non-wetland
WB113	27.561	-99.170	n/a	0.43 ac	Non-Section 10 non-wetland

Notes:

Resources with "N/A" are stock tanks (palustrine open water habitat) less than 2.0 meters deep.

Attachment D
USACE Correspondence



505 East Huntland Drive
Suite 250
Austin, TX 78752

512.329.6080 PHONE
512.329.8750 FAX

www.TRCsolutions.com

August 12, 2011

District Engineer
U. S. Army Engineer District, Fort Worth
CESWF-PER-R
819 Taylor Street, Room 3A37
Fort Worth, TX 76102-0300

Subject: Request for Preliminary Jurisdictional Determination, Yugo Ranch, Webb County, Texas

To Whom It May Concern:

TRC Environmental Corporation (TRC), on behalf of Rancho Viejo Waste Management, LLC, requests a Preliminary Jurisdictional Determination of the project area under the Clean Water Act. The project area is located approximately 20 miles east of Laredo in Webb County, Texas. The project area is part of the Yugo Ranch and the approximate coordinates for the center of the project area are UTM Zone 14, 484271E, 3048635N.

Rancho Viejo Waste Management, LLC proposes to establish a solid waste management facility on a 1,110-acre tract of the Yugo Ranch. TRC is currently preparing information for the Municipal Solid Waste Permit for the Texas Commission on Environmental Quality. Consequently, project specifications, potential impacts to wetlands and waters of the U.S. from the project, and/or mitigation estimates are not available at this time. The purpose of the requested Preliminary Jurisdictional Determination is to assess the presence and extent of jurisdictional wetlands and waters of the U.S. for the evaluation of potential permits and mitigation for the property. Please find enclosed a wetland delineation report that includes a location map, aerial photographs and recent site photographs of the project area. A mitigation plan is not included.

August 12, 2011

Page 2

We appreciate any additional consideration that can be provided on this project. If you have any questions or concerns, please contact me at (512) 684-3134 or by email at dblackburn@trcsolutions.com.

Sincerely,

Deborah Blackburn
Senior Scientist

Encl. Waters of the U.S. Delineation Report





DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, CORPS OF ENGINEERS
P.O. BOX 17300
FORT WORTH, TEXAS 76102-0300

August 17, 2011

Planning, Environmental, and Regulatory Division
Regulatory Branch

SUBJECT: Project Number SWF-2011-00398, Pescadito Environmental Resource Center

Ms. Deborah Blackburn
TRC Environmental Corporation
505 East Huntland Drive
Suite 250
Austin, TX 78752

Dear Ms. Blackburn:

Thank you for your letter received August 15, 2011 concerning a proposal by Rancho Viejo Waste Management, LLC to establish a solid waste management facility on a 1,110-acre tract of the Yugo Ranch located in Webb County, Texas. This project has been assigned Project Number SWF-2011-00398. Please include this number in all future correspondence concerning this project.

Mr. Darvin Messer has been assigned as the regulatory project manager for your request and will be evaluating it as expeditiously as possible.

You may be contacted for additional information about your request. For your information, please reference the Fort Worth District Regulatory Branch homepage at <http://www.swf.usace.army.mil/regulatory> and particularly guidance on submittals at <http://www.swf.usace.army.mil/pubdata/envIRON/regulatory/introduction/submital.pdf>, and mitigation at http://www.usace.army.mil/CECW/Pages/final_cmr.aspx that may help you supplement your current request or prepare future requests.

If you have any questions about the evaluation of your submittal or would like to request a copy of one of the documents referenced above, please contact Mr. Darvin Messer at the address above or telephone (817)886-1744 and refer to your assigned project number. Please note that it is unlawful to start work without a Department of the Army permit if one is required.

Please help the Regulatory Program improve its service by completing the survey on the following website: <http://per2.nwp.usace.army.mil/survey.html>.

Stephen L Brooks
Chief, Regulatory Branch

Blackburn, Deborah (Austin,TX-US)

From: Messer, Orville Darvin SWF <Darvin.Messer@usace.army.mil>
Sent: Tuesday, August 30, 2011 12:25 PM
To: Clark, Barrett R. (Austin,TX-US)
Cc: Blackburn, Deborah (Austin,TX-US)
Subject: RE: Supplemental Information - SWF-2011-00398 (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Mr Clark,

I'm reviewing the submitted PJD forms and, according to my audit, W130 is not included on any of the forms. Would you please provide a separate or edited form for W130? As a reminder, these PJD forms are used to obtain concurrence on positive jurisdictional calls for respective aquatic resources. The forms for WB101, S124...etc will not be signed by the Corps as we do not believe them to be jurisdictional. To obtain that determination, we'd need to go through the 'Approved JD' process - but it's not required. For this project, our concurrence on the remaining PJD forms confirms their JD status for purposes of IP development.

Thank you,

Darvin Messer
Regulatory Project Manager
USACE Fort Worth District
PO Box 17300
819 Taylor Street
Fort Worth, TX 76102
817-886-1744
817-886-6493 - fax
darwin.messer@usace.army.mil

Please help the Regulatory Program improve its service by completing the survey on the following website:
<http://per2.nwp.usace.army.mil/survey.html>

-----Original Message-----

From: Blackburn, Deborah (Austin,TX-US) [<mailto:DBlackburn@trcsolutions.com>]
Sent: Wednesday, August 24, 2011 4:33 PM
To: Messer, Orville Darvin SWF
Cc: Clark, Barrett R. (Austin,TX-US)
Subject: Supplemental Information - SWF-2011-00398

Mr. Messer,

Per our conversation on Monday, I have attached the requested Preliminary Jurisdictional Determination forms and a map identifying areas we believe are jurisdictional and non-jurisdictional. I also confirmed with the wetland delineator, Mr. Barrett Clark, that S108 does not have a direct connection to WB128. If you have any other technical questions regarding the delineation report, please feel free to contact Mr. Clark at 512-684-3110.

Please let me know if I can be of any further assistance and I look forward to your conclusions.

Deborah Blackburn
Senior Scientist

cid:image001.jpg@01CC622D.2CAAE770

505 E. Huntland Drive, Suite 250, Austin, TX 78752

T: 512.684.3134 | F: 512.329.8750

Follow us on LinkedIn <<http://www.linkedin.com/company/7886>> or Twitter <http://twitter.com/TRC_Companies> |
www.trcsolutions.com <<http://www.trcsolutions.com>>

Classification: UNCLASSIFIED

Caveats: NONE

Blackburn, Deborah (Austin,TX-US)

From: Messer, Orville Darwin SWF <Darvin.Messer@usace.army.mil>
Sent: Tuesday, August 30, 2011 2:00 PM
To: Clark, Barrett R. (Austin,TX-US)
Cc: Blackburn, Deborah (Austin,TX-US)
Subject: Emailing: signed PJD.pdf (UNCLASSIFIED)
Attachments: signed PJD.pdf

<<signed PJD.pdf>> Classification: UNCLASSIFIED
Caveats: NONE

Here's the forms - signed ones for JD concurrence. Thanks!

The message is ready to be sent with the following file or link attachments:

signed PJD.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

Classification: UNCLASSIFIED
Caveats: NONE

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office	Fort Worth District	File/ORM #	SWF - 2011 - 00398	PJD Date:	8/30/2011
State	TX	City/County	Webb	Name/ Address of Person Requesting PJD	Deborah Blackburn 505 East Huntland Drive Suite 250 Austin, Texas 78752
Nearest Waterbody:	Burrito Tank				
Location: TRS, LatLong or UTM:	27.5581, -99.1636				
Identify (Estimate) Amount of Waters in the Review Area:				Name of Any Water Bodies Tidal: _____	
Non-Wetland Waters: _____ Stream Flow: _____				on the Site Identified as _____	
13711 linear ft 9.4 width _____ acres Ephemeral				Section 10 Waters: Non-Tidal: _____	
Wetlands: 46.3 acre(s) Cowardin Class: Palustrine, scrub-shrub				Date of Field Trip: April 2011	
				<input checked="" type="checkbox"/> Office (Desk) Determination <input checked="" type="checkbox"/> Field Determination: _____	

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☐ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps _____
- ☐ Corps navigable waters' study: _____
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is: _____
- ☒ Photographs: ☐ Aerial (Name & Date): _____
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Dan Meier 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

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This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District

File/ORM # SWF-2011-00398

PJD Date: 8/30/2011

State TX

City/County WEBB

Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
S119	27.563	-99.169	Riverine	699' x 7'	Non-Section 10 non-wetland
S120	27.564	-99.166	Riverine	1496' x 10'	Non-Section 10 non-wetland
S121	27.562	-99.163	Riverine	4868' x 12'	Non-Section 10 non-wetland
S125	27.565	-99.164	Riverine	906' x 10'	Non-Section 10 non-wetland
			Riverine		Non-Section 10 non-wetland

Notes:

All listed streams are ephemeral. Listed amounts for streams are linear feet x average ordinary high water mark width.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

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District Office	Fort Worth District	File/ORM #	SWF-2011-00398	PJD Date:	8/30/2011
State	TX	City/County	Webb	Name/ Address of Person Requesting PJD	Deborah Blackburn 505 East Huntland Drive Suite 250 Austin, Texas 78752
Nearest Waterbody:	Burrito Tank	Location: TRS, LatLong or UTM:	27.5581, -99.1636		
Identify (Estimate) Amount of Waters in the Review Area:			Name of Any Water Bodies Tidal: _____		
Non-Wetland Waters:			on the Site Identified as		
Stream Flow:			Section 10 Waters: Non-Tidal: _____		
13711 linear ft 9.4 width _____ acres Ephemeral					
Wetlands: 46.3 acre(s) Cowardin Class: Palustrine, scrub-shrub			Date of Field Trip: April 2011		
			<input checked="" type="checkbox"/> Office (Desk) Determination <input checked="" type="checkbox"/> Field Determination		

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- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps _____
- ☐ Corps navigable waters' study: _____
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Survey
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is: _____
- ☒ Photographs: ☐ Aerial (Name & Date): _____
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Other information (please specify): _____

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Dan Meson

Signature and Date of Regulatory Project Manager
(REQUIRED)

8/30/2011

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

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This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District

File/ORM # SWF-2011-00398

PJD Date: 8/30/2011

State TX

City/County WEBB

Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W133	27.565	-99.160	Palustrine, scrub-shrub	14.70 ac	Non-Section 10 wetland
S103	27.566	-99.158	Riverine	1745' x 4'	Non-Section 10 non-wetland
S107	27.569	-99.156	Riverine	297' x 3'	Non-Section 10 non-wetland
S108	27.559	-99.169	Riverine	2269' x 9'	Non-Section 10 non-wetland
S114	27.562	-99.170	Riverine	1216' x 10'	Non-Section 10 non-wetland
S116	27.562	-99.170	Riverine	215' x 8'	Non-Section 10 non-wetland

Notes:

All listed streams are ephemeral. Listed amounts for streams are linear feet x average ordinary high water mark width.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

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District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011

State TX City/County Webb

Nearest Waterbody: Burrito Tank

Location: TRS,
LatLong or UTM: 27.5581, -99.1636

Name/
Address of
Person
Requesting
PJD
Deborah Blackburn
505 East Huntland Drive
Suite 250
Austin, Texas 78752

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters:

Stream Flow:

 linear ft width acres N/A

Name of Any Water Bodies
on the Site Identified as
Section 10 Waters: Tidal:
Non-Tidal:

Wetlands: 46.3 acre(s) Cowardin
Class: Palustrine, scrub-shrub

☒ Office (Desk) Determination
☒ Field Determination:

Date of Field Trip: April 2011

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

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 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
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- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is:
- ☒ Photographs: ☐ Aerial (Name & Date):
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

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Don Messer 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

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Appendix A - Sites

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011
State TX City/County WEBB Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W109	27.559	-99.169	Palustrine, scrub-shrub	0.19 ac	Non-Section 10 wetland
W115	27.561	-99.170	Palustrine, scrub-shrub	0.17 ac	Non-Section 10 wetland
W118	27.561	-99.169	Palustrine, scrub-shrub	0.19 ac	Non-Section 10 wetland
W126	27.563	-99.164	Palustrine, scrub-shrub	0.59 ac	Non-Section 10 wetland
W127	27.560	-99.163	Palustrine, scrub-shrub	28.46 ac	Non-Section 10 wetland
W132	27.556	-99.164	Palustrine, scrub-shrub	2.00 ac	Non-Section 10 wetland

Notes:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office	Fort Worth District	File/ORM #	SWF - 2011 - 00398	PJD Date:	8/30/2011
State	TX	City/County	Webb	Name/ Address of Person Requesting PJD	Deborah Blackburn 505 East Huntland Drive Suite 250 Austin, Texas 78752
Nearest Waterbody:	Burrito Tank	Location: TRS, LatLong or UTM:	27.5581, -99.1636		
Identify (Estimate) Amount of Waters in the Review Area:			Name of Any Water Bodies Tidal: _____ on the Site Identified as Section 10 Waters: Non-Tidal: _____		
Non-Wetland Waters:			Stream Flow: _____		
_____ linear ft _____ width 42.59 acres N/A					
Wetlands: 3.98 acre(s) Cowardin Class: Palustrine, emergent			<input checked="" type="checkbox"/> Office (Desk) Determination <input checked="" type="checkbox"/> Field Determination: Date of Field Trip: April 2011		

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study: _____
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is: _____
- ☒ Photographs: ☐ Aerial (Name & Date): _____
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Don Messer 8/30/2011
Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011
State TX City/County WEBB Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
WB117	27.560	-99.169	n/a	0.04 ac	Non-Section 10 non-wetland
WB128	27.558	-99.164	n/a	26.68 ac	Non-Section 10 non-wetland
WB131	27.558	-99.161	n/a	0.31 ac	Non-Section 10 non-wetland
			n/a		Non-Section 10 non-wetland
			n/a		Non-Section 10 non-wetland
			n/a		Non-Section 10 non-wetland

Notes:

Resources with "N/A" are stock tanks (palustrine open water habitat) less than 2.0 meters deep.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Fort Worth District File/ORM #: SWF-2011-00398 PJD Date: 8/30/2011

State: TX City/County: Webb

Nearest Waterbody: Burrito Tank

Location: TRS,
Lat/Long or UTM: 27.5581, -99.1636

Name/
Address of
Person
Requesting
PJD
Deborah Blackburn
505 East Huntland Drive
Suite 250
Austin, Texas 78752

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: Stream Flow:
linear ft width 42.59 acres N/A

Wetlands: 3.98 acre(s) Cowardin Class: Palustrine, emergent

Name of Any Water Bodies Tidal: _____
on the Site Identified as
Section 10 Waters: Non-Tidal: _____


☒ Office (Desk) Determination
☒ Field Determination:

Date of Field Trip: April 2011

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☒ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study: _____
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s): _____
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is: _____
- ☒ Photographs: ☐ Aerial (Name & Date): _____
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter: _____
- ☐ Other information (please specify): _____

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

 8/30/2011

Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office Fort Worth District

File/ORM # SWF-2011-00398

PJD Date: 8/30/2011

State TX

City/County WEBB

Person Requesting PJD D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
W130	27.561	-99.162	Palustrine, emergent	3.98 ac	Non-Section 10 wetland
WB104	27.563	-99.159	n/a	13.58 ac	Non-Section 10 non-wetland
WB106	27.562	-99.159	n/a	1.01 ac	Non-Section 10 non-wetland
WB110	27.560	-99.170	n/a	0.14 ac	Non-Section 10 non-wetland
WB111	27.560	-99.170	n/a	0.40 ac	Non-Section 10 non-wetland
WB113	27.561	-99.170	n/a	0.43 ac	Non-Section 10 non-wetland

Notes:

Resources with "N/A" are stock tanks (palustrine open water habitat) less than 2.0 meters deep.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011

State TX City/County Webb

Nearest Waterbody: Burrito Tank

Location: TRS,
LatLong or UTM: 27.5581, -99.1636

Name/
Address of
Person
Requesting
PJD
Deborah Blackburn
505 East Huntland Drive
Suite 250
Austin, Texas 78752

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters:

Stream Flow:

 linear ft width 0.49 acres N/A

Wetlands: acre(s) Cowardin
Class: N/A

Name of Any Water Bodies
on the Site Identified as
Section 10 Waters:

Tidal:

Non-Tidal:

☒ Office (Desk) Determination

☒ Field Determination:

Date of Field Trip: April 2011

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
 - ☐ Office concurs with data sheets/delineation report.
 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
- ☒ National wetlands inventory map(s). Cite name: Burrito Tank
- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is:
- ☒ Photographs: ☐ Aerial (Name & Date):
 - ☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

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1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "*may be*" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Fort Worth District
-----------------	---------------------

File/ORM #

PJD Date:

State	TX
-------	----

City/County | WEBB

Person Requesting PJD | D.Blackburn

[illegible]

Notes:

Resource with "N/A" is a stock tank (palustrine open water habitat) less than 2.0 meters deep and potentially non-jurisdictional.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office Fort Worth District File/ORM # SWF-2011-00398 PJD Date: 8/30/2011

State TX City/County Webb

Nearest Waterbody: Burrito Tank

Location: TRS,
LatLong or UTM: 27.5581, -99.1636

Name/
Address of
Person
Requesting
PJD
Deborah Blackburn
505 East Huntland Drive
Suite 250
Austin, Texas 78752

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters:

5641 linear ft 3.4 width acres Ephemeral Stream Flow:

Wetlands: acre(s) Cowardin
Class: N/A

Name of Any Water Bodies
on the Site Identified as
Section 10 Waters: Tidal:
Non-Tidal:

☒ Office (Desk) Determination
☒ Field Determination:

Date of Field Trip: April 2011

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: TRC Environmental
- ☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
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 - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
 - ☐ USGS NHD data.
 - ☐ USGS 8 and 12 digit HUC maps.
- ☒ U.S. Geological Survey map(s). Cite quad name: Burrito Tank
- ☒ USDA Natural Resources Conservation Service Soil Survey. Citation: USDA - NRCS Soil Survey Division. Web Soil Sur
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- ☐ State/Local wetland inventory map(s):
- ☒ FEMA/FIRM maps: Flood Map ID 484791275
- ☐ 100-year Floodplain Elevation is:
- ☒ Photographs: ☐ Aerial (Name & Date):
☒ Other (Name & Date): Field Determination - April 2011
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

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Signature and Date of Regulatory Project Manager
(REQUIRED)

Signature and Date of Person Requesting Preliminary JD
(REQUIRED, unless obtaining the signature is impracticable)

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there "may be" waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Fort Worth District
-----------------	---------------------

File/ORM #

PJD Date:

State	TX
-------	----

City/County | WEBB

Person Requesting PJD

D.Blackburn

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
S124	27.569	-99.164	Riverine	2106' x 4'	Non-Section 10 non-wetland
S123	27.576	-99.162	Riverine	899' x 2'	Non-Section 10 non-wetland
S122	27.577	-99.155	Riverine	1302' x 4'	Non-Section 10 non-wetland
S134	27.578	-99.159	Riverine	709' x 3'	Non-Section 10 non-wetland
S135	27.573	-99.161	Riverine	625' x 3'	Non-Section 10 non-wetland
			Riverine		Non-Section 10 non-wetland

Notes:

All listed streams are ephemeral and potentially non-jurisdictional. Listed amounts for streams are linear feet x average ordinary high water mark width.

Blackburn, Deborah (Austin,TX-US)

From: Messer, Orville Darvin SWF <Darvin.Messer@usace.army.mil>
Sent: Tuesday, January 03, 2012 8:51 AM
To: Blackburn, Deborah (Austin,TX-US)
Subject: RE: SWF-2011-00398 Pescadito (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Thank you. No edits required.

-----Original Message-----

From: Blackburn, Deborah (Austin,TX-US) [<mailto:DBlackburn@trcsolutions.com>]
Sent: Tuesday, December 27, 2011 8:38 AM
To: Messer, Orville Darvin SWF
Subject: RE: SWF-2011-00398 Pescadito (UNCLASSIFIED)

Darvin,

Please find attached notes from the Pre-Application meeting on Dec. 20. I wasn't sure if there was a particular format you would prefer to see so please feel free to edit and send back for review.

Deborah Blackburn
Senior Scientist

505 E. Huntland Drive, Suite 250, Austin, TX 78752
T: 512.684.3134 | F: 512.329.8750

Follow us on LinkedIn or Twitter | www.trcsolutions.com

-----Original Message-----

From: Blackburn, Deborah (Austin,TX-US)
Sent: Thursday, December 22, 2011 8:28 AM
To: 'Messer, Orville Darvin SWF'
Subject: RE: SWF-2011-00398 Pescadito (UNCLASSIFIED)

Darvin,

Thanks for following up on this question. We'll incorporate into the meeting notes. I should be sending those for your review no later than next Tuesday.

Deborah Blackburn
Senior Scientist

505 E. Huntland Drive, Suite 250, Austin, TX 78752
T: 512.684.3134 | F: 512.329.8750

Follow us on LinkedIn or Twitter | www.trcsolutions.com

-----Original Message-----

From: Messer, Orville Darvin SWF [<mailto:Darvin.Messer@usace.army.mil>]
Sent: Wednesday, December 21, 2011 9:21 AM
To: Blackburn, Deborah (Austin,TX-US)
Subject: SWF-2011-00398 Pescadito (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Debbie,

The answer to the 'double-dip' question is yes, we will allow riparian habitat improvements to count for both 404 mitigation (within the descriptions in TXRAM - i.e. 25, 50 and 100 foot buffers for ephemeral, intermittent and perennial, respectively) and ESA mitigation. Thanks!

Darvin Messer
Regulatory Project Manager
USACE Fort Worth District
PO Box 17300
819 Taylor Street
Fort Worth, TX 76102
817-886-1744
817-886-6493 - fax
darwin.messer@usace.army.mil

Please help the Regulatory Program improve its service by completing the survey on the following website:
<http://per2.nwp.usace.army.mil/survey.html>

Classification: UNCLASSIFIED
Caveats: NONE

Classification: UNCLASSIFIED
Caveats: NONE

**Pescadito Environmental Resource Center
Pre-Application Meeting Notes
December 20, 2011**

A. Introductions

Debbie Blackburn (TRC) is coordinating the 404 permitting and USFWS permitting.

Adrienne Boer (TRC) is assisting with permitting for the project.

Darvin Messer (USACE) is the IP Application Reviewer.

B. Project Area

a. Existing

The proposed project area is located on a privately owned ranch north of Laredo. The ranch has mixed use purposes, including oil and gas development and cattle ranching.

b. Proposed Project

Three maps of the site were reviewed to aid in discussion. The proposed project includes re-directing streams and directing drainage around the site, to meet the landfill permit requirements by taking the site out of the floodplain. Berms along the north and west boundaries would be installed to prevent water from entering the landfill site. A few locations outside the previously surveyed area have not yet been surveyed for jurisdictional waters and endangered species, but will be before the Application is submitted. The results of the new survey will be included with the Application.

Mr. Messer asked what the rationale for selecting the site location was since it appeared there were other areas on the ranch that could avoid/minimize impacts to jurisdictional waters/wetlands. The proposed site on the ranch was selected for several reasons: it has no existing oil and gas wells as opposed to the remainder of the ranch, and it exhibits ideal geological characteristics for a landfill such as a good clay layer.

Mr. Messer reminded TRC to be sure to include a statement of why the site was selected in the Alternatives Analysis of the Application, and to include a narrative of the minimization process to limit impact to jurisdictional waters.

Mr. Messer asked about the site visit with USFWS. Ms. Blackburn shared that USFWS was not concerned with plants or least tern. USFWS is mainly concerned with cat habitat, in particular, Jaguarundi. USFWS shared that recent studies from Mexico have been published that describe the Jaguarundi as more of a generalist and willing to cross open areas between riparian areas. The area of

potential habitat is in the northwest corner of the site, correlating with a specific soil type. USFWS was not suggesting a “jeopardy” case, but possibly an adverse effect. TRC intends to make the case that with mitigation we are “not likely to adversely affect” the species. TRC intends to submit the Application without the Wetlands Mitigation Plan to begin the formal consultation with USFWS. TRC will try to get through the USFWS Mitigation first because of the uncertainty with their determination.

C. Conceptual Mitigation Plan

a. Enhance/Restore

TRC is currently developing the mitigation plan. There are several potential areas for mitigation on the ranch. TRC is working with the landowner to identify potential areas that are not subject to grazing or oil and gas drilling. TRC intends to enhance and restore existing wetlands to meet mitigation. There is a large area targeted for mitigation just south of the project site; however, TRC anticipates needing additional area.

b. Ratios

TRC is assuming a 2:1 ratio for mitigation of wetlands.

c. Suggestions

Mr. Messer shared that preservation is a higher ratio than 2:1. The use of TxRAM will assist in determining the amount of mitigation needed. The calculation spreadsheet will determine the score of the impacted site and the score of the predicted improvement. By comparing the deltas of the two numbers, the mitigation spreadsheet identifies the mitigation ratio required. USACE indicated that the ratio identified under TxRAM will be the ratio used unless TRC can get similar or comparable long-term protection for the mitigation sites as a mitigation bank. For example, if the realty instrument and financial assurances would be similar to a mitigation bank then a direct ratio may be possible.

Ms. Blackburn asked if a conservation easement would be expected for stream and waterbody mitigation. Mr. Messer shared that it is preferred but not required as long as long-term realty protection of the site is ensured. Another option includes deed restrictions; however, in Texas these can provide limited benefit. Guidance requires USACE to evaluate the use of deed restrictions; however, USACE would need to evaluate the proposed mitigation plan to determine if deed restrictions meet the long-term protection required for mitigation areas. One problem Mr. Messer has experienced with other projects includes difficulty in finding an organization to enter into the conservation easement agreement with the landowner.

Ms. Blackburn requested confirmation that mitigation is required for waterbodies, wetlands, and streams. Mr. Messer confirmed, and clarified that the disconnected streams shown in orange (non-jurisdictional) on the map did not need to be

mitigated. He reviewed aerials of the area and did not find any man-made reason or otherwise why these were disconnected.

Ms. Blackburn requested guidance on the mitigation of waterbodies, and if we need to create 43 acres of waterbodies. Mr. Messer shared that usually the ratio is 1:1 for waterbodies, and that it is acceptable to spread the mitigation areas out over the site, but expansion or creation of waterbodies must be tied to jurisdictional waters. He observed that the proposed stream relocation would result in fewer linear feet than what would be impacted. Ms. Blackburn inquired whether drainages that would be constructed along the perimeter of the landfill could be designed to count towards stream mitigation. Mr. Messer indicated that he could see that happening along the northern and western sides of the project, since this is picking up water that would have been going to the wetlands in the middle of the site. However, on the east side this might be hard to meet, since it appears to be along a watershed divide. He recommended looking at the reference condition to see whether there is enough drainage area on each side to sustain the drainage in functionally the same fashion as the streams being removed. Ms. Blackburn inquired if a conservation easement would be required for drainage ditches. Mr. Messer shared that if the drainage ditches are mitigation for streams, yes.

Mr. Messer opened discussion about wetlands creation, sharing that midway along the west side where the berm would be installed might be a good place to create wetlands. Ms. Blackburn shared that because of maintenance involved with wetland creations and the natural characteristics of the site, TRC intends to enhance. We are not sure if we can meet mitigation in a timely fashion by creating, since the soils are highly saline in this area. However, TRC will investigate the hydrology further during the mitigation planning, as we are just beginning the planning now.

In discussing other stream mitigation options, Mr. Messer indicated that stream mitigation in areas of concentrated oil and gas development is often favorable due to the impacts from the development activities. Stream mitigation could come in the form of bank stabilization, fixing erosion problems, etc. He suggested TxRAM will assist in this determination as TxRAM will identify low scoring features that should be focused on.

Ms. Blackburn suggested there are areas on the ranch where enhancement of riparian vegetation can occur, which would also serve to enhance endangered species habitat. Is it acceptable to receive mitigation credit for both USFWS and USACE mitigation requirements?

Mr. Messer took the question to his supervisor. Follow-up: the USACE will allow riparian habitat improvements to count for both 404 mitigation (within the descriptions in TXRAM - i.e. 25, 50 and 100 foot buffers for ephemeral, intermittent and perennial, respectively) and ESA mitigation.

Ms. Blackburn asked if the mitigation approach TRC has proposed is reasonable. Mr. Messer acknowledged the approach seemed reasonable.

D. Coordination

a. USFWS

TRC has met with USFWS. USFWS has informally agreed with no effect on plants or the least tern. Cats are the species of concern. USFWS is currently waiting on TRC to submit to the USACE to begin the Section 7 process. TRC will work with them to get an idea on their mitigation plan preferences for the Biological Assessment.

b. THC

TRC completed a file search through the THC. No adverse effect to historical resources was found; however, TRC may need to complete another search to include the areas of drainage and mitigation work, as these areas were not known when the file search was completed.

c. FEMA

The C-LOMR has been prepared and has been approved by the County. Submittal of the C-LOMR to FEMA is delayed due to recent ESA coordination requirements prior to FEMA's review of the C-LOMR. Thus they will not look at the C-LOMR until Section 7 consultation with USFWS is completed.

d. TCEQ

TCEQ is overseeing the landfill permit. This is in process. TCEQ will not complete the landfill permit process until USFWS, USACE, and FEMA permits are completed.

E. Next Steps

a. Submittal of IP Application without Mitigation Plan

Ms. Blackburn shared that TRC intended to submit the Application without the Mitigation Plan. Mr. Messer requested that a short discussion of the conceptual mitigation approach should be included in the Application package for inclusion in the Public Notice. He also suggested initiation of Section 7 consultation with USFWS could occur prior to issuance of the Public Notice; however the Public Notice process does require USFWS to provide official comment.

b. NEPA triggers

Ms. Blackburn indicated that this project seems to fall under EA requirements. Mr. Messer concurred. Ms. Blackburn inquired as to how would a project such as this get into EIS requirements. Mr. Messer shared that it would be based on precedent, and provided a mining example. A recently evaluated mining project

had approximately 60 acres of wetland impacts and 50,000 LF of stream impacts and did not require an EIS, but a robust EA and robust mitigation plan, with a mitigated FONSI. Ms. Blackburn asked if the proposed landfill project was close or on the edge to needing an EIS. Mr. Messer suggested no, an EA was sufficient at this time.

Ms. Blackburn indicated that the owner is currently considering rail to the project area sometime in the future, perhaps 5 years from now. If the economics turn out to suggest the line should be built now, could the rail line be rolled into this project and still not require an EIS? Mr. Messer said USACE would evaluate the rail to/from its logical termini (i.e. from the existing rail line to the landfill) but it could be rolled into this project and is not likely to require an EIS.

c. Misc.

Ms. Blackburn asked if there are any concerns not covered, or any questions. Mr. Messer indicated that all aspects at this stage had been covered and he had no further questions. TRC anticipates a timeline of completing the field work and having the application to USACE in February, barring anything unforeseen. Mr. Messer shared his timeline is based on a performance standard of 120 days. This performance standard can be extended with good reason, such as formal consultation with USFWS. Barring formal consultation with the USFWS, Mr. Messer anticipates meeting the 120 day timeline.

Meeting Adjourned

Blackburn, Deborah (Austin,TX-US)

From: Messer, Orville Darvin SWF <Darvin.Messer@usace.army.mil>
Sent: Thursday, January 05, 2012 9:15 AM
To: Larisa_Ford@fws.gov; Mary_Orms@fws.gov; Tom.Heger@tpwd.state.tx.us; Beth Bendik; Nystrom.Thomas@epamail.epa.gov; Prather.Richard@epamail.epa.gov; Rob Blair; 401CERTS; Robert Hansen
Cc: Ed Janak; Trouart, Joel; Blackburn, Deborah (Austin,TX-US)
Subject: South Texas site visits (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Resource agencies,

Interest has been expressed in visiting the proposed Eagle Pass Mine site in Maverick County (SWF-2004-00711). Due to scheduling constraints, and to fit the visit in to incorporate field observations in potential comments, the week of Jan 23rd was selected, with the best date being Tuesday the 24th (using 23rd as a travel day). The applicant has proposed meeting at the Hampton Inn, Eagle Pass, at 8 AM, then proceeding to the site.

Also, because the travel presents an opportunity, a visit is being coordinated with proponents of the Pescadito Environmental Resource Center (SWF-2011-00398), a proposed landfill in Webb County, approximately 20 miles east of Laredo. This project is at pre-application status now, with an Individual Permit application being prepared. Preliminary meetings have identified nearly 14,000 linear feet of stream and 47 acres of mostly open water stock tanks and some emergent/scrub-shrub wetlands on the site. USFWS has already visited the site (Ernesto Reyes on site; Mary Orms, reviewer in Corpus Christi Office) to evaluate potential impacts to the Ocelot and Jaguarundi. This visit would be conducted on Wednesday the 25th. More details TBD.

I'm requesting that each agency provide a response for each visit, and your attendee's name(s) for future coordination of details. Thank you.

Darvin Messer
Regulatory Project Manager
USACE Fort Worth District
PO Box 17300
819 Taylor Street
Fort Worth, TX 76102
817-886-1744
817-886-6493 - fax
darwin.messer@usace.army.mil

Please help the Regulatory Program improve its service by completing the survey on the following website:
<http://per2.nwp.usace.army.mil/survey.html>

Classification: UNCLASSIFIED

Caveats: NONE

Blackburn, Deborah (Austin,TX-US)

From: Messer, Orville Darvin SWF <Darvin.Messer@usace.army.mil>
Sent: Friday, January 20, 2012 7:28 AM
To: Blackburn, Deborah (Austin,TX-US)
Subject: RE: Pescadito site visit (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Enough to maybe see significant features and/or waters; and maybe one or two of the 'disconnected' reaches of channel. Plus anything you deem worthy.

-----Original Message-----

From: Blackburn, Deborah (Austin,TX-US) [<mailto:DBlackburn@trcsolutions.com>]
Sent: Thursday, January 19, 2012 5:18 PM
To: Messer, Orville Darvin SWF
Subject: RE: Pescadito site visit (UNCLASSIFIED)

How much time do you want to spend on the site?

-----Original Message-----

From: Messer, Orville Darvin SWF [<mailto:Darvin.Messer@usace.army.mil>]
Sent: Thursday, January 19, 2012 3:31 PM
To: Blackburn, Deborah (Austin,TX-US)
Subject: Pescadito site visit (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Debbie,

About logistics for the site visit next week. I'll be at the Courtyard in Laredo Tuesday night. Where and when would be a good meeting place/time to connect with TRC folks. I have a 6 PM flight back out of Laredo Wed evening, so will need to be back at the airport by 4-430. Let me know and I'll send a message to TCEQ (only agency confirmed).

Darvin Messer
Regulatory Project Manager
USACE Fort Worth District
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Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

Blackburn, Deborah (Austin,TX-US)

From: Messer, Orville Darvin SWF <Darvin.Messer@usace.army.mil>
Sent: Monday, January 30, 2012 10:31 AM
To: Blackburn, Deborah (Austin,TX-US)
Subject: SWF-2011-00398; Pescadito (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Debbie,

Sorry I didn't get back to you Friday. Based on review of historical Google Earth aerials, and the approved PJD's, we'll be sticking to them.

Thanks for the tour of the site.

Darvin Messer
Regulatory Project Manager
USACE Fort Worth District
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817-886-1744
817-886-6493 - fax
darwin.messer@usace.army.mil

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Classification: UNCLASSIFIED

Caveats: NONE

Attachment E

TXRAM Data

<u>Stream ID</u>	<u>SAR ID</u>	<u>SAR Length</u>	<u>SAR Score</u>	<u>Comments</u>
S103	1	1,463	25.83	
Total		1,463		
S107	1	297	27.50	
Total		297		
S108	1	1,151	27.50	
S108	2	1,024	27.50	
S108	3	1,332	25.83	
Total		3,507		
S114	1	1,216	27.50	
Total		1,216		
S116	1	299	27.50	
Total		299		
S119	1	699	27.50	
Total		699		
S120	1	1,406	15.83	Road/culvert/aggraded stream (No SAR form)
S120	GAP	90	0.00	
S120	2	695	15.83	
S120	3	1,398	17.50	
Total		3,589		
S121	0	1,277	20.83	Road/culvert/aggraded stream (No SAR form)
S121	1	1,485	20.83	
S121	2	1,088	14.17	
S121	3	942	15.83	
S121	GAP	40	0.00	
S121	4	812	15.83	
Total		5,644		
S125	1	906	25.83	
Total		906		
S201	0	393	0.00	Fence/Fence Road/aggraded stream (No SAR form)
S202	1	1,197	19.17	
S201	2	362	15.83	
S201	GAP	113	0.00	
S201	3	420	17.50	
S201	4	225	21.88	
S201	5	687	17.50	
S201	6	1,061	15.83	
S201	7	206	24.17	
S201	GAP	107	0.00	
S201	8	1,250	10.83	
S201	9	1,145	14.17	
S201	10	1,186	14.17	Road/aggraded stream (No SAR form)
S201	11	1,273	14.17	
S201	12	1,176	14.17	

Summary

Total Impact Stream Length	17,620
Total Mitigation Stream Length	36,583

Impact Streams ID	Stream Length (feet)
S103	1,463
S107	297
S108	3,507
S114	1,216
S116	299
S119	699
S120	3,589
S121	5,644
S125	906
Total Impact	17,620

Mitigation Streams ID	Stream Length (feet)
S201	14,433
S202	2,236
S203	8,972
S204	1,524
S205	1,057
S206	775
S207*	7,586
Total Mitigation	36,583

*Stream potentially unavailable for mitigation

S201	13	951	14.17	
S201	14	1,193	15.83	
S201	GAP	156	0.00	Aggraded stream (No SAR form)
S201	15	1,332	15.83	
Total		14,433		
S202	1	1,157	15.83	
S202	GAP	27	0.00	Road/culvert/aggraded stream (No SAR form)
S202	2	1,052	22.50	
Total		2,236		
S203	1	1,042	7.50	
S203	GAP	32	0.00	Road/aggraded stream (No SAR form)
S203	2	1,250	7.50	
S203	3	883	9.17	
S203	3	193	0.00	Portion of SAR3 counted as 0.00 (aggraded/pipelines/not included in length on SAR form)
S203	GAP	38	0.00	Aggraded stream (No SAR form)
S203	4	1,208	9.17	
S203	5	1,047	7.50	
S203	6	1,209	7.50	
S202	7a	1,404	7.50	
S203	7b	666	7.50	Overflow/oxbow channel of main stream system
Total		8,972		
S204	1	1,524	12.50	
Total		1,524		
S205	1	1,057	15.83	
Total		1,057		
S206	1	775	9.17	
Total		775		
S207	1	780	10.83	
S207	2	404	10.83	
S207	3	849	9.17	
S207	4	728	9.17	
S207	5	542	9.17	
S207	6	936	9.17	
S207	7	838	9.17	
S207	8	1,429	9.17	
S207	9	1,080	9.17	
Total		7,586		

<u>Wetland ID</u>	<u>WAA ID</u>	<u>WAA Area (ac)</u>	<u>TXRAM Score</u>
W109	1	0.19	62.14
Total		0.19	
W115	2	0.17	64.88
Total		0.17	
W118	3	0.19	55.60
Total		0.19	
W126	4	0.59	57.26
Total		0.59	
W127	5	28.46	66.31
Total		28.46	
W130	5	3.98	60.60
Total		3.98	
W132	6	2.00	55.48
Total		2.00	
W133	7	14.70	67.14
Total		14.70	

Executive Summary

Total Impact Wetland Acreage **50.28**

Impact Wetland ID	Area (ac)
W109	0.19
W115	0.17
W118	0.19
W126	0.59
W127	28.46
W130	3.98
W132	2.00
W133	14.70
Total Impact	50.28

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S125 SAR No.: 1 Size (LF): 906 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~100 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 20 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Leveed stream at the confluence with S121

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 4
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	4	Sum of metric scores / 15 x 25	23.33
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				25.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				25.83

Representative Site Photograph:

S125 SAR 1 facing southeast (downstream)

Version 1.0 - Final Draft
TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☒ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S125 SAR No.: 1 Size (LF): 906 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~100 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 20 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

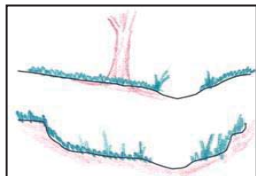
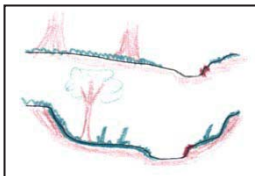
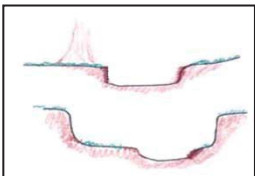
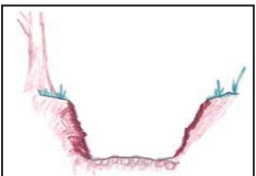
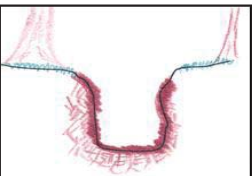
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 4
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Notes:

Leveed stream at the confluence with S121

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 4

Bank Condition

Left Bank Active Erosion: 5 % Right Bank Active Erosion: 10 % Average: 7.5
 Bank Protection/Stabilization: ☒ Natural ☒ Artificial: natural on the left; artificial on the right (leveed)

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	30	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	10	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 4 Size (LF): 812 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 27 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S121-4 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 8	Avg. Banks: 3
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S121 SAR 4 facing south (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 4 Size (LF): 812 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 24/25/27 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

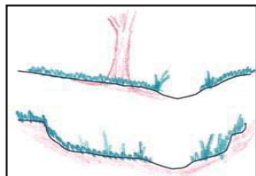
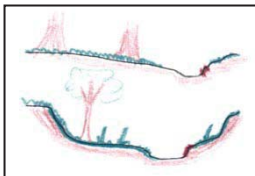
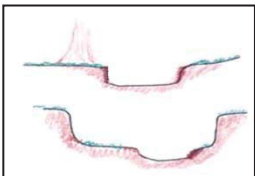
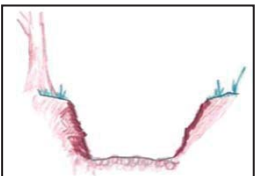
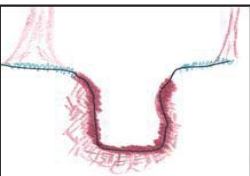
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 8	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Notes:

No culvert at the road which is the beginning of S120 extension (S120x)
 Evidence of flow over the road (road elevated relative to the stream)
 Culvert across the 2nd road crossing to the west
 Photos 24 and 25 are representative of the upland swale

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 60 % Right Bank Active Erosion: 60 % Average: 60
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 3 Size (LF): 942 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 22 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Erosion from confluence with S120 to the end of S121

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 20	Avg. Banks: 5
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S121 SAR 3 facing south (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
Stream ID/Name: S121 SAR No.: 3 Size (LF): 942 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 22 Representative: ☒ Yes ☐ No
Stressor(s): Overgrazing/Drought Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

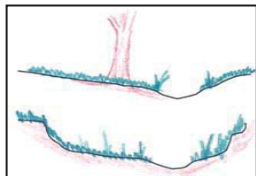
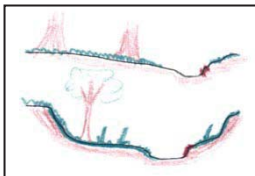
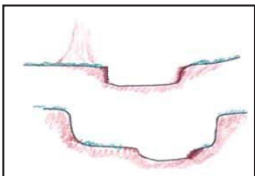
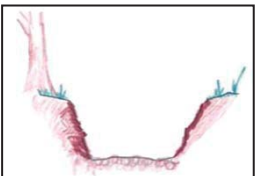
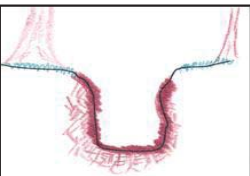
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: <u>20</u>	Avg. Banks: <u>5</u>
Avg. Waters Edge: <u>Dry</u>	Avg. Water: <u>Dry</u>
Avg. OHWM: <u>4</u>	Avg. OHWM: <u>0.1</u>

Notes:

Erosion from confluence with S120 to the end of S121.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 80 % Right Bank Active Erosion: 80 % Average: 80
Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0			

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 2 Size (LF): 1088 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 21 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Leveed stream

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 70	Avg. Banks: 10
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 20	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	11.67
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				14.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				14.17

Representative Site Photograph:

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 2 Size (LF): 1088 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 21 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

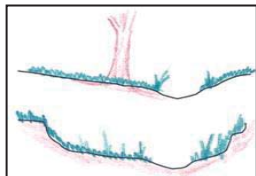
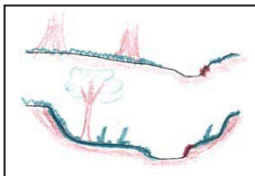
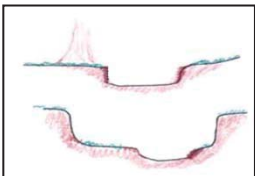
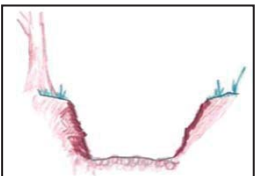
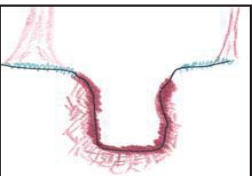
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 70	Avg. Banks: 10
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 20	Avg. OHWM: 0.5

Notes:

Leveed stream (leveed on the west side only).

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 60 % Right Bank Active Erosion: 60 % Average: 60
 Bank Protection/Stabilization: ☒ Natural ☒ Artificial: Leveed on the west, natural on the east

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0		

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 1 Size (LF): 1485 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 23 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Leveed stream

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 20	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	18.33
	Bank condition	5		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				20.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				20.83

Representative Site Photograph:

S121 SAR 1 facing south (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 1 Size (LF): 1485 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2012 ArcGIS Site Photos: 23 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Drought Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

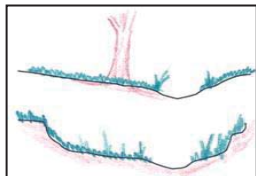
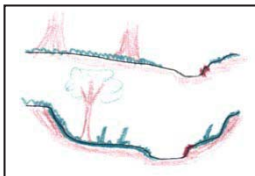
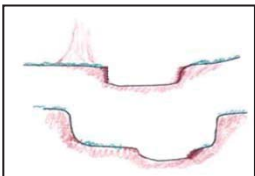
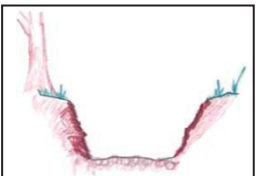
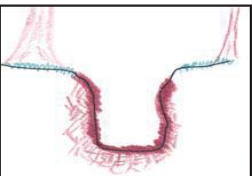
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 20	Avg. OHWM: 0.10

Notes:

Leveed stream

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
 Bank Protection/Stabilization: ☐ Natural ☒ Artificial: Leveed

Score: 5

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	30	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 0 Size (LF): 1277 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 23 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Leveed stream

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 20	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	18.33
	Bank condition	5		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				20.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				20.83

Representative Site Photograph:

S121 SAR 1 facing south (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S121 SAR No.: 0 Size (LF): 1277 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2012 ArcGIS Site Photos: 23 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Drought Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

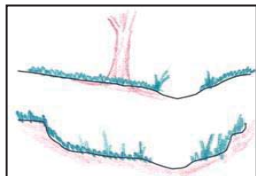
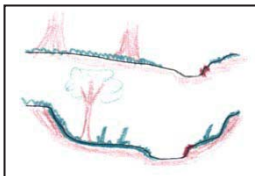
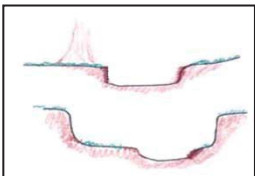
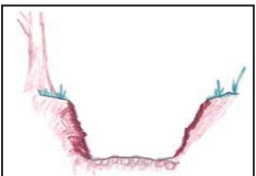
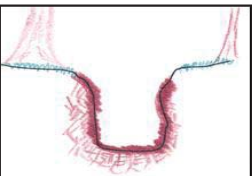
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 20	Avg. OHWM: 0.10

Notes:

Leveed stream

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
 Bank Protection/Stabilization: ☐ Natural ☒ Artificial: Leveed

Score: 5

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	30	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S120 SAR No.: 3 Size (LF): 1398 Date: 2/1/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 30 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: _____

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 8	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.10

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	15.00
	Bank condition	2		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				17.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				17.50

Representative Site Photograph:

S120 SAR 3 facing southeast (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S120 SAR No.: 3 Size (LF): 1398 Date: 2/1/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2012 ArcGIS Site Photos: 30 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

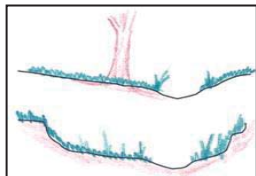
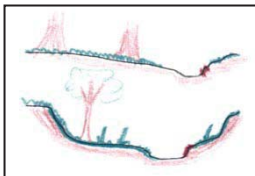
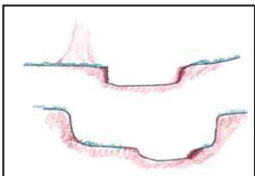
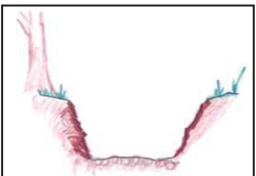
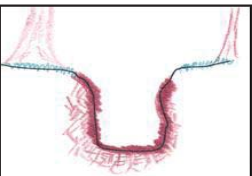
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: <u>8</u>	Avg. Banks: <u>3</u>
Avg. Waters Edge: <u>Dry</u>	Avg. Water: <u>Dry</u>
Avg. OHWM: <u>2</u>	Avg. OHWM: <u>0.10</u>

Notes: Relatively deep incision of stream channel

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 30 % Right Bank Active Erosion: 30 % Average: 30
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 2

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	30	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S120 SAR No.: 2 Size (LF): 695 Date: 2/1/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 28 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Region is under severe drought conditions

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 10	Avg. Banks: 4
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 3	Avg. OHWM: 0.10

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S120 SAR 2 (photo 28) facing south (downstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S120 SAR No.: 2 Size (LF): 695 Date: 2/1/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 28/29 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Drought Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

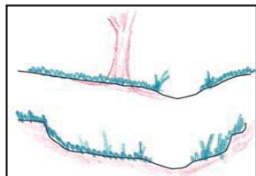
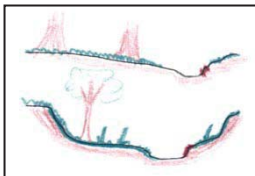
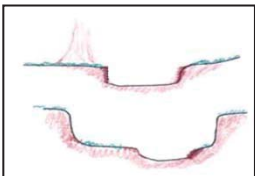
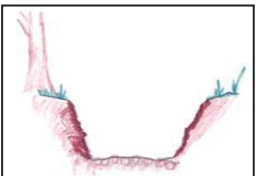
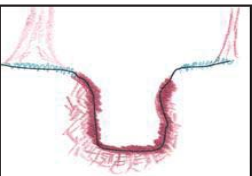
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 10	Avg. Banks: 4
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 3	Avg. OHWM: 0.10

Notes: Leveed stream.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 80 % Right Bank Active Erosion: 80 % Average: 80
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0						

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S120 SAR No.: 1 Size (LF): 1406 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 28 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Leveed ephemeral stream.

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 10	Avg. OHWM: 0.10

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S120 SAR 1 facing south (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S120 SAR No.: 1 Size (LF): 1406 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 27 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

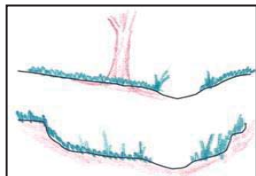
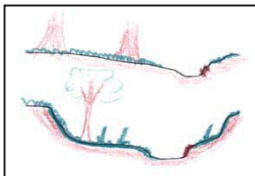
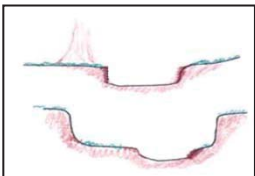
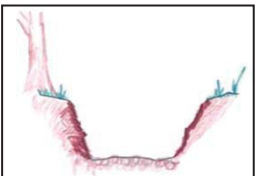
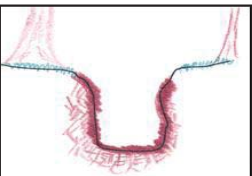
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 10	Avg. OHWM: 0.10

Notes: Leveed ephemeral stream.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 50 % Right Bank Active Erosion: 50 % Average: 50
 Bank Protection/Stabilization: ☐ Natural ☒ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	20	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☒ Linear ☐ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S119 SAR No.: 1 Size (LF): 699 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~10 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 11 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Region is under severe drought conditions

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 10	Avg. Banks: 2
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 3	Avg. OHWM: 0.10

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	5	Sum of metric scores / 15 x 25	25.00
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				27.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				27.50

Representative Site Photograph:

S119 SAR 1 facing south (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
Stream ID/Name: S119 SAR No.: 1 Size (LF): 699 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~10 ac
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 11 Representative: ☒ Yes ☐ No
Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

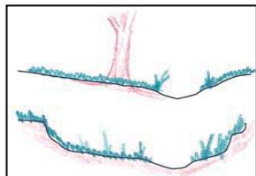
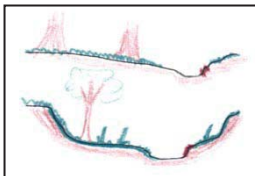
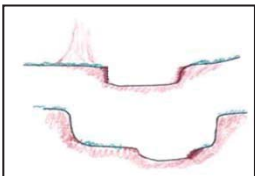
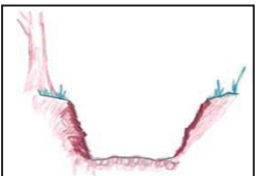
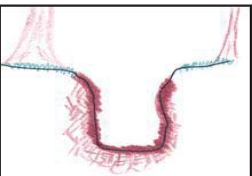
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: <u>10</u>	Avg. Banks: <u>2</u>
Avg. Waters Edge: <u>Dry</u>	Avg. Water: <u>Dry</u>
Avg. OHWM: <u>3</u>	Avg. OHWM: <u>0.10</u>

Notes: Fragmented ephemeral stream system (S108/S114/S119). Upgradient levee along S120 further restricts flow.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 5

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0						

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S116 SAR No.: 1 Size (LF): 299 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~60 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 10 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Relatively short ephemeral stream with upland swale head within the survey area.

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 1
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 1	Avg. OHWM: 0.10

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	5	Sum of metric scores / 15 x 25	25.00
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				27.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				27.50

Representative Site Photograph:

	S116 SAR 1 facing south (downstream)
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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S116 SAR No.: 1 Size (LF): 299 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~60 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 10 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

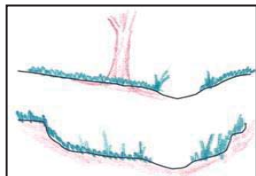
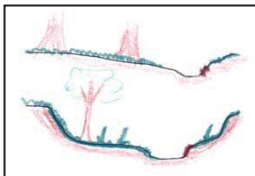
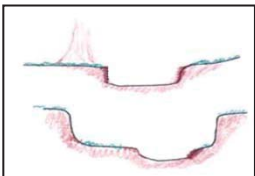
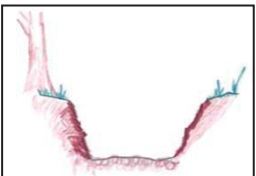
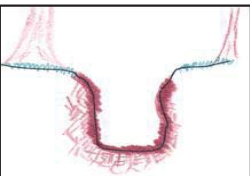
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: <u>15</u>	Avg. Banks: <u>1</u>
Avg. Waters Edge: <u>Dry</u>	Avg. Water: <u>Dry</u>
Avg. OHWM: <u>1</u>	Avg. OHWM: <u>0.10</u>

Notes:

Relatively short ephemeral stream with upland swale head within the survey area.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 5

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 2 % Average: 1
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	20	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0										

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☐ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S114 SAR No.: 1 Size (LF): 1216 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 09 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Ephemeral stream system (S108/S114) fragmented by excavated/impounded stock tanks

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 2
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 3	Avg. OHWM: 0.10

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	5	Sum of metric scores / 15 x 25	25.00
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				27.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				27.50

Representative Site Photograph:

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S114 SAR No.: 1 Size (LF): 1216 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 09 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

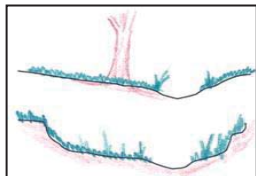
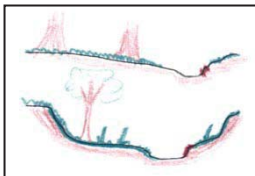
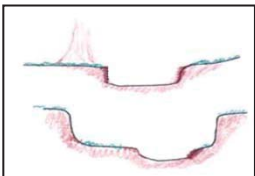
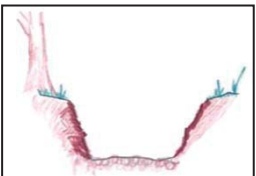
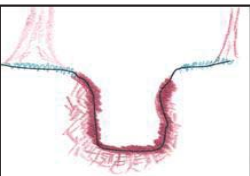
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 15	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 3	Avg. OHWM: 0.10

Notes: Ephemeral stream system (S108/S114) fragmented by excavated/impounded stock tanks

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 5

Bank Condition

Left Bank Active Erosion: 5 % Right Bank Active Erosion: 5 % Average: 5
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	25	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S108 SAR No.: 3 Size (LF): 1332 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 33/34/35 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☐ Yes ☒ No (If no, explain in Notes)
 Notes: Sedimentation from vegetation growth within stream (sediment trapping)

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 6	Avg. Banks: 0.5
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 4	Avg. OHWM: 0.10

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	5	Sum of metric scores / 15 x 25	23.33
	Bank condition	5		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				25.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				25.83

Representative Site Photograph:

S108x SAR 1x facing west (upstream)(photo 33)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S108 SAR No.: 3 Size (LF): 1332 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 33/34/35 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☒ No (If no, explain in Notes)

Stream Characteristics

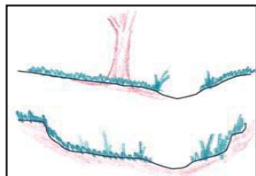
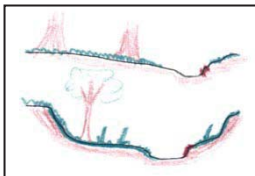
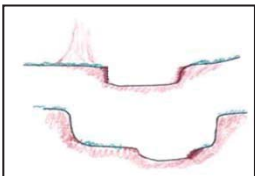
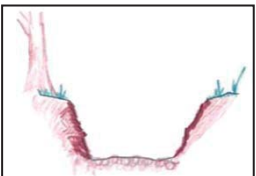
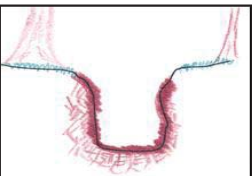
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 6	Avg. Banks: 0.5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Notes:

Sedimentation from vegetation growth within stream (sediment trapping)

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 5

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 5

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S108 SAR No.: 2 Size (LF): 1024 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 03 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Drought Are normal climatic/hydrologic conditions present? ☐ Yes ☒ No (If no, explain in Notes)
 Notes: Region is under severe drought conditions.

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 6	Avg. Banks: 0.5
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 1	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	5	Sum of metric scores / 15 x 25	25.00
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				27.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				27.50

Representative Site Photograph:

SAR 2 facing southwest (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S108 SAR No.: 2 Size (LF): 1024 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 03 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☒ No (If no, explain in Notes)

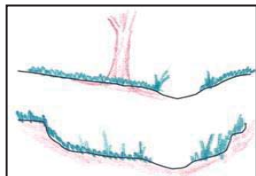
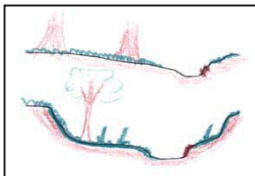
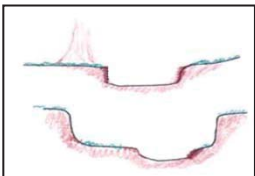
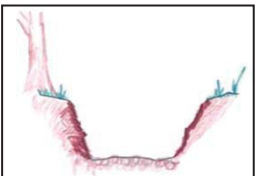
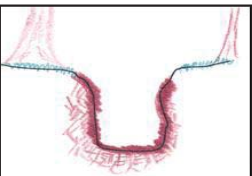
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 6	Avg. Banks: 0.5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 1	Avg. OHWM: 0.1

Notes: Low quality ephemeral stream that drains an upland area.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 5

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland (Non-Riparian)	10	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland (Non-Riparian)	10	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0			

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S108 SAR No.: 1 Size (LF): 1151 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 31 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Low quality ephemeral stream system (S108/S114) fragmented by excavated/impounded stock tanks.

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 6	Avg. Banks: 0.5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 1	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	5	Sum of metric scores / 15 x 25	25.00
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				27.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				27.50

Representative Site Photograph:

S108 SAR 1 facing southwest (downstream)

Version 1.0 - Final Draft
TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S108 SAR No.: 1 Size (LF): 1151 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~200 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 31 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☒ No (If no, explain in Notes)

Stream Characteristics

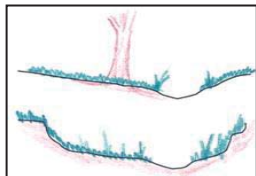
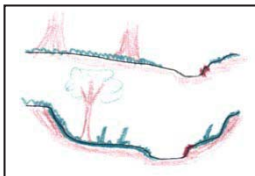
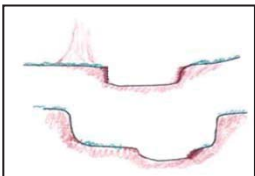
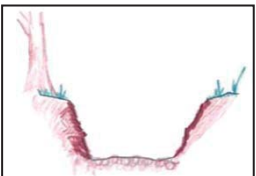
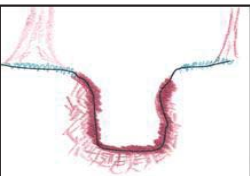
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 6	Avg. Banks: 0.5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 1	Avg. OHWM: 0.1

Notes:

Low quality ephemeral stream system (S108/S114) fragmented by excavated/impounded stock tanks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 5

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
 Bank Protection/Stabilization: ☒ Natural ☒ Artificial: _____

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland (Non-Riparian)	10	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	10	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0		

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S107 SAR No.: 1 Size (LF): 297 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~500 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 12 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Drought Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Low quality ephemeral stream that drains an upland area.

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 6	Avg. Banks: 0.5
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 1	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	5	Sum of metric scores / 15 x 25	25.00
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				27.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				27.50

Representative Site Photograph:

S107 SAR 1 facing southwest (downstream)

Version 1.0 - Final Draft
TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S107 SAR No.: 1 Size (LF): 297 Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~500 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 12 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

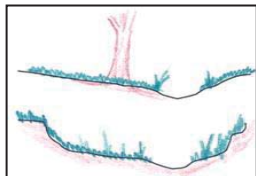
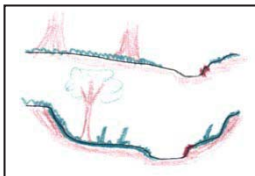
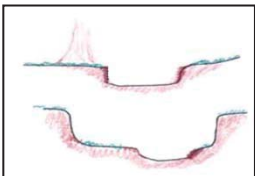
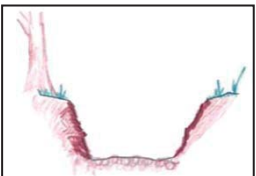
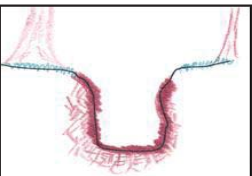
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: <u>6</u>	Avg. Banks: <u>0.5</u>
Avg. Waters Edge: <u>Dry</u>	Avg. Water: <u>Dry</u>
Avg. OHWM: <u>1</u>	Avg. OHWM: <u>0.1</u>

Notes: Low quality ephemeral stream that drains an upland area.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 5

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
 Bank Protection/Stabilization: ☒ Natural ☒ Artificial: _____

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	5	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	5	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0										

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S103 SAR No.: 1 Size (LF): 1463 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~500 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 13 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Low quality ephemeral stream that drains an upland area.

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 6	Avg. Banks: 1
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	4	Sum of metric scores / 15 x 25	23.33
	Bank condition	5		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				25.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				25.83

Representative Site Photograph:

S103 SAR 1 facing southwest (downstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Stream ID/Name: S103 SAR No.: 1 Size (LF): 1463 Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~500 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 13 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

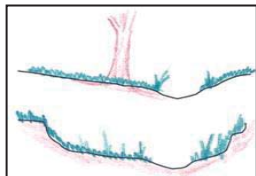
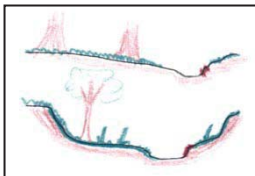
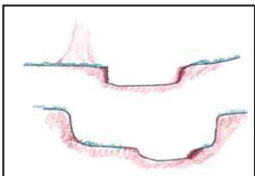
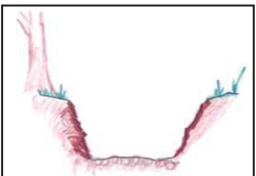
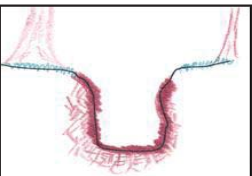
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 6	Avg. Banks: 1
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Notes: Low quality ephemeral stream that drains an upland area.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 4

Bank Condition

Left Bank Active Erosion: 0 % Right Bank Active Erosion: 0 % Average: 0
 Bank Protection/Stabilization: ☒ Natural ☒ Artificial: _____

Score: 5

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	5	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	5	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 9 Size (LF): 1080 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 78 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-9

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S207 SAR 9 facing northeast (upstream).

Version 1.0 - Final Draft
TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 9 Size (LF): 1080 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 78 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

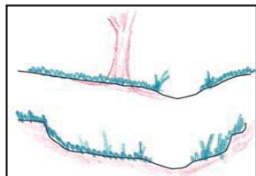
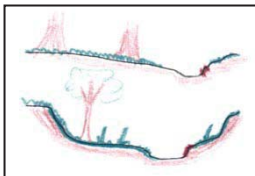
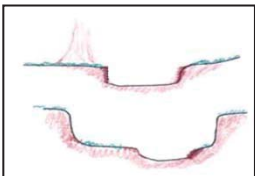
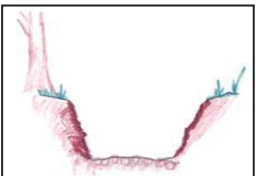
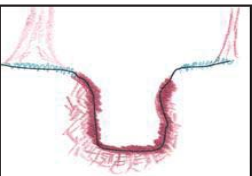
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.5

Notes: Considerable erosion along banks

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0		

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 8 Size (LF): 1429 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 77 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-8 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 10	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S207 SAR 8 facing northeast (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 8 Size (LF): 1429 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 77 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

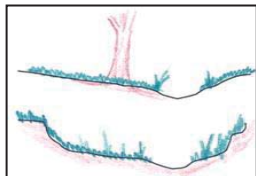
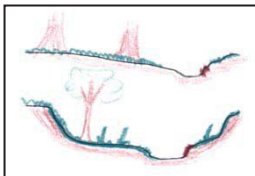
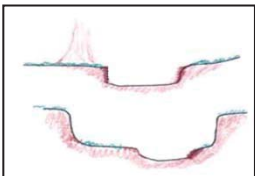
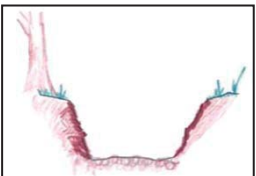
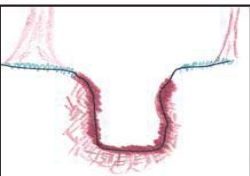
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 10	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Notes:

Considerable erosion along banks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 7 Size (LF): 838 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 76 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-7 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S207 SAR 7 facing northeast (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 7 Size (LF): 838 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 76 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

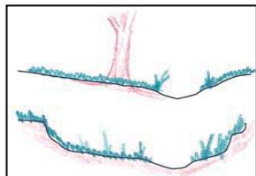
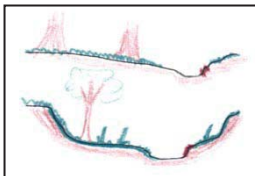
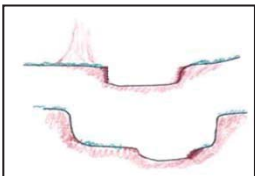
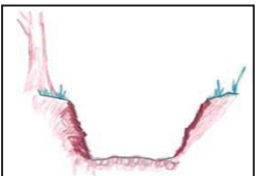
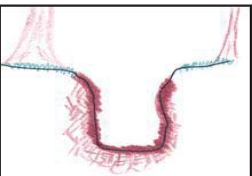
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Notes: Considerable erosion along banks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 6 Size (LF): 936 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 75 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-6 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S207 SAR 6 facing northeast (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 6 Size (LF): 936 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 75 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

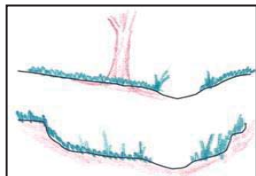
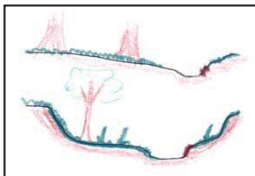
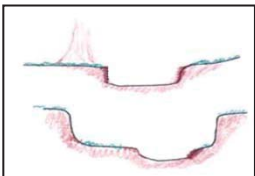
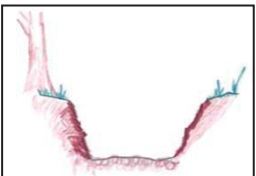
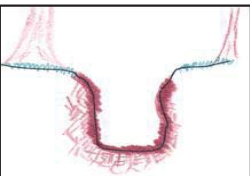
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Notes:

Considerable erosion along banks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 5 Size (LF): 542 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 73 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-5 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 5	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S207 SAR 5 facing southwest (downstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 5 Size (LF): 542 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq .o
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 73 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

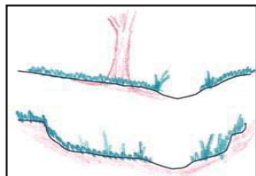
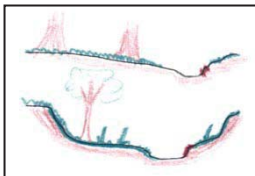
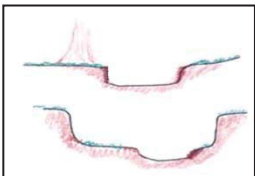
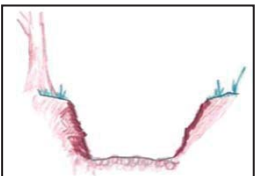
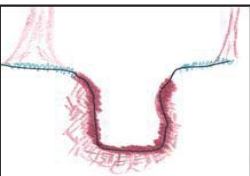
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 15	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 5	Avg. OHWM: 0.1

Notes:

Considerable erosion along banks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0								

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 4 Size (LF): 728 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 72 Representative: ☒ Yes ☐ No
 Stressor(s): Drought/Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-4 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 25	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S207 SAR 4 facing northeast (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 4 Size (LF): 728 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 72 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

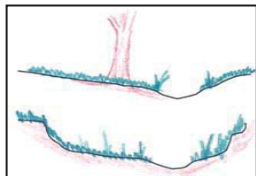
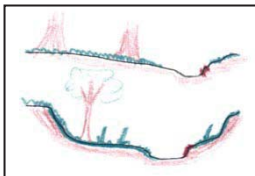
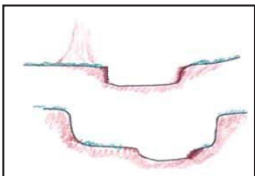
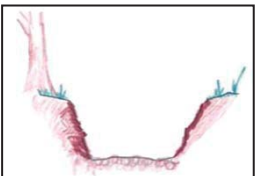
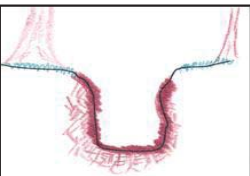
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 25	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.1

Notes:

Considerable erosion along banks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0						

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 3 Size (LF): 849 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 74 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-3 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 20	Avg. Banks: 4
Avg. Waters Edge: 4	Avg. Water: 1.5
Avg. OHWM: 6	Avg. OHWM: 1.0

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S207 SAR 3 facing north (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 3 Size (LF): 849 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 74 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

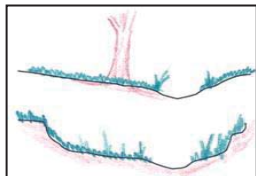
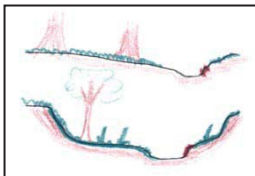
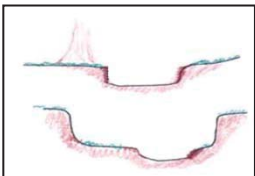
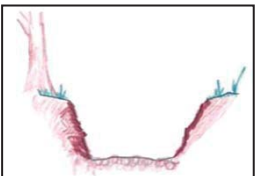
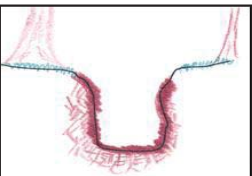
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 20	Avg. Banks: 4
Avg. Waters Edge: 4	Avg. Water: 1.5
Avg. OHWM: 6	Avg. OHWM: 1.0

Notes:

Water in the stream is from overnight precipitation.
Considerable erosion along banks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	100	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	100	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 2 Size (LF): 404 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: _____ Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-2 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 10	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	8.33
	Bank condition	1		
	Sediment deposition	3		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				10.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				10.83

Representative Site Photograph:

<p><i>[Insert Photograph]</i></p>	
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Version 1.0 - Final Draft
TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 2 Size (LF): 404 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 74 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

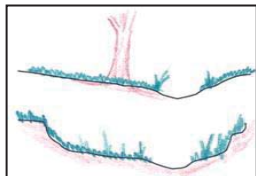
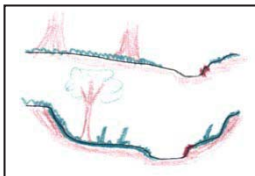
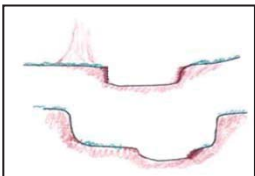
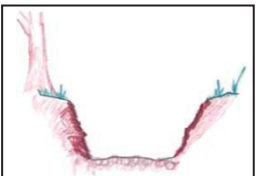
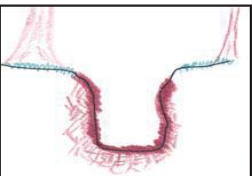
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 10	Avg. OHWM: 0.1

Notes:

Considerable erosion along banks.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 70 % Right Bank Active Erosion: 70 % Average: 70
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☒ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 3

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0									

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 1 Size (LF): 780 Date: 2/04/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: _____ Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S207-1 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 10	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	8.33
	Bank condition	1		
	Sediment deposition	3		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				10.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				10.83

Representative Site Photograph:

<p>[Insert Photograph]</p>	
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Version 1.0 - Final Draft
TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S207 SAR No.: 1 Size (LF): 780 Date: 2/4/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 74 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

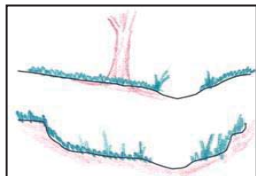
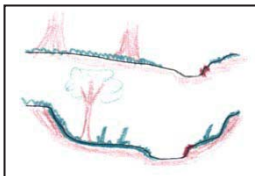
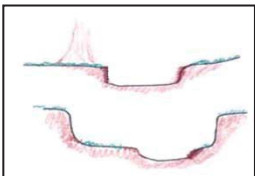
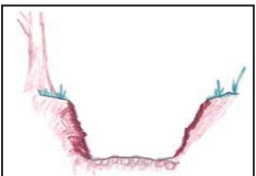
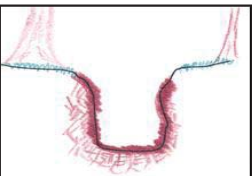
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 10	Avg. OHWM: 0.1

Notes:

Considerable erosion along banks. Inundation from overnight heavy precipitation

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 70 % Right Bank Active Erosion: 70 % Average: 70
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☒ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 3

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S206 SAR No.: 1 Size (LF): 775 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~20 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 71 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S206-1 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 7	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	1		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S206 SAR 1 facing northeast (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S206 SAR No.: 1 Size (LF): 775 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~20 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 71 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

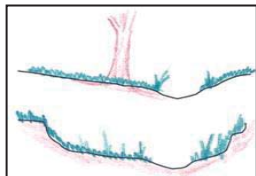
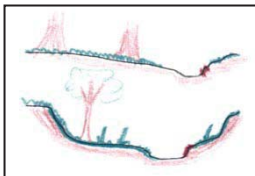
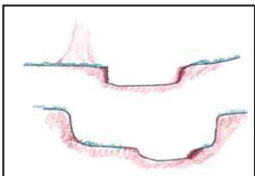
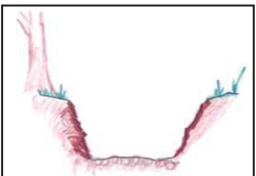
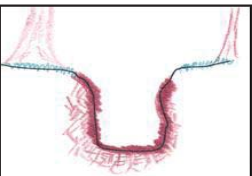
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: <u>7</u>	Avg. Banks: <u>3</u>
Avg. Waters Edge: <u>Dry</u>	Avg. Water: <u>Dry</u>
Avg. OHWM: <u>2</u>	Avg. OHWM: <u>0.1</u>

Notes: S206 same stream system as S207

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☒ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 1

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 80	Artificial:
Cobble:	Sand: 20	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S205 SAR No.: 1 Size (LF): 1057 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~20 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 70 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See 205-1 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 6	Avg. Banks: 1.0
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 3	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	4	Sum of metric scores / 15 x 25	13.33
	Bank condition	2		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S205 SAR 1 facing north (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S205 SAR No.: 1 Size (LF): 1057 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Pasture/Rangeland Watershed Size: ~20 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 70 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

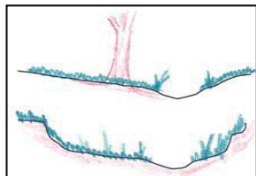
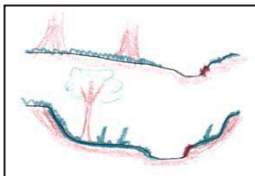
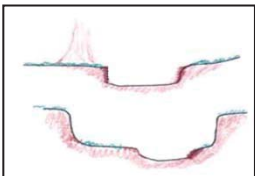
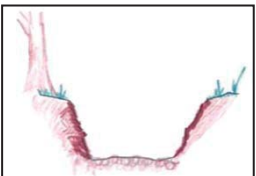
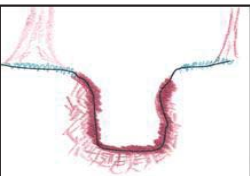
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 6	Avg. Banks: 1.0
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 3	Avg. OHWM: 0.1

Notes: Some Spartina growth within stream channel

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 4

Bank Condition

Left Bank Active Erosion: 40 % Right Bank Active Erosion: 30 % Average: 35
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 2

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	10	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	15	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0		

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

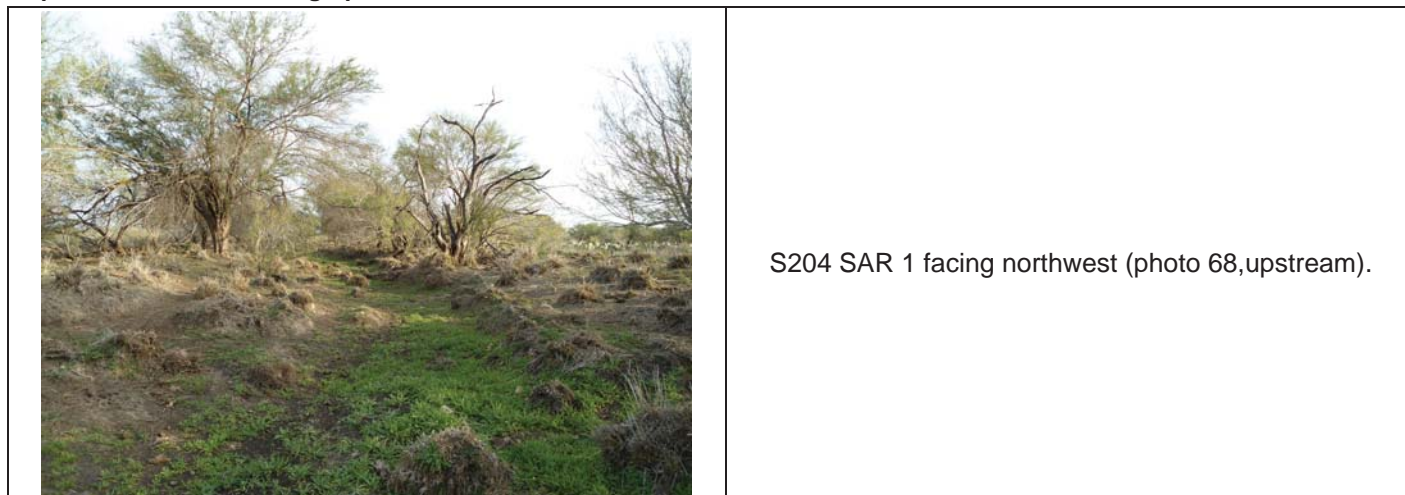
Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S204 SAR No.: 1 Size (LF): 1524 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~50 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 68/69 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S204-1 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 20	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	10.00
	Bank condition	1		
	Sediment deposition	3		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				12.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				12.50

Representative Site Photograph:

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S204 SAR No.: 1 Size (LF): 1524 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~50 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 68/69 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

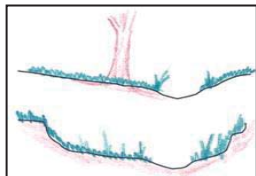
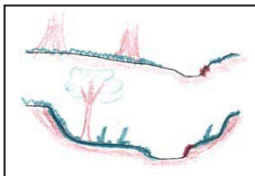
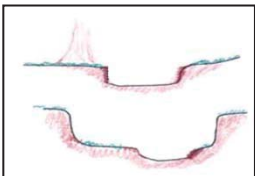
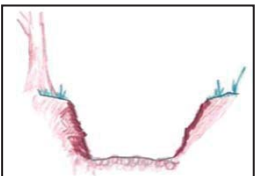
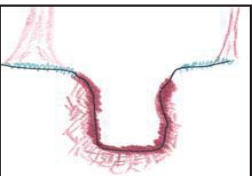
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 20	Avg. Banks: 2
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.1

Notes:

S204 is extension of S108

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 90 % Right Bank Active Erosion: 90 % Average: 90
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☒ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 3

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 7b Size (LF): 666 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 67 Representative: ☒ Yes ☐ No
 Stressor(s): Drought/Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-7 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 60	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	5.00
	Bank condition	1		
	Sediment deposition	1		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				7.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				7.50

Representative Site Photograph:

<p>[Insert Photograph]</p>	
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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 7b Size (LF): 1404 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 67 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

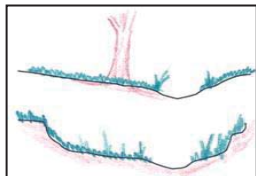
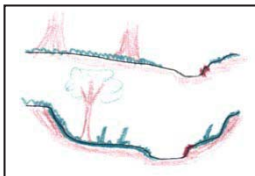
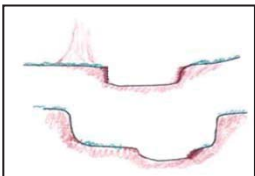
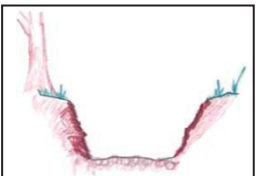
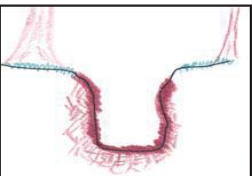
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 60	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Notes:

Overflow channel of main stream system.
Severe erosion, fallen trees and large drift in the streambed.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☒ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 1

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 80	Artificial:
Cobble:	Sand: 20	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0						

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 7a Size (LF): 1404 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 67 Representative: ☒ Yes ☐ No
 Stressor(s): Drought/Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-7 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 60	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	5.00
	Bank condition	1		
	Sediment deposition	1		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				7.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				7.50

Representative Site Photograph:

S203 SAR 7 facing northwest (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 7a Size (LF): 1404 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 67 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

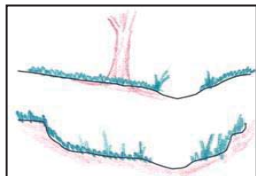
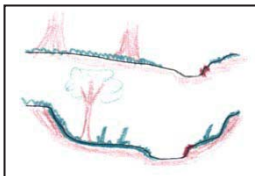
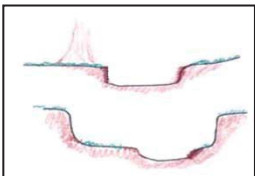
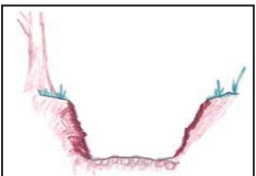
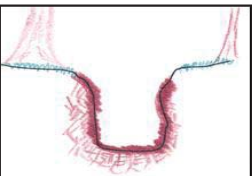
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 60	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Notes:

Severe erosion, fallen trees and large drift in the streambed.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☒ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 1

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 80	Artificial:
Cobble:	Sand: 20	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 6 Size (LF): 1208 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 66 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-6 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 50	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	5.00
	Bank condition	1		
	Sediment deposition	1		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				7.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				7.50

Representative Site Photograph:

S203 SAR 6 facing southwest (downstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 6 Size (LF): 1209 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Pasture/Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 66 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

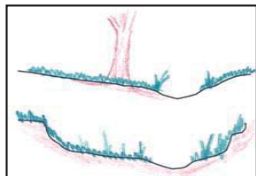
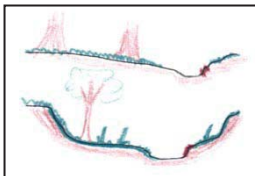
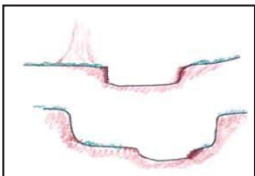
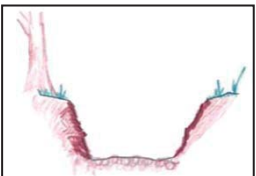
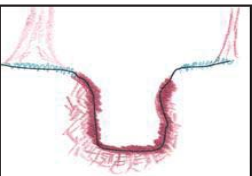
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 50	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.1

Notes:

Severe erosion, fallen trees in the streambed.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☒ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 1

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 80	Artificial:
Cobble:	Sand: 20	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 5 Size (LF): 1047 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2012 ArcGIS Site Photos: 64/65 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-5 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	5.00
	Bank condition	1		
	Sediment deposition	1		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				7.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				7.50

Representative Site Photograph:

S203 SAR 5 (photo 65) facing northeast (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 5 Size (LF): 1047 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 64/65 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

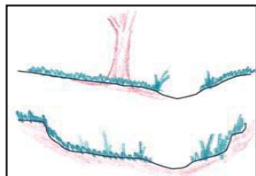
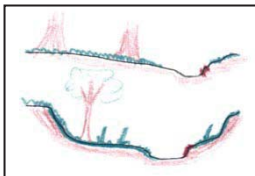
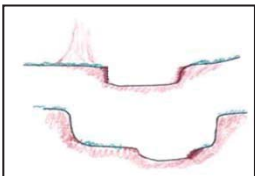
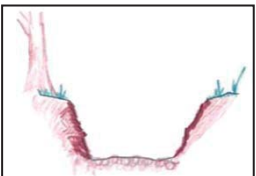
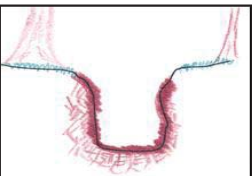
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 15	Avg. OHWM: 0.5

Notes:

Severe erosion, fallen trees in the streambed.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☒ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 1

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 80	Artificial:
Cobble:	Sand: 20	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0			

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 4 Size (LF): 1208 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 62/63 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-4 data sheet.

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 30	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S203 SAR 4 facing northwest (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 4 Size (LF): 1208 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 62/63 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

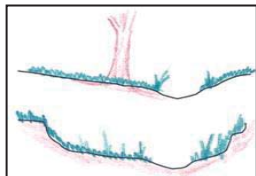
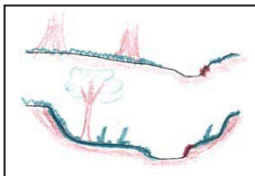
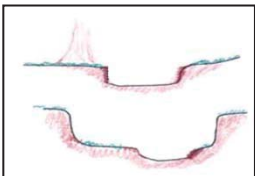
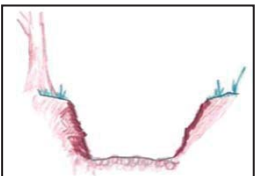
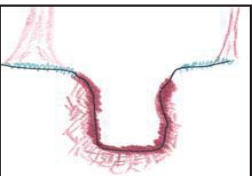
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 30	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.5

Notes:

Erosion along entire SAR

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	100	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	100	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 20	Artificial:
Cobble:	Sand: 80	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 3 Size (LF): 883 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 61 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-3 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 20	Avg. Banks: 4
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 1.0

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	6.67
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				9.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				9.17

Representative Site Photograph:

S203 SAR 3 facing northwest (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 3 Size (LF): 883 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 61 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

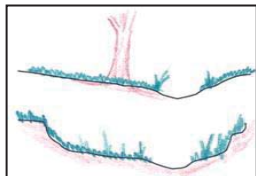
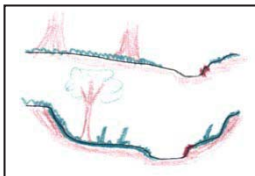
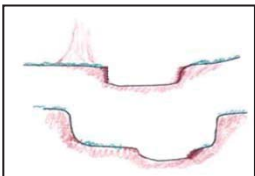
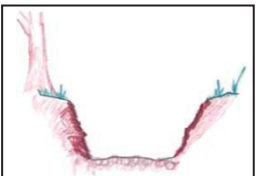
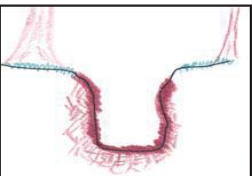
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 20	Avg. Banks: 4
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 1.0

Notes:

Pipeline crossing at S203-41 causing heavy sedimentation and vegetation establishment downstream.
 Pipeline crossing at S203-52 causing heavy sedimentation deposits between S203-48 and 52.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 20	Artificial:
Cobble:	Sand: 80	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0				

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 2 Size (LF): 1250 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 60 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-2 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 20	Avg. Banks: 3
Avg. Waters Edge: 5	Avg. Water: 1.0
Avg. OHWM: 8	Avg. OHWM: 2.0

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	5.00
	Bank condition	1		
	Sediment deposition	1		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				7.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				7.50

Representative Site Photograph:

S203 SAR 2 facing northwest (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 2 Size (LF): 1250 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Pasture/Rangeland Watershed Size: ~2sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 60 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

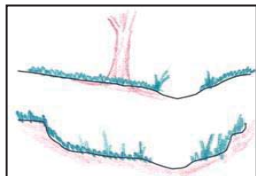
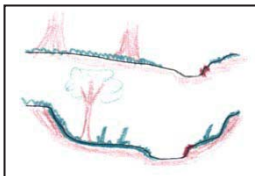
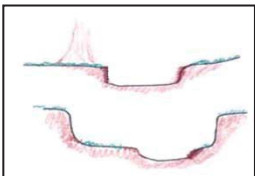
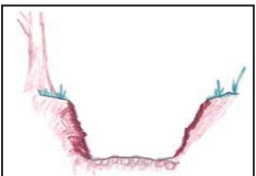
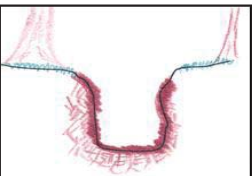
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 20	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: 1.0
Avg. OHWM: 8	Avg. OHWM: 2.0

Notes:

Water from overnight precipitation
 Evidence of severe erosion
 Mostly sandy sedimentation from upland area.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
- ☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
- ☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
- ☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
- ☒ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 1

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	100	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	100	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 10	Artificial:
Cobble:	Sand: 90	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 1 Size (LF): 1042 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 59 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S203-1 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 5
Avg. Waters Edge: 5	Avg. Water: 1.0
Avg. OHWM: 10	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	1	Sum of metric scores / 15 x 25	5.00
	Bank condition	1		
	Sediment deposition	1		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				7.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				7.50

Representative Site Photograph:

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S203 SAR No.: 1 Size (LF): 1042 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~2 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 59 Representative: ☒ Yes ☐ No
 Stressor(s): Erosion/overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

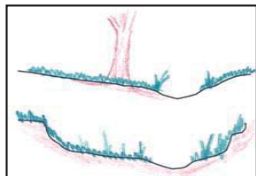
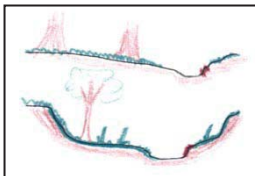
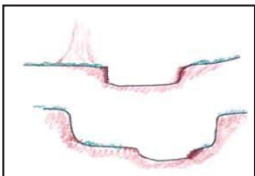
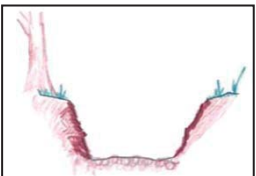
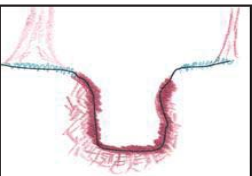
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 5
Avg. Waters Edge: 5	Avg. Water: 1.0
Avg. OHWM: 2	Avg. OHWM: 0.5

Notes:

Water from overnight precipitation
Severe erosion and sandy sedimentation from eroding tributaries.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 1

Bank Condition

Left Bank Active Erosion: 100 % Right Bank Active Erosion: 100 % Average: 100
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☒ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 1

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 80	Artificial:
Cobble:	Sand: 20	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0		0	0	0	0			

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S202 SAR No.: 2 Size (LF): 1052 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~50 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 58 Representative: ☒ Yes ☐ No
 Stressor(s): Drought Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S202-2 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	4	Sum of metric scores / 15 x 25	20.00
	Bank condition	3		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				22.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				22.50

Representative Site Photograph:

S202 SAR 2 facing north (upstream). Note the dense Spartina growth within the streambed.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S202 SAR No.: 2 Size (LF): 1052 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Pasture/Rangeland Watershed Size: ~50 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 58 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

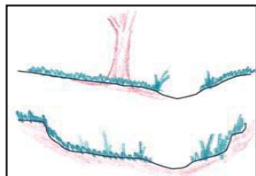
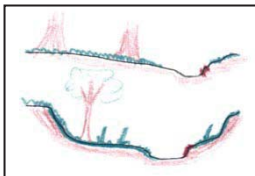
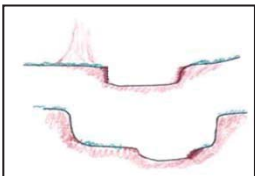
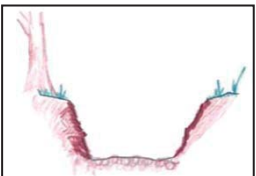
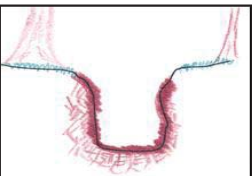
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 15	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Notes:

Dense Spartina growth within the streambed throughout the SAR.
 Road/culvert between SAR 1 and 2 (data points 11 and 12)
 Dry pool at the end of S202 resulting from erosion off of the stock tank berm.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 4

Bank Condition

Left Bank Active Erosion: 20 % Right Bank Active Erosion: 20 % Average: 20
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 3

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 90	Artificial:
Cobble:	Sand: 10	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S202 SAR No.: 1 Size (LF): 1157 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~50 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 57 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S202-1

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S202 SAR 1 facing north (upstream). Note the dense Spartina growth within the streambed.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S202 SAR No.: 1 Size (LF): 1157 Date: 2/03/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~50 ac
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 57 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

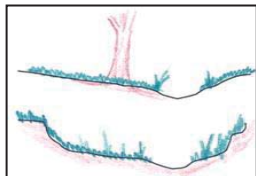
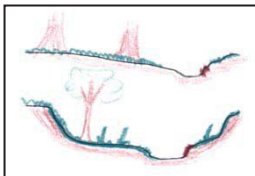
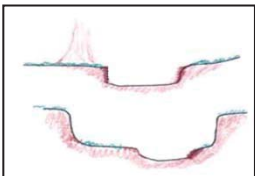
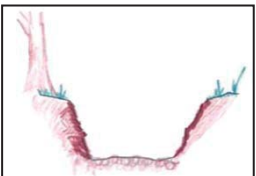
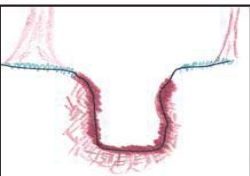
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Notes:

Dense Spartina growth within the streambed throughout the SAR.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 50 % Right Bank Active Erosion: 60 % Average: 55
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	10	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	20	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 80	Artificial:
Cobble:	Sand: 20	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 15 Size (LF): 1332 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 57 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-15 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 30	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

<p>[Insert Photograph]</p>	
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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 15 Size (LF): 1332 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 57 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

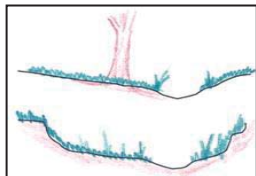
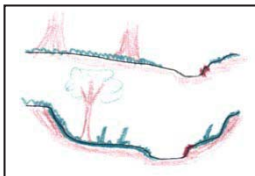
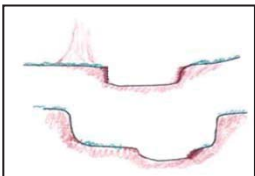
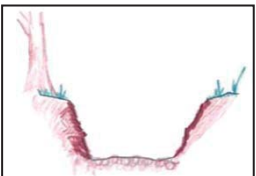
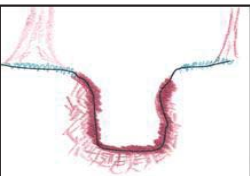
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 30	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 2	Avg. OHWM: 0.1

Notes:

End of stream at railroad crossing

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 60 % Right Bank Active Erosion: 60 % Average: 60
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 14 Size (LF): 1193 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 56 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☐ Yes ☒ No (If no, explain in Notes)
 Notes: See S201-14

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 10	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S201 SAR 14 facing north (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 14 Size (LF): 1193 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 56 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

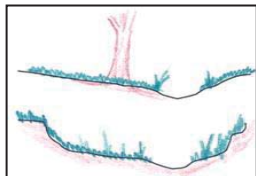
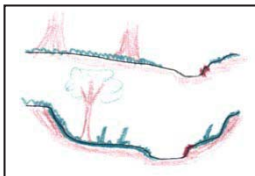
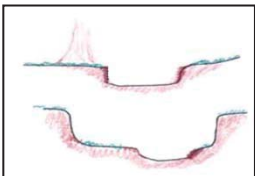
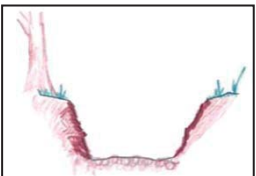
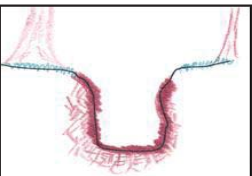
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 10	Avg. OHWM: 0.1

Notes: Road crossing at data point S201-136.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 60 % Right Bank Active Erosion: 60 % Average: 60
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 95	Artificial:
Cobble:	Sand: 5	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 13 Size (LF): 951 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 55 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-13

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 20	Avg. Banks: 5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	11.67
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				14.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				14.17

Representative Site Photograph:

S201 SAR 13 facing south (downstream). Note the dense Spartina growth along the banks.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 13 Size (LF): 951 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 55 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

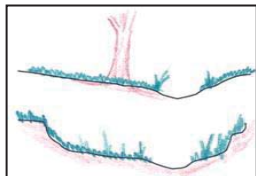
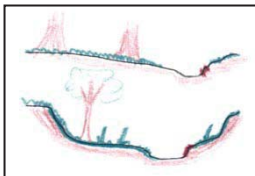
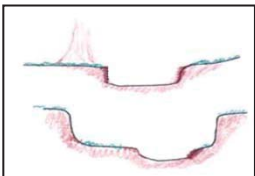
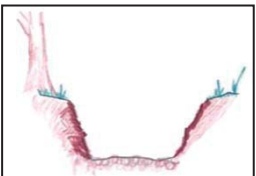
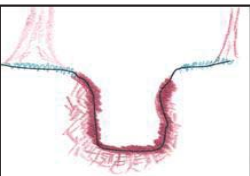
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 20	Avg. Banks: 5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.5

Notes: Dense Spartina growth along some areas of the the SAR.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 50 % Right Bank Active Erosion: 60 % Average: 55
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 20	Artificial:
Cobble:	Sand: 80	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0			

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 12 Size (LF): 1176 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 54 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-12

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 6
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 5	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	11.67
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				14.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				14.17

Representative Site Photograph:

S201 SAR 12 facing north (upstream). Note the dense Spartina spp. growth within the streambed.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 12 Size (LF): 1176 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 54 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

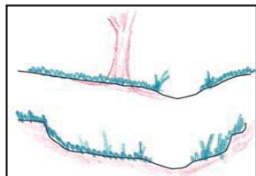
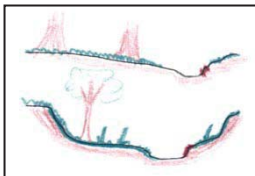
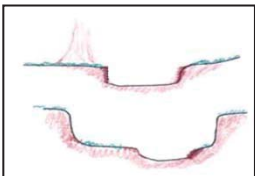
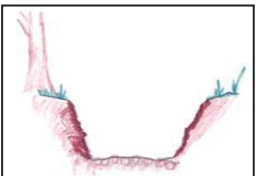
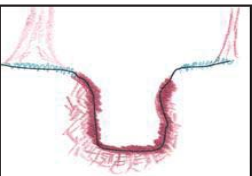
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 6
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 5	Avg. OHWM: 0.5

Notes:
 Dense Spartina growth throughout the SAR.
 Severe erosion at data point S201-97.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 40 % Right Bank Active Erosion: 60 % Average: 50
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	30	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 30	Artificial:
Cobble:	Sand: 70	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 11 Size (LF): 1273 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 53 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-11 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 60	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 7	Avg. OHWM: 1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	11.67
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				14.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				14.17

Representative Site Photograph:

S201 SAR 11 facing north (upstream). Note the dense *Spartina* spp. growth

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 11 Size (LF): 1273 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 53 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☐ Yes ☒ No (If no, explain in Notes)

Stream Characteristics

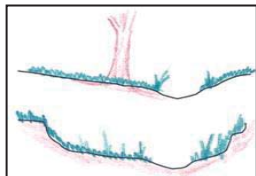
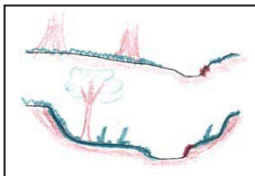
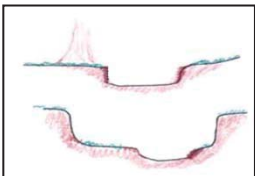
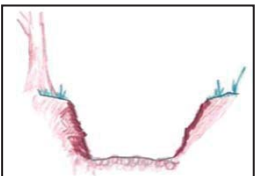
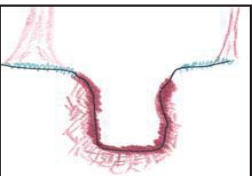
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 60	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 7	Avg. OHWM: 1

Notes:

Dense Spartina growth throughout the SAR.
Severe right bank erosion between data point S201-83/84 and S201-87/89.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 60 % Right Bank Active Erosion: 80 % Average: 70
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 50	Artificial:
Cobble:	Sand: 50	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 10 Size (LF): 1186 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 52 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-10 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 30	Avg. Banks: 6
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	11.67
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				14.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				14.17

Representative Site Photograph:

S201 SAR 10 facing north (upstream). Note the dense *Spartina* spp. growth within the stream bed.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 10 Size (LF): 1186 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 52 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

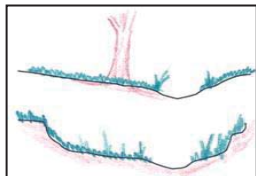
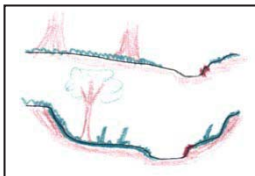
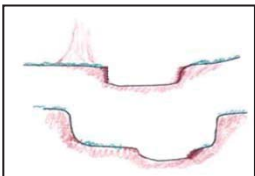
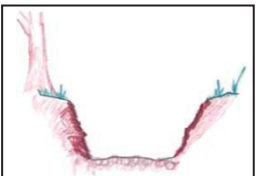
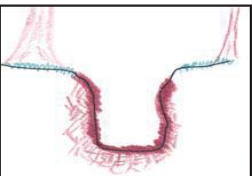
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 30	Avg. Banks: 6
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 1

Notes:

Dense Spartina growth throughout the SAR.
 Severe cutback erosion between data point S201-74 and 75 on the right bank.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 70 % Right Bank Active Erosion: 70 % Average: 70
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 75	Artificial:
Cobble:	Sand: 25	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0		

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 9 Size (LF): 1145 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080008 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 51 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-9 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 2

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	11.67
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				14.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				14.17

Representative Site Photograph:

S201 SAR 9 facing north (upstream). Note the dense *Spartina* spp. growth in the streambed.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 9 Size (LF): 1145 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 51 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

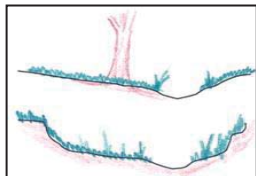
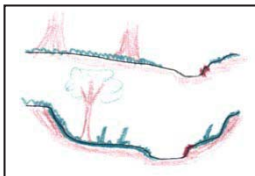
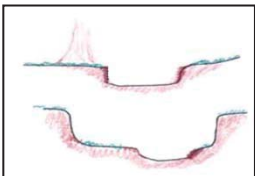
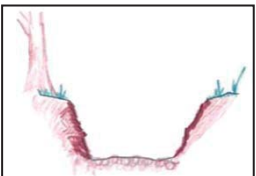
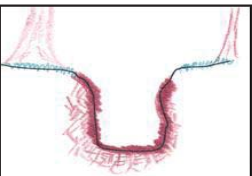
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 8
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 2

Notes:
 Dense Spartina growth throughout the SAR.
 Severe erosion at data point S201-64 (bank/bend).

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 90 % Right Bank Active Erosion: 80 % Average: 85
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 50	Artificial:
Cobble:	Sand: 50	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 8 Size (LF): 1250 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 50 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-8 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 50	Avg. Banks: 10
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 6	Avg. OHWM: 3

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	2	Sum of metric scores / 15 x 25	8.33
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				10.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				10.83

Representative Site Photograph:

S201 SAR 8 facing south (downstream). Note the heavy *Spartina* spp. growth in throughout the SAR.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 8 Size (LF): 1250 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 50 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Erosion Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

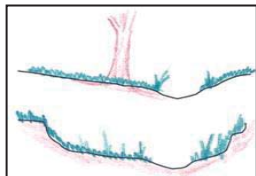
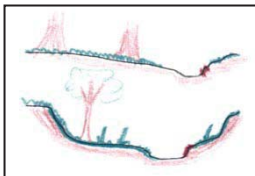
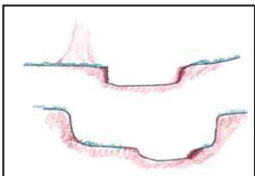
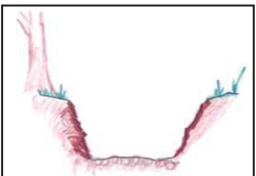
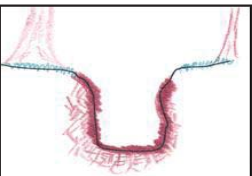
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 50	Avg. Banks: 10
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 6	Avg. OHWM: 3.0

Notes:
 Some areas within the SAR show evidence of sandy deposits over clay, other areas have mostly sand substrate.
 Dense Spartina growth throughout the SAR.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 2

Bank Condition

Left Bank Active Erosion: 80 % Right Bank Active Erosion: 70 % Average: 75
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 50	Artificial:
Cobble:	Sand: 50	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	0

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 7 Size (LF): 206 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 44 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-7 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 30	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	4	Sum of metric scores / 15 x 25	21.67
	Bank condition	4		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				24.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				24.17

Representative Site Photograph:

S201 SAR 7 facing south (downstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 7 Size (LF): 206 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 44 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

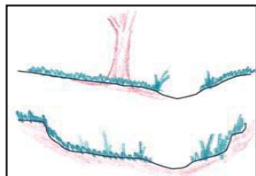
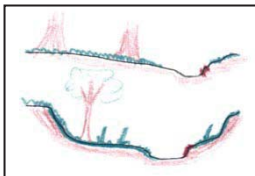
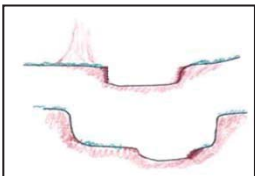
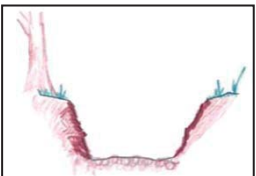
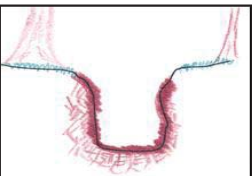
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 30	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.5

Notes:

Less Spartina growth than in other S201 segments

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 4

Bank Condition

Left Bank Active Erosion: 5 % Right Bank Active Erosion: 20 % Average: 12.5
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 4

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	50	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	10	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0											

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 1

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 6 Size (LF): 1061 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080008 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 43 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-6 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 50	Avg. Banks: 4
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 6	Avg. OHWM: 1.0

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	3	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S201 SAR 6 facing north (upstream). Note the dense *Spartina* spp. growth in the stream channel and the braided OHWM.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 6 Size (LF): 1061 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 43 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

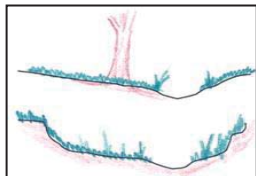
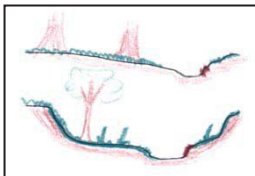
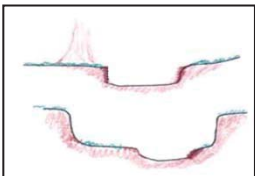
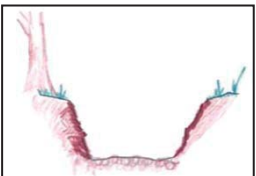
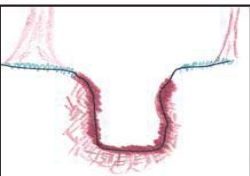
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 50	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 1.0

Notes:

Dense Spartina growth along in the stream channel between data points 34-37.
 Potential wetland area between data points 34-42.
 Braided OHWM through Spartina growth.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 3

Bank Condition

Left Bank Active Erosion: 50 % Right Bank Active Erosion: 80 % Average: 65
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0**IN-STREAM CONDITION****Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1**In-stream Habitat (check all habitat types that are present)**

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0			

Average: 0 Score: 0**HYDROLOGIC CONDITION****Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0**Channel Flow Status**

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 5 Size (LF): 687 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 42 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-5 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 10	Avg. Banks: 3
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 3	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	4	Sum of metric scores / 15 x 25	15.00
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				17.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				17.50

Representative Site Photograph:

S201 SAR 5 facing north (upstream). Note the dense vegetation in the stream bed.

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 5 Size (LF): 687 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 42 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

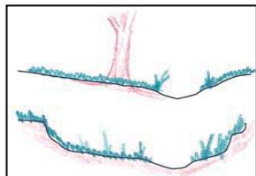
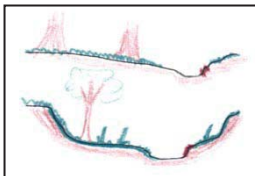
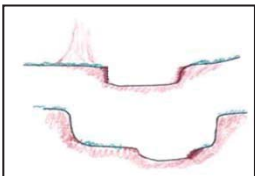
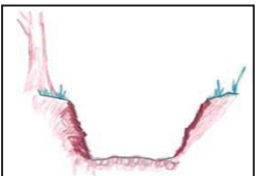
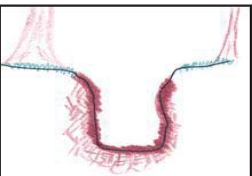
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 10	Avg. Banks: 6
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 3	Avg. OHWM: 0.1

Notes:
 Dense Spartina growth along the stream channel
 No vegetation between data points 29-30 (along the fence road) and data points 31-32 (upland sand sediment).

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 4

Bank Condition

Left Bank Active Erosion: 30 % Right Bank Active Erosion: 60 % Average: 45
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	10	native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	native	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0						

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 1

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 4 Size (LF): 225 Date: 2/2/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 40 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-4 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 40	Avg. Banks: 6
Avg. Waters Edge: 6	Avg. Water: 0.1
Avg. OHWM: 10	Avg. OHWM: 1.0

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	3	Sum of metric scores / 15 x 25	10.00
	Bank condition	1		
	Sediment deposition	2		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	1	Sum of metric scores / 8 x 25	9.375
	Channel flow status	2		
Sum of core element scores = overall TXRAM stream score				21.88
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				21.88

Representative Site Photograph:

S201 SAR 4 stream bed facing south (downstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 4 Size (LF): 225 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Pasture/Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 40 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Compacted Soil Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

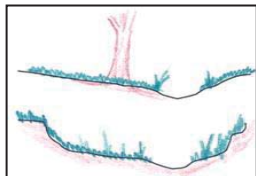
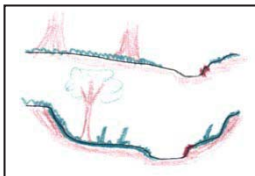
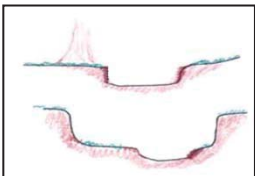
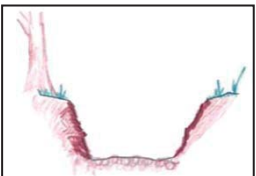
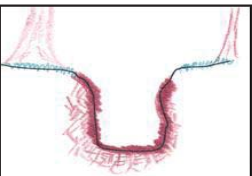
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 40	Avg. Banks: 6
Avg. Waters Edge: 6	Avg. Water: 0.1
Avg. OHWM: 10	Avg. OHWM: 1.0

Notes:
 Low area along stream bed collects water.
 Stream is dry between data points 23-26.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 3

Bank Condition

Left Bank Active Erosion: 80 % Right Bank Active Erosion: 90 % Average: 85
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☒ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 2

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: 25

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	90	Mix	intensive	0	100	0
2.						
3.						
4.						
5.						

Score: _____

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	70	Mix		0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0											

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input checked="" type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 1

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input checked="" type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 2

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 3 Size (LF): 420 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~ 5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 39 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/Drought Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: Dense Spartina growth in channel

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 25	Avg. Banks: 6
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	3	Sum of metric scores / 15 x 25	15.00
	Bank condition	1		
	Sediment deposition	5		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				17.50
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				17.50

Representative Site Photograph:

S201 SAR 3 facing north (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 3 Size (LF): 420 Date: 2/2/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 39 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/downstream from a leveed stock tank Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

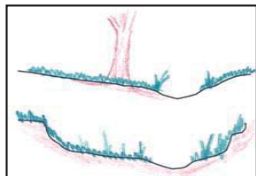
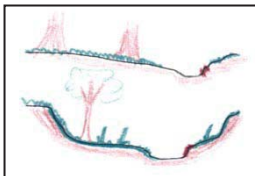
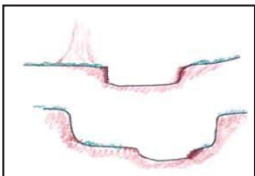
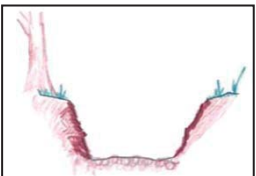
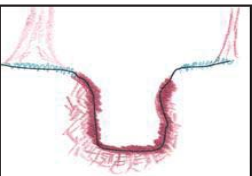
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 25	Avg. Banks: 6
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.5

Notes:

Dense Spartina growth within the stream channel.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 3

Bank Condition

Left Bank Active Erosion: 65 % Right Bank Active Erosion: 70 % Average: 67.5
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☒ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☐ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 5

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	80	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0									

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 2 Size (LF): 362 Date: 2/02/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~ 5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 38 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-2 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 15	Avg. Banks: 5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.1

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	3	Sum of metric scores / 15 x 25	13.33
	Bank condition	1		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				15.83
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				15.83

Representative Site Photograph:

S201 SAR 2 facing north (upstream).

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 2 Size (LF): 362 Date: 2/2/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~ 5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 38 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/downstream from a leveed stock tank Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

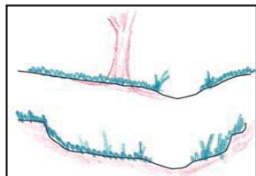
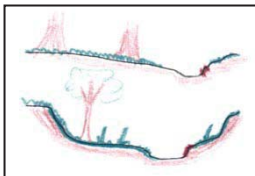
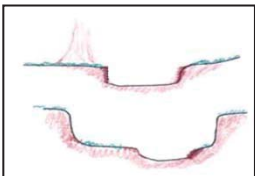
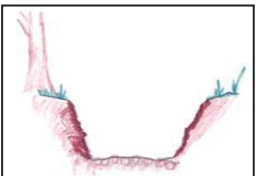
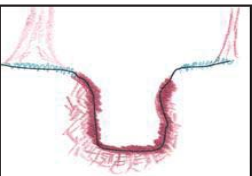
Stream Characteristics

Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 15	Avg. Banks: 5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 4	Avg. OHWM: 0.5

Notes: Considerable cattle trampling along the stream bed.
 Overland flow.
 OHWM obscured by trampling between data points 12 and 13.
 Stream loses definition between data points 15-17 due to fence/fence road (elevated relative to the stream).
 Data point S201-16 is a fence crossing.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 3

Bank Condition

Left Bank Active Erosion: 60 % Right Bank Active Erosion: 50 % Average: 55
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 1

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	40	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	60	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0										

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM STREAM FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 1 Size (LF): 1197 Date: 1/31/2012 Evaluator(s): B.Clark/T. Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☒ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~ 5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 36 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)
 Notes: See S201-1 data sheet

Stream Characteristics

<i>Stream Width (Feet)</i>	<i>Stream Height/Depth (Feet)</i>
Avg. Bank to Bank: 30	Avg. Banks: 5
Avg. Waters Edge: dry	Avg. Water: dry
Avg. OHWM: 8	Avg. OHWM: 0.5

Scoring Table

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Channel condition	Floodplain connectivity	3	Sum of metric scores / 15 x 25	16.67
	Bank condition	3		
	Sediment deposition	4		
Riparian buffer condition	Riparian buffer (left bank)	0	Sum of bank scores / 10 x 25	0.00
	Riparian buffer (right bank)	0		
In-stream condition	Substrate composition	1	Sum of metric scores / 10 x 25	2.5
	In-stream habitat	0		
Hydrologic condition	Flow regime	0	Sum of metric scores / 8 x 25	0
	Channel flow status	0		
Sum of core element scores = overall TXRAM stream score				19.17
Additional points for limited habitats = overall TXRAM stream score x 0.025 for each bank (right/left) if: L R <input type="checkbox"/> <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM stream score and additional points = total overall TXRAM stream score				19.17

Representative Site Photograph:

S201 SAR 1 facing north (upstream)

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TXRAM STREAM DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☐ Fill/Impact (☐ Linear ☐ Non-linear) ☒ Mitigation/Conservation
 Stream ID/Name: S201 SAR No.: 1 Size (LF): 1197 Date: 2/2/2012 Evaluator(s): B.Clark/T.Schnakenberg
 Stream Type: Ephemeral Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 8-Digit HUC: 13080003 Watershed Condition (developed, pasture, etc.): Rangeland Watershed Size: ~5 sq mi
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 36/37 Representative: ☒ Yes ☐ No
 Stressor(s): Overgrazing/downstream from a leveed stock tank Are normal climatic/hydrologic conditions present? ☒ Yes ☐ No (If no, explain in Notes)

Stream Characteristics

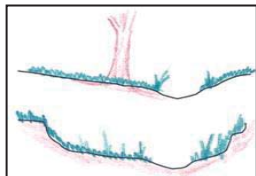
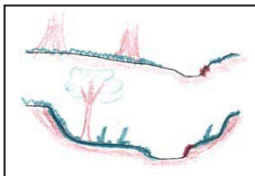
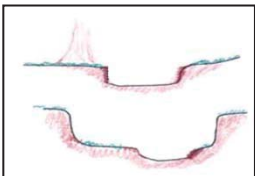
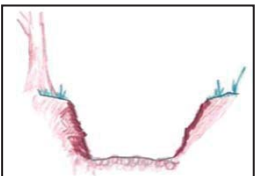
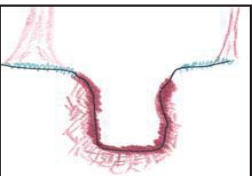
Stream Width (Feet)	Stream Height/Depth (Feet)
Avg. Bank to Bank: 30	Avg. Banks: 5
Avg. Waters Edge: Dry	Avg. Water: Dry
Avg. OHWM: 8	Avg. OHWM: 0.5

Notes:

Considerable cattle trampling along the stream bed.
 Overland flow.
 OHWM obscured by trampling between data points 12 and 13.

CHANNEL CONDITION

Floodplain Connectivity

				
5	4	3	2	1

Score: 3

Bank Condition

Left Bank Active Erosion: 20 % Right Bank Active Erosion: 30 % Average: 25
 Bank Protection/Stabilization: ☒ Natural ☐ Artificial: _____

Score: 3

Sediment Deposition

- ☐ Less than 20% of the bottom covered by excessive sediment deposition; bars with established vegetation (5)
☒ 20–40% of the bottom covered by excessive sediment deposition; some established bars with indicators of recently deposited sediments (4)
☐ 40–60% of the bottom covered by excessive sediment deposition; moderate deposition on old bars and creating new bars; moderate sediment deposits at in-stream structures; OR obstructed view of the channel bottom and a lack of other depositional features (3)
☐ 60–80% of the bottom covered by excessive sediment deposition; newly created bars prevalent; heavy sediment deposits at in-stream structures (2)
☐ Greater than 80% of the bottom covered by excessive sediment deposition resulting in aggrading channel (1)

Score: 4

RIPARIAN BUFFER CONDITION*Riparian Buffer - See Table 22 to determine appropriate buffer distance. Confirm in office review.***Identify each buffer type and score according to canopy cover, vegetation community, and land use (see section 3.3.2.1.3).**

Left Bank

Buffer Distance: _____

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	15	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

Right Bank

Buffer Type	Canopy Cover	Vegetation Community	Land Use	Score	Percentage of Area	Subtotal
1. Rangeland	30	Native	Intensive	0	100	0
2.						
3.						
4.						
5.						

Score: 0

IN-STREAM CONDITION**Substrate Composition (estimate percentages)**

Boulder:	Gravel:	Fines (silt, clay, muck): 100	Artificial:
Cobble:	Sand:	Bedrock:	Other:

Score: 1

In-stream Habitat (check all habitat types that are present)

Habitat Type	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13
Undercut Banks													
Overhanging Vegetation													
Rootmats													
Rootwads													
Woody/Leafy Debris													
Boulders/Cobbles													
Aquatic Macrophytes													
Riffle/Pool Sequence													
Artificial Habitat Enhancement													
Other													
Total No. Present	0	0	0	0	0	0	0	0	0	0	0	0	

Average: 0 Score: 0

HYDROLOGIC CONDITION**Flow Regime**

<input type="checkbox"/> Noticeable surface flow present (4)	<input type="checkbox"/> Isolated pools and no evidence of surface or interstitial flow (1)
<input type="checkbox"/> Continual pool of water but lacking noticeable flow (3)	<input checked="" type="checkbox"/> Dry channel and no observable pools or interstitial flow (0)
<input type="checkbox"/> Isolated pools and interstitial (subsurface) flow (2)	

Score: 0

Channel Flow Status

<input type="checkbox"/> Water covering greater than 75% of the channel bottom width; less than 25% of channel substrate is exposed (4)
<input type="checkbox"/> Water covering 50–75% of the channel bottom width; 25–50% of channel substrate is exposed (3)
<input type="checkbox"/> Water covering 25–50% of the channel bottom width; 50–75% of channel substrate is exposed (2)
<input type="checkbox"/> Water present but covering less than 25% of the channel bottom width; greater than 75% of channel substrate is exposed (1)
<input checked="" type="checkbox"/> No water present in the channel; 100% of channel substrate exposed (0)

Score: 0

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
Wetland ID/Name: W133 WAA No.: 7 Size: 14.70 ac Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 14 Representative: ☒ Yes ☐ No
Notes: _____

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	4	Sum of metric scores / 8 x 20	20.00
	Buffer	0		
Hydrology	Water source	2	Sum of metric scores / 12 x 20	11.67
	Hydroperiod	3		
	Hydrologic flow	2		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	3	Sum of metric scores / 12 x 20	13.33
	Edge complexity	3		
	Physical habitat richness	2		
Biotic Structure	Plant strata	3	Sum of metric scores / 28 x 20	7.14
	Species richness	3		
	Non-native/invasive infestation	4		
	Interspersion	3		
	Strata overlap	4		
	Herbaceous cover	1		
	Vegetation alterations	0		
Sum of core element scores = overall TXRAM wetland score				67.14
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				67.14

Representative Site Photograph:

W133 (WAA 7) with brush piles and debris. Facing south

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
 Wetland ID/Name: W133 WAA No.: 7 Size: 14.70 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 14 Representative: ☒ Yes ☐ No

Notes: PSS fringe wetland with three inlets consisting of ephemeral stream S103 and upland swales

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 8 Score: 4

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-native Rangeland	0	100	0
2. Stock Tanks	Neutral	Not Counted	
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☐ Other: _____

Unnatural/Manipulated: ☒ Impoundment ☐ Outfall ☐ Irrigation/pumping ☐ Other artificial influence or control: _____

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☒ Impoundment ☐ Other: _____

Degree of artificial influence/control: ☐ Complete ☒ High ☐ Low ☐ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled Score: 2

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Seasonally with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☐ Levees ☒ Impoundments ☐ Other: _____

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☒ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 3

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☒ Inlets: 3 ☐ Outlets: _____ ☒ Signs of water movement to or from WAA: Drift and debris, drainage patterns

Restrictions: ☐ Levee ☒ Berm/dam ☐ Diversion ☐ Other: _____

High flowthrough: ☐ Floodplain ☒ Drift deposits ☒ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☐ High landscape position ☐ Stagnant water ☐ Closed contours ☐ Other: _____ Score: 2

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☐ Yes ☒ No Landscape position: ☐ High ☒ Low
 Magnitude of recent runoff/flooding events: ☐ High ☐ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 2 Evidence: ☒ Plant assemblages ☐ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: 10% of WAA (By EG: _____)
 Types: ☐ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☒ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 3**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☒ Moderate ☐ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.011 **Score: 3**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: A, E, K, N, O Total: 5 **Score: 2**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☒ 3 ☐ 2 ☐ 1 ☐ 0 **Score: 3**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 7 **Score: 3**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 0% **Score: 4**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☐ High ☒ Moderate ☐ Low ☐ None **Score: 3**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): 30% of WAA Moderate overlap (2 strata overlapping): 60% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 10% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 100% of WAA **Score: 4**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☐ > 75% ☐ 51–75% ☐ 26–50% ☒ ≤ 25% **Score: 1**

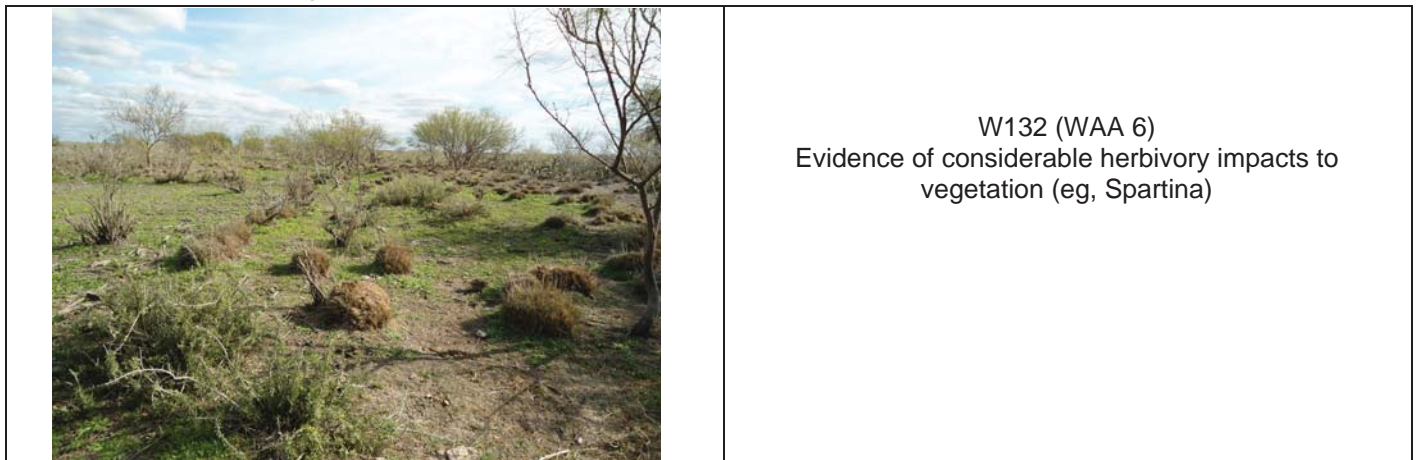
Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☐ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory ☒ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: 20% Severity of alteration: ☐ High ☐ Low
 Percent of WAA with past vegetation alteration: 100% Degree of recovery: ☐ Complete ☐ High ☐ Moderate ☒ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 0**

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
Wetland ID/Name: W132 WAA No.: 6 Size: 2.00 ac Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 16 Representative: ☒ Yes ☐ No
Notes: PSS wetland located adjacent to and downgradient of W128 impoundment.

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	3	Sum of metric scores / 8 x 20	15.00
	Buffer	0		
Hydrology	Water source	2	Sum of metric scores / 12 x 20	11.67
	Hydroperiod	4		
	Hydrologic flow	1		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	1	Sum of metric scores / 12 x 20	6.67
	Edge complexity	2		
	Physical habitat richness	1		
Biotic Structure	Plant strata	3	Sum of metric scores / 28 x 20	7.14
	Species richness	4		
	Non-native/invasive infestation	3		
	Interspersion	4		
	Strata overlap	4		
	Herbaceous cover	4		
	Vegetation alterations	1		
Sum of core element scores = overall TXRAM wetland score				55.48
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				55.48

Representative Site Photograph:

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
 Wetland ID/Name: W132 WAA No.: 6 Size: 2.00 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 16 Representative: ☒ Yes ☐ No

Notes:

PSS wetland located adjacent to and downgradient of W128 impoundment.

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 5 Score: 3

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-native Rangeland	0	100	0
2. Stock Tanks	Neutral	Not Counted	
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☒ Other: Tank seepage

Unnatural/Manipulated: ☒ Impoundment ☐ Outfall ☐ Irrigation/pumping ☐ Other artificial influence or control: _____

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☒ Impoundment ☐ Other: _____

Degree of artificial influence/control: ☐ Complete ☒ High ☐ Low ☐ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled Score: 2

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Temporary with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☐ Levees ☒ Impoundments ☐ Other: _____

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☐ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 4

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☐ Inlets: _____ ☐ Outlets: _____ ☐ Signs of water movement to or from WAA: _____

Restrictions: ☐ Levee ☒ Berm/dam ☐ Diversion ☐ Other: _____

High flowthrough: ☐ Floodplain ☐ Drift deposits ☐ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☐ High landscape position ☐ Stagnant water ☒ Closed contours ☐ Other: _____ Score: 1

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☒ Yes ☐ No Landscape position: ☐ High ☒ Low
 Magnitude of recent runoff/flooding events: ☐ High ☐ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 1 Evidence: ☒ Plant assemblages ☐ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: _____% of WAA (By EG: _____)
 Types: ☐ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☐ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 1**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☐ Moderate ☒ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.014 **Score: 2**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: K Total: 1 **Score: 1**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☒ 3 ☐ 2 ☐ 1 ☐ 0 **Score: 3**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 13 **Score: 4**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 10% **Score: 3**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☒ High ☐ Moderate ☐ Low ☐ None **Score: 4**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): 30% of WAA Moderate overlap (2 strata overlapping): 40% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 30% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 100% of WAA **Score: 4**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☒ > 75% ☐ 51–75% ☐ 26–50% ☐ ≤ 25% **Score: 4**

Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☐ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory ☒ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: 20% Severity of alteration: ☐ High ☐ Low
 Percent of WAA with past vegetation alteration: 75% Degree of recovery: ☐ Complete ☐ High ☐ Moderate ☒ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 1**

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
Wetland ID/Name: W130 WAA No.: 5 Size: 3.98 ac Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 15 Representative: ☒ Yes ☐ No

Notes: _____

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	4	Sum of metric scores / 8 x 20	17.50
	Buffer	0		
Hydrology	Water source	2	Sum of metric scores / 12 x 20	13.33
	Hydroperiod	4		
	Hydrologic flow	2		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	1	Sum of metric scores / 12 x 20	8.33
	Edge complexity	3		
	Physical habitat richness	1		
Biotic Structure	Plant strata	2	Sum of metric scores / 28 x 20	6.43
	Species richness	4		
	Non-native/invasive infestation	3		
	Interspersion	1		
	Strata overlap	4		
	Herbaceous cover	4		
	Vegetation alterations	2		
Sum of core element scores = overall TXRAM wetland score				60.60
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				60.60

Representative Site Photograph:

W130 (WAA 5) with S121 levee in far background.
Facing west.

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
 Wetland ID/Name: W130 WAA No.: 5 Size: 3.98 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 15 Representative: ☒ Yes ☐ No

Notes:

PEM wetland surrounded by PSS wetland (W127). Outlet swale into W127/S121.

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 11 Score: 4

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-Native Rangeland	0	100	0
2. Stock Tanks	Neutral	Not Counted	
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☐ Other: _____

Unnatural/Manipulated: ☒ Impoundment ☐ Outfall ☐ Irrigation/pumping ☒ Other artificial influence or control: Levee

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☒ Impoundment ☒ Other: Levee

Degree of artificial influence/control: ☐ Complete ☒ High ☐ Low ☐ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled Score: 2

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Temporary with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☒ Levees ☒ Impoundments ☐ Other: _____

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☐ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 4

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☐ Inlets: _____ ☒ Outlets: 1 ☒ Signs of water movement to or from WAA: Drift (sheet flow)

Restrictions: ☒ Levee ☒ Berm/dam ☐ Diversion ☐ Other: _____

High flowthrough: ☐ Floodplain ☒ Drift deposits ☐ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☐ High landscape position ☐ Stagnant water ☐ Closed contours ☐ Other: _____ Score: 2

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☐ Yes ☒ No Landscape position: ☐ High ☒ Low
 Magnitude of recent runoff/flooding events: ☒ High ☐ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 1 Evidence: ☐ Plant assemblages ☐ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: _____% of WAA (By EG: _____)
 Types: ☐ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☐ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 1**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☒ Moderate ☐ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.014 **Score: 3**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: K Total: 1 **Score: 1**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☐ 3 ☒ 2 ☐ 1 ☐ 0 **Score: 2**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 8 **Score: 4**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 1% **Score: 3**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☐ High ☐ Moderate ☒ Low ☐ None **Score: 1**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): _____% of WAA Moderate overlap (2 strata overlapping): 5% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 95% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 100% of WAA **Score: 4**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☒ > 75% ☐ 51–75% ☐ 26–50% ☐ ≤ 25% **Score: 4**

Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☐ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory R/P ☐ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: _____% Severity of alteration: ☐ High ☐ Low
 Percent of WAA with past vegetation alteration: 100% Degree of recovery: ☐ Complete ☐ High ☒ Moderate ☐ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 2**

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
Wetland ID/Name: W127 WAA No.: 5 Size: 28.46 ac Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Wetland Type: Lacustrine Fringe Ecoregion: South Texas Plains Delineation Performed: ☐ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 18 Representative: ☒ Yes ☐ No

Notes: _____

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	4	Sum of metric scores / 8 x 20	17.50
	Buffer	0		
Hydrology	Water source	2	Sum of metric scores / 12 x 20	11.67
	Hydroperiod	3		
	Hydrologic flow	2		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	4	Sum of metric scores / 12 x 20	15.00
	Edge complexity	3		
	Physical habitat richness	2		
Biotic Structure	Plant strata	3	Sum of metric scores / 28 x 20	7.14
	Species richness	4		
	Non-native/invasive infestation	3		
	Interspersion	2		
	Strata overlap	4		
	Herbaceous cover	4		
	Vegetation alterations	0		
Sum of core element scores = overall TXRAM wetland score				66.31
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				66.31

Representative Site Photograph:

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
 Wetland ID/Name: W127 WAA No.: 5 Size: 28.46 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Lacustrine Fringe Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 18 Representative: ☒ Yes ☐ No

Notes: PSS wetland located between two large stock tanks (WB104 and WB128) and associated with stream S121

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 11 Score: 4

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-native Rangeland	0	100	0
2. Stock Tanks	Neutral	Not Counted	
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☒ Other: Tank seepage

Unnatural/Manipulated: ☒ Impoundment ☐ Outfall ☐ Irrigation/pumping ☒ Other artificial influence or control: Levee

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☒ Impoundment ☒ Other: Levee

Degree of artificial influence/control: ☐ Complete ☒ High ☐ Low ☐ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled

Score: 2

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Seasonally with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☒ Levees ☒ Impoundments ☐ Other: _____

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☒ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 3

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☒ Inlets: 1 ☐ Outlets: _____ ☒ Signs of water movement to or from WAA: Large drift and debris, drainage patterns

Restrictions: ☒ Levee ☒ Berm/dam ☐ Diversion ☐ Other: _____

High flowthrough: ☐ Floodplain ☒ Drift deposits ☒ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☐ High landscape position ☐ Stagnant water ☐ Closed contours ☐ Other: _____ Score: 2

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein

Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☐ Yes ☒ No Landscape position: ☐ High ☐ Low
 Magnitude of recent runoff/flooding events: ☒ High ☐ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 3 Evidence: ☒ Plant assemblages ☒ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: 20% of WAA (By EG: _____)
 Types: ☒ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☒ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 4**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☒ Moderate ☐ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.008 **Score: 3**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: A, E, L, N, O, Total: 5 **Score: 2**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☒ 3 ☐ 2 ☐ 1 ☐ 0 **Score: 3**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 12 **Score: 4**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 10% **Score: 3**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☐ High ☐ Moderate ☒ Low ☐ None **Score: 2**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): 5% of WAA Moderate overlap (2 strata overlapping): 80% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 10% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 95% of WAA **Score: 4**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☒ > 75% ☐ 51–75% ☐ 26–50% ☐ ≤ 25% **Score: 4**

Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

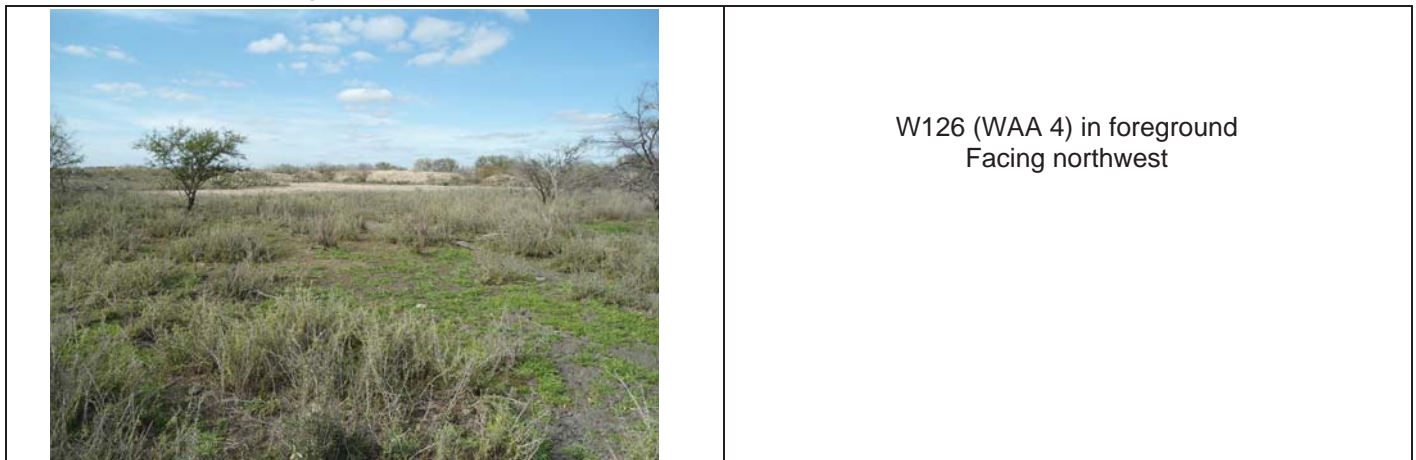
Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☐ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory ☒ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: 60% Severity of alteration: ☒ High ☐ Low
 Percent of WAA with past vegetation alteration: 100% Degree of recovery: ☐ Complete ☐ High ☐ Moderate ☒ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 0**

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact (☐ Linear ☒ Non-linear) ☐ Mitigation/Conservation
Wetland ID/Name: W126 WAA No.: 4 Size: 0.59 ac Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 17 Representative: ☒ Yes ☐ No

Notes: _____

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	4	Sum of metric scores / 8 x 20	17.50
	Buffer	0		
Hydrology	Water source	3	Sum of metric scores / 12 x 20	10.00
	Hydroperiod	2		
	Hydrologic flow	1		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	1	Sum of metric scores / 12 x 20	8.33
	Edge complexity	3		
	Physical habitat richness	1		
Biotic Structure	Plant strata	2	Sum of metric scores / 28 x 20	6.43
	Species richness	4		
	Non-native/invasive infestation	3		
	Interspersion	3		
	Strata overlap	4		
	Herbaceous cover	3		
	Vegetation alterations	2		
Sum of core element scores = overall TXRAM wetland score				57.26
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				57.26

Representative Site Photograph:

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
 Wetland ID/Name: W126 WAA No.: 4 Size: 0.59 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 17 Representative: ☒ Yes ☐ No

Notes:

PSS wetland adjacent to stream (S121). Levee located between W126 and S121.

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 8 Score: 4

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-Native Rangeland	0	100	0
2.			
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☐ Other: _____

Unnatural/Manipulated: ☒ Impoundment ☐ Outfall ☐ Irrigation/pumping ☒ Other artificial influence or control: Levee

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☒ Impoundment ☒ Other: Levee

Degree of artificial influence/control: ☐ Complete ☐ High ☒ Low ☐ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled Score: 3

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Temporary with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☒ Levees ☒ Impoundments ☐ Other: _____

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☐ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 2

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☐ Inlets: _____ ☐ Outlets: _____ ☐ Signs of water movement to or from WAA: _____

Restrictions: ☒ Levee ☐ Berm/dam ☐ Diversion ☐ Other: _____

High flowthrough: ☐ Floodplain ☐ Drift deposits ☐ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☐ High landscape position ☐ Stagnant water ☒ Closed contours ☐ Other: _____ Score: 1

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☐ Yes ☒ No Landscape position: ☐ High ☒ Low
 Magnitude of recent runoff/flooding events: ☐ High ☒ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 1 Evidence: ☒ Plant assemblages ☐ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: _____% of WAA (By EG: _____)
 Types: ☐ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☐ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 1**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☐ Moderate ☒ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.034 **Score: 3**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: K Total: 1 **Score: 1**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☐ 3 ☒ 2 ☐ 1 ☐ 0 **Score: 2**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 8 **Score: 4**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 5% **Score: 3**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☐ High ☒ Moderate ☐ Low ☐ None **Score: 3**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): _____% of WAA Moderate overlap (2 strata overlapping): 90% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 5% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 95% of WAA **Score: 4**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☐ > 75% ☒ 51–75% ☐ 26–50% ☐ ≤ 25% **Score: 3**

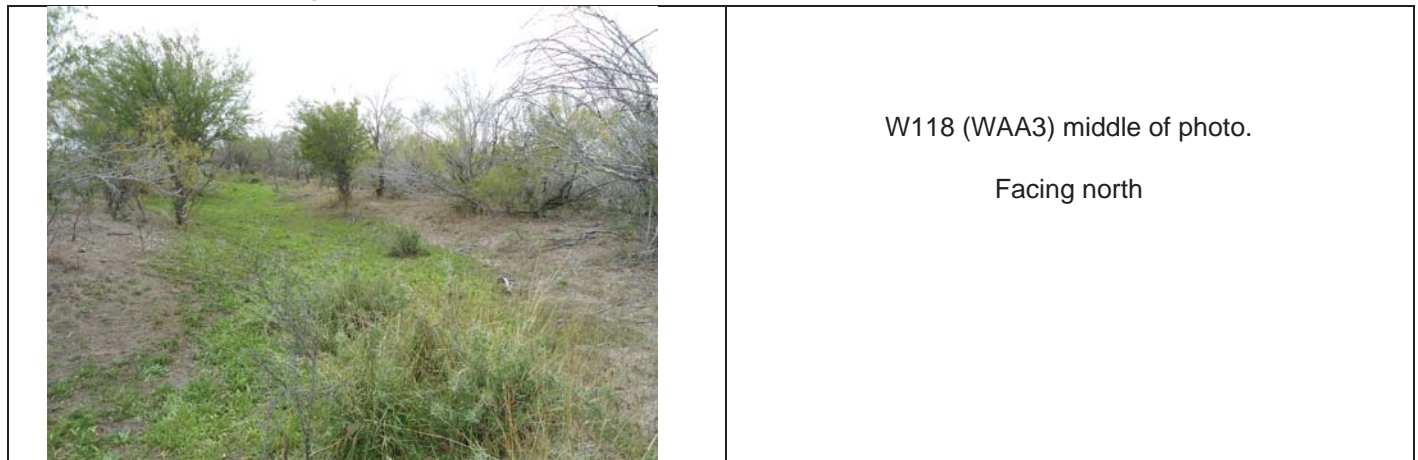
Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☐ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory R/P ☐ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: _____% Severity of alteration: ☐ High ☐ Low
 Percent of WAA with past vegetation alteration: 95% Degree of recovery: ☐ Complete ☐ High ☒ Moderate ☐ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 2**

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
Wetland ID/Name: W118 WAA No.: 3 Size: 0.19 ac Date: 1/31/2012 Evaluator(s): Barrett Clark/Todd Schnakenberg
Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 07 Representative: ☒ Yes ☐ No
Notes: _____

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	4	Sum of metric scores / 8 x 20	17.50
	Buffer	0		
Hydrology	Water source	2	Sum of metric scores / 12 x 20	8.33
	Hydroperiod	2		
	Hydrologic flow	1		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	1	Sum of metric scores / 12 x 20	8.33
	Edge complexity	3		
	Physical habitat richness	1		
Biotic Structure	Plant strata	2	Sum of metric scores / 28 x 20	6.43
	Species richness	4		
	Non-native/invasive infestation	3		
	Interspersion	2		
	Strata overlap	4		
	Herbaceous cover	4		
	Vegetation alterations	2		
Sum of core element scores = overall TXRAM wetland score				55.60
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				55.60

Representative Site Photograph:

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
 Wetland ID/Name: W118 WAA No.: 3 Size: 0.19 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 7 Representative: ☒ Yes ☐ No

Notes:

PSS located in historic drainage with no inflow or outflow (closed off by construction of excavated/bermed tanks along the S108/S114 stream system).

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 10 Score: 4

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-native Rangeland	0	100	0
2. Stock Tanks	Neutral	Not Counted	
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☐ Other: _____

Unnatural/Manipulated: ☒ Impoundment ☐ Outfall ☐ Irrigation/pumping ☒ Other artificial influence or control: Excavated tanks

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☒ Impoundment ☒ Other: Excavated tanks

Degree of artificial influence/control: ☐ Complete ☒ High ☐ Low ☐ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled Score: 2

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Temporary with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☐ Levees ☒ Impoundments ☒ Other: Excavated Tanks

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☐ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 2

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☐ Inlets: _____ ☐ Outlets: _____ ☐ Signs of water movement to or from WAA: _____

Restrictions: ☐ Levee ☒ Berm/dam ☐ Diversion ☒ Other: Excavated Tanks

High flowthrough: ☐ Floodplain ☐ Drift deposits ☐ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☐ High landscape position ☐ Stagnant water ☒ Closed contours ☐ Other: _____ Score: 1

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☒ Yes ☐ No Landscape position: ☐ High ☒ Low
 Magnitude of recent runoff/flooding events: ☐ High ☐ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 1 Evidence: ☒ Plant assemblages ☐ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: 0% of WAA (By EG: _____)
 Types: ☐ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☐ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 1**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☐ Moderate ☒ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.087 **Score: 3**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: K Total: 1 **Score: 1**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☐ 3 ☒ 2 ☐ 1 ☐ 0 **Score: 2**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 15 **Score: 4**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 5% **Score: 3**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☐ High ☐ Moderate ☒ Low ☐ None **Score: 2**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): _____% of WAA Moderate overlap (2 strata overlapping): 15% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 80% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 95% of WAA **Score: 4**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☒ > 75% ☐ 51–75% ☐ 26–50% ☐ ≤ 25% **Score: 4**

Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☐ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory ☒ ☐ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: 10% Severity of alteration: ☐ High ☒ Low
 Percent of WAA with past vegetation alteration: 50% Degree of recovery: ☐ Complete ☐ High ☒ Moderate ☐ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 2**

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
Wetland ID/Name: W115 WAA No.: 1 Size: 0.17 ac Date: 1/31/2012 Evaluator(s): Barrett Clark/Todd Schnakenberg
Wetland Type: PSS Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 08 Representative: ☒ Yes ☐ No
Notes: PSS wetland adjacent to stream S114. Although abutting S114, no distinct outflow feature observed.

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	4	Sum of metric scores / 8 x 20	17.50
	Buffer	0		
Hydrology	Water source	4	Sum of metric scores / 12 x 20	16.67
	Hydroperiod	4		
	Hydrologic flow	2		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	2	Sum of metric scores / 12 x 20	10.00
	Edge complexity	3		
	Physical habitat richness	1		
Biotic Structure	Plant strata	2	Sum of metric scores / 28 x 20	5.71
	Species richness	3		
	Non-native/invasive infestation	3		
	Interspersion	3		
	Strata overlap	4		
	Herbaceous cover	2		
	Vegetation alterations	0		
Sum of core element scores = overall TXRAM wetland score				64.88
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				64.88

Representative Site Photograph:

W115 (WAA 2) located left of photo.
Stream S114 located right of photo.
Facing northeast

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
 Wetland ID/Name: W115 WAA No.: 2 Size: 0.17 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 08 Representative: ☒ Yes ☐ No

Notes:

PSS wetland adjacent to stream S114. Although abutting S114, no distinct outflow feature observed.

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 10 Score: 4

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-native Rangeland	0	100	0
2. Stock Tanks	Neutral	Not Counted	
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☐ Other: _____

Unnatural/Manipulated: ☐ Impoundment ☐ Outfall ☐ Irrigation/pumping ☐ Other artificial influence or control: _____

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☐ Impoundment ☐ Other: _____

Degree of artificial influence/control: ☐ Complete ☐ High ☐ Low ☒ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled Score: 4

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Temporary with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☐ Levees ☐ Impoundments ☐ Other: _____

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☐ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 4

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☐ Inlets: _____ ☐ Outlets: _____ ☐ Signs of water movement to or from WAA: _____

Restrictions: ☐ Levee ☐ Berm/dam ☐ Diversion ☐ Other: _____

High flowthrough: ☐ Floodplain ☐ Drift deposits ☐ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☒ High landscape position ☐ Stagnant water ☐ Closed contours ☐ Other: _____ Score: 2

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☐ Yes ☒ No Landscape position: ☒ High ☐ Low
 Magnitude of recent runoff/flooding events: ☐ High ☐ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 1 Evidence: ☒ Plant assemblages ☐ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: 15% of WAA (By EG: _____)
 Types: ☒ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☐ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 2**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☐ Moderate ☒ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.059 **Score: 3**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: K Total: 1 **Score: 1**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☐ 3 ☒ 2 ☐ 1 ☐ 0 **Score: 2**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 6 **Score: 3**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 1% **Score: 3**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☐ High ☒ Moderate ☐ Low ☐ None **Score: 3**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): _____% of WAA Moderate overlap (2 strata overlapping): 55% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 40% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 95% of WAA **Score: 4**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☐ > 75% ☐ 51–75% ☒ 26–50% ☐ ≤ 25% **Score: 2**

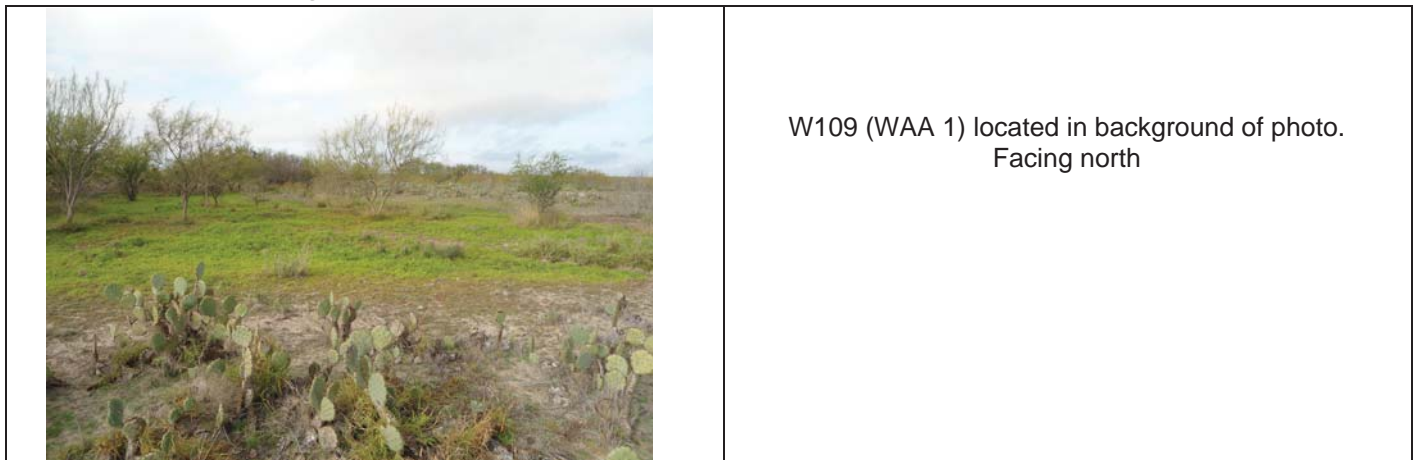
Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☐ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory ☒ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: 75% Severity of alteration: ☐ High ☐ Low
 Percent of WAA with past vegetation alteration: 75% Degree of recovery: ☐ Complete ☐ High ☐ Moderate ☒ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 0**

TXRAM WETLAND FINAL SCORING SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
Wetland ID/Name: W109 WAA No.: 1 Size: 0.19 ac Date: 1/31/2012 Evaluator(s): B.Clark/T.Schnakenberg
Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 06 Representative: ☒ Yes ☐ No
Notes: PSS wetland within a drainage (S108) that provides inflow and outflow.

Core Element	Metric	Metric Score	Core Element Score Calculation	Core Element Score
Landscape	Connectivity	4	Sum of metric scores / 8 x 20	20.00
	Buffer	0		
Hydrology	Water source	2	Sum of metric scores / 12 x 20	11.67
	Hydroperiod	2		
	Hydrologic flow	3		
Soils	Organic matter	1	Sum of metric scores / 12 x 20	15.00
	Sedimentation	4		
	Soil modification	4		
Physical Structure	Topographic complexity	1	Sum of metric scores / 12 x 20	8.33
	Edge complexity	3		
	Physical habitat richness	1		
Biotic Structure	Plant strata	2	Sum of metric scores / 28 x 20	7.14
	Species richness	4		
	Non-native/invasive infestation	4		
	Interspersion	2		
	Strata overlap	2		
	Herbaceous cover	2		
	Vegetation alterations	2		
Sum of core element scores = overall TXRAM wetland score				62.14
Additional points for unique resources = overall TXRAM wetland score x 0.10 if: <input type="checkbox"/> Area of Caddo Lake designated a “Wetland of International Importance” under the Ramsar Convention <input type="checkbox"/> Bald cypress – water tupelo swamp <input type="checkbox"/> Pitcher plant bog <input type="checkbox"/> Spring				
Additional points for limited habitats = overall TXRAM wetland score x 0.05 if: <input type="checkbox"/> Dominated by native trees greater than 24-inch diameter at breast height <input type="checkbox"/> Dominated by hard mast (i.e., acorns and nuts) producing native species in the tree strata				
Sum of overall TXRAM wetland score and additional points = total overall TXRAM wetland score				62.14

Representative Site Photograph:

TXRAM WETLAND DATA SHEET

Project/Site Name/No.: Pescadito Environmental Resource Center Project Type: ☒ Fill/Impact ☐ Linear ☒ Non-linear ☐ Mitigation/Conservation
 Wetland ID/Name: W109 WAA No.: 1 Size: 0.19 ac Date: 1/31/2012 Evaluator(s): B. Clark/T. Schnakenberg
 Wetland Type: Depressional Ecoregion: South Texas Plains Delineation Performed: ☒ Previously ☐ Currently
 Aerial Photo Date and Source: 2008 NC from NAIP (TNRIS) Site Photos: 06 Representative: ☒ Yes ☐ No

Notes:

PSS wetland within a drainage (S108) that provides inflow and outflow.

LANDSCAPE

Connectivity – Confirm in office review. See figures in section 2.3.1.1 for examples.

Notes on any barriers or alterations that prevent connectivity: _____

Aquatic resources within 1,000 feet of WAA to which wetland connects (including number for other considerations): 9 Score: 4

Buffer – Evaluate to 500 feet from WAA boundary. Confirm in office review. See figures in section 2.3.1.2 for examples.

Buffer Type/Description	Score (See Narratives)	Percentage	Subtotal
1. Intensive Native/Non-native Rangeland	0	100	0
2. Stock Tanks	Neutral	Not Counted	
3.			
4.			
5.			

Score: 0

HYDROLOGY

Water Source – Degree of natural or unnatural/artificial influence. Confirm in office review for watershed.

Natural: ☒ Precipitation ☐ Groundwater ☐ Overbank flow/stream discharge ☒ Overland flow ☐ Beaver activity ☐ Other: _____

Unnatural/Manipulated: ☒ Impoundment ☐ Outfall ☐ Irrigation/pumping ☒ Other artificial influence or control: Excavated Tanks

Watershed: ☐ Development ☐ Irrigated agriculture ☐ Wastewater treatment plant ☒ Impoundment ☒ Other: Excavated Tanks

Degree of artificial influence/control: ☐ Complete ☒ High ☐ Low ☐ None

Wetland created/restored/enhanced: ☐ Sustainable/replicates natural ☐ Controlled Score: 2

Hydroperiod – Variability and recent alteration of the duration, frequency, and magnitude of inundation/saturation.

Evaluate the hydroperiod including natural variation: Temporary with low frequency and high variability

Direct evidence of alteration: Natural: ☐ Log-jam ☐ Channel migration ☐ Other: _____

Human: ☐ Diversions ☐ Ditches ☐ Levees ☒ Impoundments ☒ Other: Excavated Tanks

Riverine only: ☐ Recent channel in-stability/dis-equilibrium (☐ Degradation or ☐ Aggradation)

Indirect evidence of alteration: ☐ Wetland plant stress: _____ ☐ Plant morphology: _____

☐ Upland species encroachment: _____ ☐ Plant Community: _____ ☐ Soil: _____

Change/Alteration of hydroperiod: ☒ None ☐ Due to natural events ☐ Human influences (☐ Slight or ☐ High)

Degree hydroperiod of wetland created/restored/enhanced replicates natural patterns: _____

Lacustrine fringe on human impoundment: ☐ High variability ☐ Low variability ☐ Recent changes to hydroperiod Score: 2

Hydrologic Flow – Movement of water to or from surrounding area and openness to water moving through the WAA.

Flow: ☒ Inlets: 1 ☐ Outlets: 1 ☐ Signs of water movement to or from WAA: _____

Restrictions: ☐ Levee ☒ Berm/dam ☐ Diversion ☒ Other: Excavated Tanks

High flowthrough: ☐ Floodplain ☐ Drift deposits ☐ Drainage patterns ☐ Sediment deposits ☐ Other: _____

Low flowthrough: ☐ High landscape position ☐ Stagnant water ☐ Closed contours ☐ Other: _____ Score: 3

SOILS

Organic Matter – Use data and indicators from wetland determination data form(s) based on applicable regional supplement.

☐ High (organic soil or indicator A1, A2, A3)

☐ Moderate (indicator A9, S1, F1 in AW or A9, S1, S2, F1 in GP or A6, A7, A9, S7, F13 in AGCP)

☐ Low (indicated by thin organic or organic-mineral layer) ☒ None observable in surface layer as described herein Score: 1

Sedimentation – Deposition of excess sediment due to human actions. Confirm in office review for landscape.

Landscape with stress that could lead to excess sedimentation? ☒ Yes ☐ No Landscape position: ☐ High ☒ Low
 Magnitude of recent runoff/flooding events: ☐ High ☒ Low Percent of WAA with excess sediment deposition: 0
☐ Sand deposits: _____% of area, _____ average thickness ☐ Silt/Clay deposits: _____% of area, _____ average thickness
 Lacustrine fringe only: ☐ Upper end of impoundment ☐ Degrades wetland ☐ Contributes to wetland processes **Score: 4**

Soil Modification – Physical changes by human activities. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Farming R/P ☐ Logging R/P ☐ Mining R/P ☐ Filling R/P
☐ Grading R/P ☐ Dredging R/P ☐ Off-road vehicles R/P ☐ Other R/P: _____
 Percent of WAA with recent soil modification: 0% Degree of modification: ☐ High ☐ Low
 Indicators of past modification: ☐ High bulk density ☐ Low organic matter ☐ Lack of soil structure ☐ Lack of horizons ☐ Hardpan
☐ Dramatic change in texture/color ☐ Heterogeneous mixture ☐ Other: _____
 Indicators of recovery: ☐ Organic matter ☐ Structure ☐ Horizons ☐ Mottling ☐ Hydric soil ☐ Other: _____
 Percent of WAA with past modification: 0% Recovery: ☐ Complete ☐ High ☐ Moderate ☐ Low ☐ None **Score: 4**

PHYSICAL STRUCTURE**Topographic Complexity – See figures in section 2.3.4.1. Record % micro-topography and % WAA for each elevation gradient.**

Elevation gradients (EG): 1 Evidence: ☒ Plant assemblages ☐ Level of saturation/inundation ☐ Path of water flow ☒ Slope
 Micro-topography: 0% of WAA (By EG: _____)
 Types: ☐ Depressions ☐ Pools ☐ Burrows ☐ Swales ☐ Wind-thrown tree holes ☐ Mounds ☐ Gilgai ☐ Islands
☐ Variable shorelines ☐ Partially buried debris ☐ Debris jams ☐ Plant hummocks/roots ☐ Other: _____ **Score: 1**

Edge Complexity – Confirm in office review. See figure in section 2.3.4.2 to evaluate wetland-to-upland boundary.

Variability: ☐ High ☐ Moderate ☒ Low ☐ None Edge (feet) to Area (square feet) ratio: 0.078 **Score: 3**

Physical Habitat Richness – See definitions and table in section 2.3.4.3 for habitat types applicable to each wetland type.

Label of habitat types qualifying as present in WAA: C, K Total: 2 **Score: 1**

BIOTIC STRUCTURE**Plant Strata – Use applicable wetland delineation regional supplement and data from determination data form(s).**

Number of plant strata: ☐ ≥ 4 ☐ 3 ☒ 2 ☐ 1 ☐ 0 **Score: 2**

Species Richness – Use data from determination data form(s) to count species with 5% or more relative cover in a stratum.

Number of species across all strata and determination data forms (not counting a species more than once): 8 **Score: 4**

Non-Native/Invasive Infestation – Use data from determination data form(s). See tables in section 2.3.5.3 for examples.

Average total relative cover of non-native/invasive species across all strata and determination data forms: 0% **Score: 4**

Interspersion – Confirm in office review. Use figure in section 2.3.5.4 to determine the degree of interspersion of plant zones.

Degree of horizontal/plan view interspersion: ☐ High ☐ Moderate ☒ Low ☐ None **Score: 2**

Strata Overlap – Use strata defined in plant strata metric using applicable regional supplement. See figures in section 2.3.5.5.

High overlap (≥ 3 strata overlapping): _____% of WAA Moderate overlap (2 strata overlapping): 5% of WAA
 Herbaceous species/dense litter overlap (only in portion where there are no other strata overlapping): 40% of WAA
 Total percentage of WAA with some form of overlap (if more than one present): 45% of WAA **Score: 2**

Herbaceous Cover – Estimate for entire WAA.

Total cover of emergent and submergent plants: ☐ > 75% ☐ 51–75% ☒ 26–50% ☐ ≤ 25% **Score: 2**

Vegetation Alterations – Unnatural (human-caused) stressors. Confirm in office review for past.

Type (Check those applicable and circle R for recent or P for past): ☐ Disking R/P ☐ Mowing/shredding R/P ☐ Logging R/P
☐ Cutting R/P ☒ Trampling R/P ☐ Herbicide treatment R/P ☒ Herbivory R/P ☐ Disease R/P ☐ Chemical spill R/P
☐ Pollution R/P ☐ Feral hog rooting R/P ☐ Woody debris removal R/P ☐ Other R/P: _____
 Percent of WAA with recent vegetation alteration: _____% Severity of alteration: ☐ High ☒ Low
 Percent of WAA with past vegetation alteration: 100% Degree of recovery: ☐ Complete ☐ High ☒ Moderate ☐ Low
☐ Alteration to improve wetland (degree of natural community recovery): _____ **Score: 2**

Attachment F
Biological Evaluations for Pescadito
Environmental Resource Center

BIOLOGICAL EVALUATION FOR PESCADITO ENVIRONMENTAL RESOURCE CENTER, WEBB COUNTY, TEXAS

**Prepared For: Rancho Viejo Waste Management, LLC
Webb County, Texas**

**Prepared By: TRC Environmental Corporation
Austin, Texas**



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BIOLOGICAL EVALUATION FOR PESCADITO ENVIRONMENTAL RESOURCE CENTER, WEBB COUNTY, TEXAS

Submitted By:

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August 2011

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1.0 INTRODUCTION

Rancho Viejo Waste Management, LLC owns a 1,110-acre tract of land (site) about 20 miles east of Laredo in Webb County, Texas and proposes to establish a solid waste management facility on this site. The proposed facility would be known as Pescadito Environmental Resource Center (PERC). The site is ideally located for such a facility because of the favorable soil and geological conditions, its isolation from usable groundwater, absence of neighbors or potentially conflicting land uses, and transportation access. The site is located entirely within a ranch of about 12,000 acres that is owned by Rancho Viejo Cattle Company, Ltd and is known as Yugo Ranch. This ranch has been family-owned for generations, and has been used for cattle ranching and oil and gas production for many years. The owners of Yugo Ranch support the development of PERC and propose to undertake solid waste management and landfill disposal as the next stage in land use at the site.

A field reconnaissance survey was conducted by TRC Environmental Corporation (TRC) on November 2 and 3, 2009 to identify areas that would need further wetland delineations and to assess habitat suitability for threatened and endangered (T&E) species in the project area. The field reconnaissance was used to determine general vegetation and soil types present in the study area.

Based on the results of the field reconnaissance survey, a presence/absence survey for ashy dogweed (*Thymophylla tephroleuca*) and Johnston's frankenia (*Frankenia johnstonii*) was conducted for the project area from March 29 to 31, 2011 (Appendix A). In addition, a wetland delineation survey was conducted for the project area from April 18 to 21, 2011.

This Biological Evaluation (BE) was prepared in support of the application for a Municipal Solid Waste (MSW) permit to summarize the results of the natural resources field surveys, including wetlands and T&E species habitat evaluations.

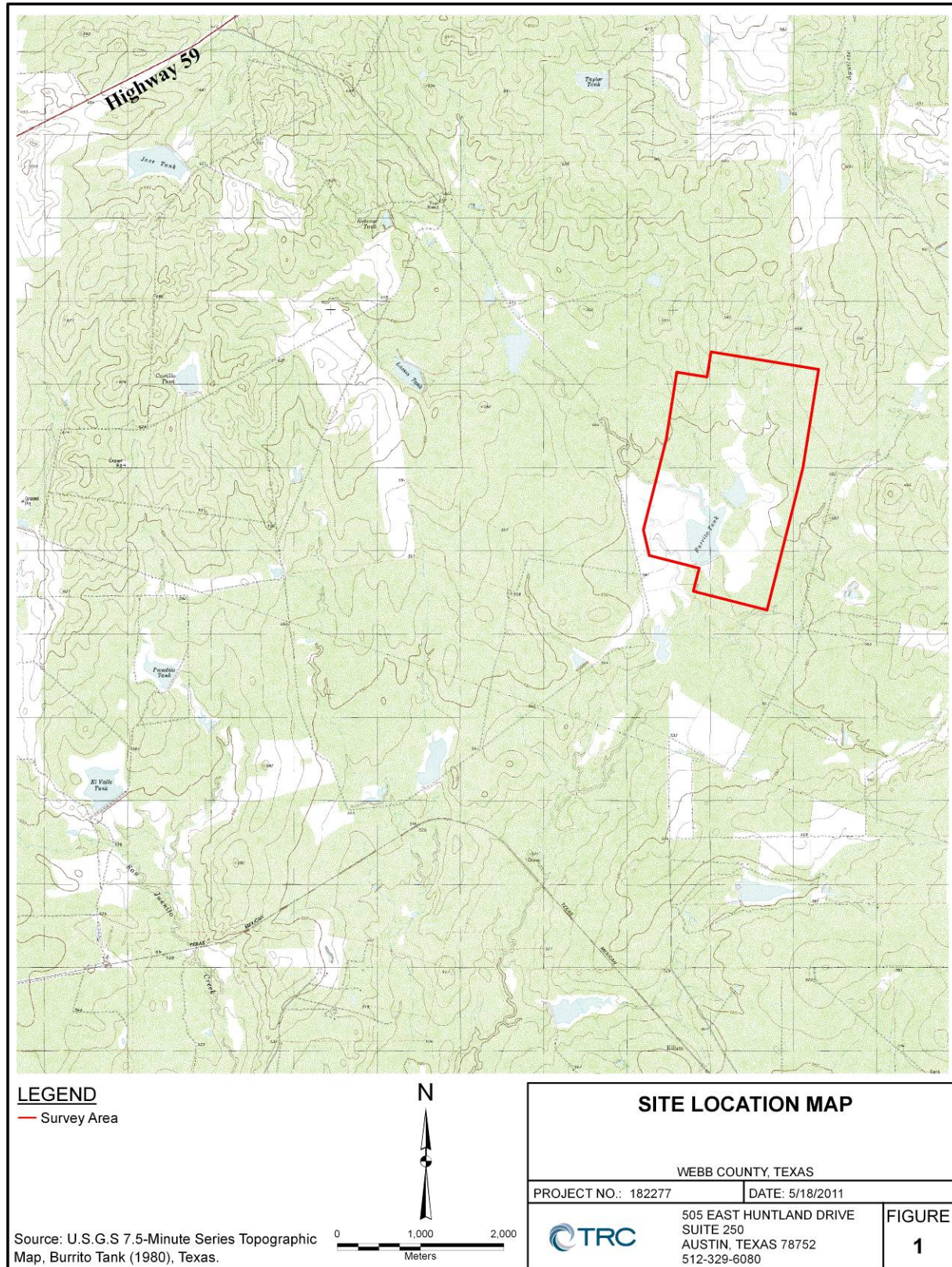


Figure 1. Project Location Map – Webb County.

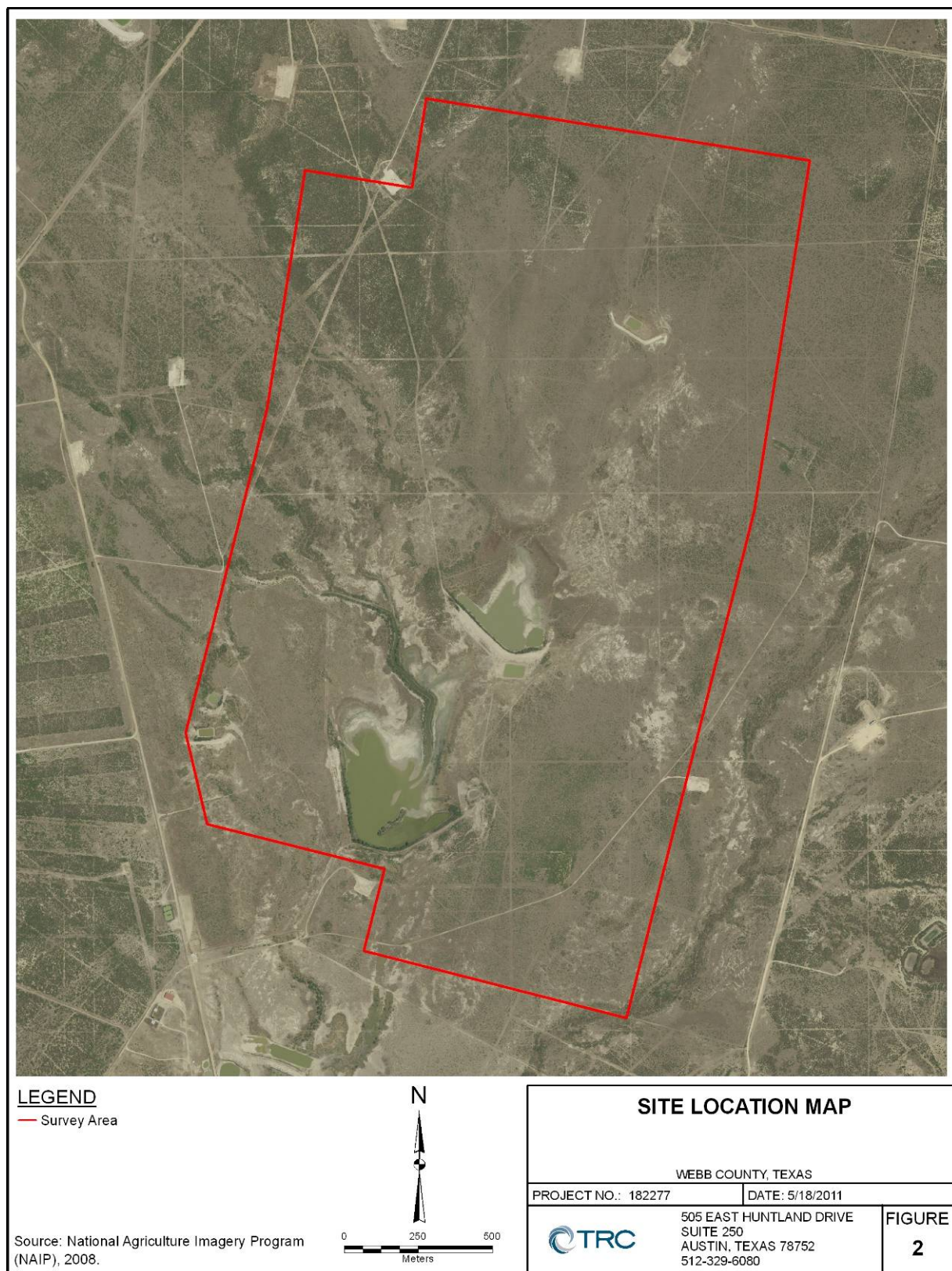


Figure 2. Survey Area Map.

2.0 PROJECT DESCRIPTION

PERC would be a comprehensive waste management facility that would provide municipal and industrial solid waste landfill disposal, processing of recyclable materials to extract reusable commodities, processing of liquid wastes from grease and grit traps, and disposal of liquid waste from the oilfield in an injection well. The largest part of the site would be devoted to a landfill of up to approximately 900 acres. Current estimates put the potential landfill volume at about 450 million cubic yards, with a potential waste disposal capacity of about 335 million tons. The actual capacity of the PERC landfill would be determined by its final design and permit, when issued.

The landfill would be designed and permitted as a Type I MSW landfill that would accept essentially all categories of MSW and Class 2 and 3 industrial solid wastes, and certain types of Class 1 non-hazardous wastes. The landfill would be designed for recirculation of leachate and for recovery of landfill gas for beneficial use. Because the site area already contains many natural gas wells, it is expected that landfill gas would be processed and/or scrubbed as it is generated to produce gas of suitable quality, and then metered and introduced into the nearby existing gas gathering system. Other facilities planned for the site include a material recovery facility (clean MRF) to process co-mingled recyclables, such as those collected in single-stream curbside collection programs that have become popular in many cities in the U.S. The clean MRF would process these recyclable materials to separate them into various commodities for sale. Potentially, a MRF for electronic waste (e-waste) may also be established at the site.

3.0 VEGETATION

3.1 REGIONAL VEGETATION

The site is located within the Texas-Tamaulipan Thornscurb component of the South Texas Plains Ecological Region of Texas (Griffith & Omernik, 2009). Comprised of mostly gently rolling or irregular plains, the region is cut by arroyos and streams, and covered with low-growing vegetation. Overgrazing, fire suppression and droughts have contributed to the spread of brush and the decrease of grasses. Soils are varied and complex, highly alkaline to slightly acidic, ranging from deep sands to clays and clay loams. Caliche outcroppings and gravel ridges are common. The vegetation is dominated by drought-tolerant, mostly small leaved, and often thorn-laden small trees and shrubs, especially legumes. The most dominant woody species is honey mesquite (*Prosopis glandulosa*). Where conditions are suitable, there is a dense understory of smaller trees and shrubs such as Texas persimmon (*Diospyros texana*), lotebush (*Ziziphus obtusifolia*), kidneywood (*Eysenhardtia* sp.), paloverde (*Parkinsonia texana*), anacahuita (*Cordia boissieri*), and various species of cacti. Xerophytic brush species, such as blackbrush (*Acacia rigidula*), and guajillo (*Acacia berlandieri*) are typical on the rocky, gravelly ridges and uplands. Mid and short grasses are common, including cane bluestem (*Bothriochloa barbinodis*), silver bluestem (*Bothriochloa laguroides*), sideoats grama (*Bouteloua curtipendula*), pink pappusgrass (*Pappophorum bicolor*), bristlegrass (*Setaria* sp.), lovegrasses (*Eragrostis* sp.), and tobosa (*Pleuraphis mutica*) (Gould, 1975).

3.2 VEGETATION WITHIN THE PROJECT AREA

Vegetation communities within the project area were evaluated during the November 2009 field reconnaissance survey, the March 2011 wetlands delineation survey, and the April 2011 presence/absence survey. The majority of land within and around the project area consists of rangeland. Overall range conditions of the project area were extremely dry from drought and severely overgrazed, with some areas mechanically altered by root-plowing or similar clearing methods in the past. Severe overgrazing was observed throughout nearly all of the project survey area, making identification of some vegetation (e.g., herbaceous species) impossible. Soil compaction, likely a result of the presence of cattle, was also observed in many areas. Large areas of bare ground were present, including notably absent herbaceous cover across much of the project area. Many areas within the project area have been or currently are being used for oil and gas activities. A photographic log of the project area is located in Appendix B.

Vegetation classifications for the project area are adapted from Diamond (1993) and the 1996 National Vegetation Classification System used by the U.S. Fish and Wildlife Service (USFWS) and Texas Parks and Wildlife Department (TPWD). Additional information was provided by the vegetation inventories of Texas by Correll and Johnston (1979) and Taylor et al. (1994). Based on literature review and information acquired during field surveys, woodland/thornscrub, wetland, and riparian vegetation communities were identified within the project area. Other areas such as open water and developed land were identified within the project area.

3.2.1 Woodland/Thornscrub Associations

The woodland/thornscrub communities occur over well- to moderately well drained soils. Most of these communities are highly disturbed, severely overgrazed, and altered as a result of root-plowing or similar clearance methods in the past. Portions of the woodland/thornscrub communities were relatively undisturbed and consisted of dense, woody vegetation, although most of the herbaceous vegetation within these areas has been disturbed from overgrazing; these areas are located within the Aguilares fine sandy loam soil map unit. Vegetation density was variable across the woodland/thornscrub communities. The dominant landscape feature in many areas consisted of bare ground while some areas exhibited higher vegetation density, such as along drainages and swales.

Observed woody species within the Aguilares fine sandy loam woodland/thornscrub communities include honey mesquite, dwarf screw-bean mesquite (*Prosopis reptans*), common goldenweed (*Isocoma coronopifolia*), knife-leaf condalia (*Condalia spathulata*), desert yaupon (*Schaefferia cuneifolia*), guayacan (*Guaiacum angustifolium*), allthorn (*Koeberlinia spinosa*), lotebush, oreja de perro (*Tiquilia canescens*), blackbrush, whitebrush (*Aloysia gratissima*), saladillo (*Varilla texana*), coma (*Sideroxylon celastrinum*), creosote (*Larrea tridentata*), Tulipan del monte (*Hibiscus martianus*), goat-bush (*Castela texana*), orange zexmenia (*Wedelia texana*), paloverde, guajillo, coppery false fanpetals (*Billieturnera helleri*), leather stem (*Jatropha dioica*), and popote (*Ephedra antisiphilitica*).

Observed cacti species included Texas prickly pear (*Opuntia engelmannii*), tasajillo (*Opuntia leptocaulis*), dog cholla (*Opuntia schottii*), pitaya (*Echinocereus enneacanthus*), rat-tail cactus (*Wilcoxia poselgeri*), horse cripper (*Echinocactus texensis*), nipple cactus (*Mammillaria heyderi*), Berlandier's alicocha (*Echinocereus berlandieri*), Fitch's hedgehog cactus (*Echinocereus reichenbachii* var. *fitchii*), and root cactus (*Ancistrocactus scheeri*). Observed herbaceous species within the Aguilares fine sandy loam woodland/thornscrub communities include sueada (*Sueada* sp.), Dahlberg daisy (*Thymophylla tenuiloba*), and buffelgrass (*Pennisetum ciliare*).

The disturbed woodland/thornscrub communities located across the remaining areas of the project area were dominated by honey mesquite, Texas prickly pear, and saladillo, species that typically dominate areas that have been root-plowed. Other observed woody species included, dwarf screw-bean mesquite, blackbrush, lotebush, common goldenweed, goat-bush, coppery false fanpetals, desert yaupon, guayacan, allthorn, white brush, knife-leaf condalia, leather stem, sueada, rough agave (*Agave scabra*), snake-eyes (*Phaulothamnus spinescens*), twisted acacia (*Acacia schaffneri*), Texas broomweed (*Gutierrezia texana*), palma pita (*Yucca treculeana*), and sea ox-eye daisy (*Borrchia frutescens*). Other observed cacti species included Texas prickly pear, tasajillo, pitaya, Fitch's hedgehog cactus, horse cripper, nipple cactus, longmamma nipple cactus (*Mammillaria sphaerica*), and miniature barrel cactus (*Thelocactus setispinus*).

3.2.2 Riparian and Wetland Vegetation Associations

TRC conducted a wetland delineation on April 18 through 21, 2011 to determine the jurisdictional status and location of wetlands within the project area. Wetlands and waterbodies within the project area were identified and characterized in the Waters of the U.S. Delineation Report (Appendix C). Figures presenting wetlands and waterbodies located within the project area are included in the Waters of the U.S. Delineation Report.

The wetland delineation was conducted by qualified TRC wetland scientists within the project area in April 2011, using methods described in the U.S. Army Corps of Engineers (USACE) *Wetlands Delineation Manual* (USACE and Environmental Laboratory, 1987). Methods used are consistent with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (USACE, 2010). The project spatial boundaries were confirmed by aerial photograph interpretation and initial site reconnaissance. The survey area was then examined for the presence of atypical situations via site reconnaissance to identify any recent and sufficient natural or human-induced alteration that may have significantly changed the area vegetation, soils, and/or hydrology.

Wetlands within the project area can be classified into two systems: palustrine and riverine. Palustrine systems are all nontidal wetlands dominated by trees, shrubs, and other vegetation. Small palustrine systems associated with low-lying areas, including former levee borrow sites, exist in the survey area. Riverine systems are all wetlands and deepwater habitats within a river channel. Small riverine systems associated with ephemeral streams exist in the survey area.

Waterbodies within the survey area are primarily associated with impounded or excavated stock ponds of various sizes and the small riverine systems within channels along ephemeral streams. Some of these riverine systems are associated with riparian vegetation, which is restricted to an area approximately 10 to 15 feet beyond the ordinary high water mark. Most other ephemeral streams support upland vegetation.

3.2.3 Ephemeral Streams

Riparian vegetation within the survey area is associated primarily with ephemeral streams and includes native and non-native woody and herbaceous vegetation. Common riparian species included retama (*Parkinsonia aculeata*), twisted acacia, saltcedar (*Tamarix ramosissima*), honey mesquite, Mexican devil-weed (*Aster spinosus*), Texas prickly pear, rattlebox (*Sesbania drummondii*), smallhead sneezeweed (*Helenium microcephalum*), and gulf cordgrass (*Spartina spartinae*). The ephemeral streams that flow into the two, large, centrally located stock tanks are bounded by constructed levees, which enhance flow into the stock tanks.

3.2.4 Emergent Wetland

One palustrine, emergent wetland is situated between the two, large, centrally located stock tanks and is encircled by a scrub-shrub wetland. The palustrine, emergent wetland is dominated by herbaceous vegetation including Bermudagrass (*Cynodon dactylon*), smallhead sneezeweed, salt heliotrope (*Heliotropium curassavicum*), hierba del sapo (*Eringium heterophyllum*), and Plains coreopsis (*Coreopsis tinctoria*). Stunted, woody species including saltcedar, Mexican devil-

weed, rattlebox, and Carolina wolfberry (*Lycium carolinianum*) are scattered in some areas of the wetland.

3.2.5 Scrub-Shrub Wetland

Seven palustrine, scrub-shrub wetlands are located within the project survey area. These wetlands are dominated by woody vegetation including retama, twisted acacia, saltcedar, Mexican devil-weed, sea ox-eye daisy, and rattlebox. Observed herbaceous vegetation includes smallhead sneezeweed, gulf cordgrass, and Bermudagrass. Carolina wolfberry and occasionally gulf cordgrass typically dominated the broad boundaries of the wetlands and often extended from within the limits of the wetlands into adjacent upland habitats.

3.2.6 Open Water

Waterbodies within the project area are associated with constructed stock tanks for cattle. Nine stock tanks were identified on the project area. Numerous erosional gullies are also located throughout the project survey area and are primarily a result of construction of the stock tanks. Species recorded near the stock tanks, upland swales, and other low lying features within uplands included smallhead sneezeweed, Plains coreopsis, bearded dalea (*Dalea pogonantha*), Carolina wolfberry, retama, and Gregg keelpod (*Synthlipsis greggii*). Observed herbaceous species included jicamilla (*Jatropha cathartica*), bitterweed (*Hymenoxys odorata*), whorled dropseed (*Sporobolus pyramidatus*), red grama (*Bouteloua trifida*), and buffelgrass.

4.0 WILDLIFE

4.1 REGIONAL WILDLIFE

Common wildlife species in the region include whitetail deer, turkey, javelina, bobwhite quail, scaled quail, white-winged dove, mourning dove, cottontail rabbit, jackrabbit, various waterfowl species, and many species of nongame birds. The region also provides important wintering habitat for thousands of migratory birds including many species of passerines and raptors. In addition, a number of unique and rare animals occur in the region. Many of the terrestrial wildlife species in the project area are limited in their distribution either partially or entirely to the Tamaulipan Biotic Province.

4.2 FEDERALLY LISTED THREATENED AND ENDANGERED SPECIES

The potential for T&E species habitat within the project area was evaluated based on a November 2009 field reconnaissance survey conducted by TRC, as well as information and data obtained on habitat requirements of T&E species potentially occurring in the area. Sources of information included T&E species lists published by natural resource agencies and scientific literature.

The Texas Natural Diversity Database (TxNDD), which is maintained by TPWD, was reviewed in order to assess the potential for federal T&E species to occur within the vicinity of the project area. Data from the TxNDD do not provide a definitive statement as to the presence, absence, or condition of special status species, natural communities, or other significant features within a project area. The TxNDD database was accessed to obtain a report detailing the Elements of Occurrence for listed species within the Burrito Tank Quadrangle and all adjoining quadrangles. There were two occurrence records for the federally listed Johnston's frankenia approximately 13 miles west and northwest of the project area.

Based on the results of the field reconnaissance survey, a presence/absence survey for ashy dogweed and Johnston's frankenia was conducted for the project area from March 29 to 31, 2011. No federally listed T&E species were observed during the March and April 2011 surveys.

4.2.1 Status and Life History of Potentially Impacted Federally Listed Species

Five federally listed threatened or endangered species potentially occur in Webb County (USFWS, 2011). These include the jaguarundi (*Herpailurus yaguarondi*), ocelot (*Leopardus pardalis*), least tern (*Sternula antillarum*), ashy dogweed and Johnston's frankenia.

No federally listed T&E species were observed during the November 2009, March 2011 or April 2011 surveys. Brief natural histories and habitat requirements are provided in Table 1 for federally listed species potentially occurring within the project area.

Table 1: Federally Listed Threatened and Endangered Species with Potential to Occur in Webb County

Species Common Name	Scientific Name	USFWS ¹	Preferred Habitat in South Texas
WILDLIFE			
Least tern	<i>Sternula antillarum</i>	LE	nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony
Gulf Coast jaguarundi	<i>Herpailurus yagouaroundi cacomitli</i>	LE	thick brushlands, near water favored; 60 to 75 day gestation, young born sometimes twice per year in March and August, elsewhere the beginning of the rainy season and end of the dry season
Ocelot	<i>Leopardus pardalis</i>	LE	dense chaparral thickets; mesquite-thorn scrub and live oak mottes; avoids open areas; breeds and raises young June-November
PLANTS			
Ashy dogweed	<i>Thymophylla tephroleuca</i>	LE	Texas endemic; grasslands with scattered shrubs; most sites on sands or sandy loams on level or very gently rolling topography over Eocene strata of the Laredo Formation
Johnston's frankenia	<i>Frankenia johnstonii</i>	LE	dwarf shrublands on strongly saline, highly alkaline, calcareous or gypseous, clayey to sandy soils of valley flats or rocky slopes; mapped soils at many sites are of the Catarina and/or Maverick Series, other mapped soils include Copita, Brennan, Zapata, and Montell series; most sites are underlain by Eocene sandstones and clays of the Jackson Group or the Yegua and Laredo formations; a few are underlain by El Pico clay or the Catahoula and Frio formations shrublands
¹ - USFWS: LE = endangered			Source: USFWS 2011

4.2.2 Least Tern

The least tern is a federally and state-listed endangered species in Webb County (TPWD, 2011). The nesting habitat of the least tern includes bare or sparsely vegetated sand, sandbars, islands, and salt flats associated with rivers and reservoirs (TPWD, 2009). They prefer open habitat, and tend to avoid thick vegetation and narrow beaches (TPWD, 2009). Distribution of least terns is generally restricted to the less altered and more natural or little disturbed river segments within major river systems (TPWD, 2009). According to TPWD (2009), channelization, irrigation, and the construction of reservoirs have contributed to the loss of much of the least tern's natural nesting habitat in the major river systems of the Midwest.

4.2.3 Jaguarundi

The jaguarundi is a federally and state-listed endangered species in Webb County (TPWD, 2011). The habitat of the jaguarundi includes dense thornscrub with greater than 95 percent canopy cover (TPWD, n.d.(a)). Habitat loss and fragmentation from agriculture and development, especially along the Rio Grande, are the primary causes of population decline (TPWD, n.d.(a)).

4.2.4 Ocelot

The ocelot is a federally and state-listed endangered species in Webb County (TPWD, 2011). This species is found from the southern tip of Texas to Arizona and northern Mexico into northern Argentina, Paraguay, and Uruguay (TPWD, n.d.(b)). The habitat of the ocelot is similar to that of the jaguarundi and includes dense thornscrub with greater than 95 percent canopy cover (TPWD, n.d.(b)). Habitat loss and fragmentation from agriculture and development, especially along the Rio Grande, are the primary causes of population decline (TPWD, n.d.(b)).

4.2.5 Ashy Dogweed

Ashy dogweed is a federally and state-listed endangered plant species in Webb County (TPWD, 2011). This species is an herbaceous perennial that occupies sandy pockets of Maverick-Catarina, Copita-Zapata and Nueces-Comita soils in Webb and Zapata counties (TPWD, n.d.(c)).

4.2.6 Johnston's Frankenia

Johnston's frankenia is a federally and state-listed endangered species in Webb County (TPWD, 2011). This species is a small shrub that occupies pockets of highly saline soils, particularly in the Maverick soil series (TPWD, n.d.(d)). Populations of Johnston's frankenia are clumped, and tend to occur within openings in the blackbrush dominated brushlands (TPWD, n.d.(d)).

4.2.7 Effects of the Proposed Project on Federally Listed Species

The project area has been significantly disturbed in the past due to ranching and oil and gas activities. There is no designated or proposed critical habitat in the project area. The proposed project would eventually convert approximately 900 acres of the survey area into a landfill over

a period of several decades. Construction activities associated with redirecting surface flow to remove the project area from the existing floodplain would result in conversion of ephemeral streams and wetlands into upland habitat. Anticipated permitting requirements with the USACE would include mitigation for jurisdictional streams and wetlands. Based on the lack of preferred habitat within the project and the degree and frequency of disturbances from ranching and oil and gas activities, it is determined that the proposed project is not likely to adversely affect least tern, jaguarundi, and ocelot. Based on the absence of ashy dogweed and Johnston's frankenia within the project area (Appendix A), it is determined that the proposed project would have no affect on these species.

The following detailed species descriptions outline potential impacts associated with the proposed project to federally listed species potentially present in the project area.

4.2.8 Least Tern

Construction activities associated with redirecting surface flow to remove the project area from the existing floodplain would result in conversion of ephemeral streams and wetlands within the project area to upland habitat. Landfill operations would eventually result in the removal of all current vegetation in the project area. Areas around the existing stock tanks contain suitable soils and lack of vegetation preferred by least terns (TPWD, 2009). However, the project area does not contain the preferred riverine habitat preferred by least terns (TPWD, 2009). The nearest suitable riverine system would be the Rio Grande, located approximately 20 miles to the southwest. In addition, frequent disturbance by cattle around the existing stock tanks is likely to deter least terns from nesting. Anticipated permitting requirements with the USACE would include mitigation for jurisdictional streams and wetlands. Due to the lack of preferred habitat, the proposed project is not likely to adversely affect this species.

4.2.9 Jaguarundi

Landfill operations would eventually result in the removal of all current vegetation in the project area. The majority of the project area is open ranchland. An area in the northwest portion of the site contains denser vegetation however the density and canopy cover is not sufficient to be considered preferred habitat for jaguarundi. Due to the lack of preferred habitat, the proposed project is not likely to adversely affect this species.

4.2.10 Ocelot

Landfill operations would eventually result in the removal of all current vegetation in the project area. The majority of the project area is open ranchland. An area in the northwest portion of the site contains denser vegetation however the density and canopy cover is not sufficient to be considered preferred habitat for ocelot. Due to the lack of preferred habitat, the proposed project is not likely to adversely affect this species.

4.2.11 Ashy Dogweed

Landfill operations would eventually result in the removal of all current vegetation in the project area. A presence/absence survey for ashy dogweed was conducted in all areas with suitable soils

within the project area (Appendix A). No ashy dogweed was observed. Due to the absence of ashy dogweed within the project area, the proposed project would not affect this species.

4.2.12 Johnston's Frankenia

Landfill operations would eventually result in the removal of all current vegetation in the project area. A presence/absence survey for Johnston's frankenia was conducted in all areas with suitable soils within the project area (Appendix A). No Johnston's frankenia was observed. Due to the absence of Johnston's frankenia within the project area, the proposed project would not affect this species.

4.3 STATE-LISTED SPECIES

4.3.1 Potentially Impacted State-Listed Species

Twenty-three state-listed T&E species have potential to occur within Webb County (TPWD 2011). However, the gray wolf and Rio Grande silvery minnow are considered extirpated from Texas. Table 2 presents state-listed species potentially found in Webb County. The TxNDD was reviewed in order to assess the potential for state T&E species to occur within the vicinity of the project area. Data from the TxNDD do not provide a definitive statement as to the presence, absence, or condition of special status species, natural communities, or other significant features within a project area. The TxNDD database was accessed to obtain a report detailing the Elements of Occurrence for listed species within the Burrito Tank Quadrangle and all adjoining quadrangles. There was one occurrence record for the state-listed Texas tortoise approximately 4 miles northeast of the project area.

One state-listed T&E species, indigo snake, was observed during the November 2009 survey. Potential habitat for reticulate collared lizard, Texas horned lizard, and Texas tortoise was also observed during the November 2009 survey. No state-listed T&E species were observed during the March and April 2011 surveys.

4.3.2 Effects of the Proposed Project on State-Listed Species

The project area has been significantly disturbed in the past due to ranching and oil and gas activities. The proposed project would eventually convert approximately 900 acres of the survey area into a landfill over a period of several decades. Construction activities associated with redirecting surface flow to remove the project area from the existing floodplain would result in conversion of ephemeral streams and wetlands into upland habitat. Anticipated permitting requirements with the USACE would include mitigation for jurisdictional streams and wetlands. It is anticipated that indigo snake, reticulate collared lizard, white-nosed coati, Texas tortoise and Texas horned lizard would move to the adjacent, undisturbed areas during construction and operation of the landfill.

Table 2: State-Listed Threatened and Endangered Species with Potential to Occur in Webb County

Species Common Name	Scientific Name	TPWD ¹	Preferred Habitat in South Texas	Preferred Habitat in Project Area?
WILDLIFE				
American peregrine falcon	<i>Falco peregrinus anatum</i>	T	In Texas, low-altitude migrant across state from more northern breeding areas in U.S. and Canada; winters along coast and barrier islands and occupies a wide range of habitats during migration, including urban, concentrations along coast and barrier islands; utilizes stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands	Foraging habitat only
Common black-hawk	<i>Buteogallus anthracinus</i>	T	Inhabits cottonwood-lined rivers and streams and willow tree groves on the Lower Rio Grande floodplain; formerly bred in south Texas	No
Interior least tern	<i>Sternula antillarum athalassos</i>	E	Nests on ground, typically on sites that are sandy and relatively free of vegetation, such as sand and gravel bars in rivers, as well as beaches, spits, and coastal areas	No
Wood stork	<i>Mycteria Americana</i>	T	Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including saltwater; usually roosts communally in tall snags, sometimes in association with other wading birds; breeds in Mexico and moves into Gulf states in search of mudflats, other wetlands, and even forested areas; formerly nested in Texas	Foraging habitat only
Peregrine Falcon	<i>Falco peregrinus</i>	T	both subspecies migrate across the state from more northern breeding areas in US and Canada to winter along coast and farther south; subspecies (F. p. anatum) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, F.p. tundrius is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance	Foraging habitat only
Blue sucker	<i>Cycleptus elongates</i>	T	larger portions of major rivers in Texas; usually in channels and flowing pools with a moderate current; bottom type usually of exposed bedrock, perhaps in combination with hard clay, sand, and gravel; adults winter in deep pools and move upstream in spring to spawn on riffles	No
Rio Grande darter	<i>Etheostoma graham</i>	T	Rio Grande and lower Pecos River basins; gravel and rubble riffles of creeks and small rivers; spawns in the winter	No
Rio Grande silvery minnow	<i>Hybognathus amarus</i>	E	historically Rio Grande and Pecos River systems and canals; reintroduced in Big Bend area; pools and backwaters of medium to large streams with low or moderate gradient in mud, sand, or gravel bottom; ingests mud and bottom ooze for algae and other organic matter; probably spawns on silt substrates of quiet coves	No

Table 2: State-Listed Threatened and Endangered Species with Potential to Occur in Webb County (continued)

Species Common Name	Scientific Name	TPWD ¹	Preferred Habitat in South Texas	Suitable Habitat in Project Area?
Black bear	<i>Ursus americanus</i>	T	bottomland hardwoods and large tracts of inaccessible forested areas; due to field characteristics similar to Louisiana Black Bear (LT, T), treat all east Texas black bears as federal and state listed Threatened	No
Gray wolf	<i>Canis lupus</i>	E	extirpated; formerly known throughout the western two-thirds of the state in forests, brushlands, or grasslands	No
Jaguarundi	<i>Herpailurus yaguarondi</i>	E	thick brushlands, near water favored; 60 to 75 day gestation, young born sometimes twice per year in March and August, elsewhere the beginning of the rainy season and end of the dry season	No
Ocelot	<i>Leopardus (=Felis) pardalis</i>	E	dense chaparral thickets; mesquite-thorn scrub and live oak mottes; avoids open areas; breeds and raises young June-November	No
White-nosed coati	<i>Nasua narica</i>	T	woodlands, riparian corridors and canyons; most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade	Marginal
False spike mussel	<i>Quadrula mitchelli</i>	T	possibly extirpated in Texas; probably medium to large rivers; substrates varying from mud through mixtures of sand, gravel and cobble; one study indicated water lilies were present at the site; Rio Grande, Brazos, Colorado, and Guadalupe (historic) river basins	No
Mexican fawnsfoot mussel	<i>Truncilla cognate</i>	T	largely unknown; possibly intolerant of impoundment; possibly needs flowing streams and rivers with sand or gravel bottoms based on related species needs; Rio Grande basin	No
Salina mucket	<i>Potamilus metnecktayi</i>	T	lotic waters; submerged soft sediment (clay and silt) along river bank; other habitat requirements are poorly understood; Rio Grande Basin	No
Texas Hornshell	<i>Popenaias popei</i>	T	both ends of narrow shallow runs over bedrock, in areas where small-grained materials collect in crevices, along river banks, and at the base of boulders; not known from impoundments; Rio Grande Basin and several rivers in Mexico	No
Reticulate collared lizard	<i>Crotaphytus reticulatus</i>	T	requires open brush-grasslands; thorn-scrub vegetation, usually on well-drained rolling terrain of shallow gravel, caliche, or sandy soils; often on scattered flat rocks below escarpments or isolated rock outcrops among scattered clumps of prickly pear and mesquite	Yes
Texas horned lizard	<i>Phrynosoma cornutum</i>	T	open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil	Yes

Table 2: State-Listed Threatened and Endangered Species with Potential to Occur in Webb County (continued)

Species Common Name	Scientific Name	TPWD1	Preferred Habitat in South Texas	Suitable Habitat in Project Area?
Texas indigo snake	<i>Drymarchon melanurus erebennus</i>	T	Texas south of the Guadalupe River and Balcones Escarpment; thornbush-chaparral woodlands of south Texas, in particular dense riparian corridors; can do well in suburban and irrigated croplands if not molested or indirectly poisoned; requires moist microhabitats, such as rodent burrows, for shelter	Yes
Texas tortoise	<i>Gopherus berlandieri</i>	T	open brush with a grass understory is preferred; open grass and bare ground are avoided; when inactive occupies shallow depressions at base of bush or cactus, sometimes in underground burrows or under objects; longevity greater than 50 years; active March-November; breeds April-November	Yes
PLANTS				
Ashy dogweed	<i>Thymophylla tephroleuca</i>	E	Texas endemic; grasslands with scattered shrubs; most sites on sands or sandy loams on level or very gently rolling topography over Eocene strata of the Laredo Formation	Yes; Not found during presence/absence survey
Johnston's frankenia	<i>Frankenia johnstonii</i>	E	dwarf shrublands on strongly saline, highly alkaline, calcareous or gypseous, clayey to sandy soils of valley flats or rocky slopes; mapped soils at many sites are of the Catarina and/or Maverick Series, other mapped soils include Copita, Brennan, Zapata, and Montell series; most sites are underlain by Eocene sandstones and clays of the Jackson Group or the Yegua and Laredo formations; a few are underlain by El Pico clay or the Catahoula and Frio formations shrublands	Yes; Not found during presence/absence survey
¹ - TPWD: E = endangered, T= threatened			Source: TPWD 2011	

5.0 REFERENCES

- Correll, D.S. & Johnston, M.C. (1979). *Manual of the Vascular Plants of Texas*. Dallas, TX: The University of Texas at Dallas.
- Diamond, D.D. (1993). *Classification of the plant communities of Texas*. Series level. Unpublished manuscript, Texas Natural Heritage Program.
- Gould, F.W. (1975). *Texas Plants - A Checklist and Ecological Summary*. College Station, TX: Texas Agricultural Experiment Station.
- Griffith, G.E. & Omernik, J.M. (2009). *Ecoregions of Texas (EPA)*. Retrieved September 8, 2010, from [http://www.eoearth.org/article/Ecoregions_of_Texas_\(EPA\)](http://www.eoearth.org/article/Ecoregions_of_Texas_(EPA)).
- Taylor, R.B., J. Rutledge, and J.G. Herrera. (1994). *A Field Guide to Common South Texas Shrubs*. Austin, TX: Texas Parks and Wildlife Press.
- Texas Parks and Wildlife Department. (2011). *Annotated County Lists of Rare Species for Webb County*. Retrieved August 6, 2011, from <http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx>.
- Texas Parks and Wildlife Department. (2009). *Interior Least Tern, Wildlife Fact Sheet*. Retrieved August 1, 2011, from <http://www.tpwd.state.tx.us/huntwild/wild/species/leasttern/>.
- Texas Parks and Wildlife Department. (n.d.(a)). *Jaguarundi*. Retrieved August 1, 2011, from http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0013_jaguarundi.pdf
- Texas Parks and Wildlife Department. (n.d.(b)). *Ocelot*. Retrieved August 1, 2011, from http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0013_ocelot.pdf
- Texas Parks and Wildlife Department. (n.d.(c)). *Ashy Dogweed, Wildlife Fact Sheet*. Retrieved August 6, 2011, from <http://www.tpwd.state.tx.us/huntwild/wild/species/ashy/>.
- Texas Parks and Wildlife Department. (n.d.(d)). *Johnston's frankenia, Wildlife Fact Sheet*. Retrieved August 6, 2011, from <http://www.tpwd.state.tx.us/huntwild/wild/species/johnston/>.
- U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region* (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-1. U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- U.S. Army Corps of Engineers. (1987). *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: Environmental Laboratory.

U.S. Fish and Wildlife Service. (2011). *Endangered Species List – Webb County*. Retrieved August 6, 2011, from <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm>

APPENDIX A:
PRESENCE/ABSENCE SURVEY REPORT

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Presence/Absence Survey for Johnston's Frankenia and Ashy Dogweed

Pescadito Environmental Resource Center Project Webb County, Texas

**Prepared For: Rancho Viejo Waste Management, LLC
Webb County, Texas**

**Prepared By: TRC Environmental Corporation
Austin, Texas**



August 2011

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Presence/Absence Survey for Johnston's Frankenia and Ashy Dogweed

Pescadito Environmental Resource Center Project Webb County, Texas

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August 2011

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1.0 INTRODUCTION

TRC Environmental Corporation (TRC) was contracted by Rancho Viejo Waste Management, LLC to obtain environmental clearances and consultations for a proposed 1,110-acre landfill facility near Laredo, Webb County, Texas (Project). A site location map is included as Figure 1. The Project area is located within open ranchland currently stocked with cattle.

There are two federally and state-listed endangered plants that may occur in Webb County (USFWS 2011; TPWD 2011): Johnston's frankenia (*Frankenia johnstonii*) and ashy dogweed (*Thymophylla tephroleuca*). A TRC field reconnaissance survey of the Project area in November 2009 identified potentially suitable habitat for Johnston's frankenia and ashy dogweed. Subsequently, TRC conducted a presence/absence survey for the two protected plant species within the Project survey area. This report describes the results of the presence/absence survey conducted in March 29 to 31, 2011.

2.0 METHODS

In Texas, Johnston's frankenia is typically found on saline or clayey soils having high gypsum content, including Maverick, Catarina, Copita, Montell, and Zapata soils (USFWS 1988). Known populations of ashy dogweed are located on sandy pockets of Maverick-Catarina, Copita-Zapata, and Nueces-Comita soils near the border of Webb and Zapata counties, with the nearest recorded occurrence of this species located approximately 20 miles southwest of the Project area (TXNDD 2011).

A review of the United States Department of Agriculture (USDA) National Resource Conservation Service (NRCS) Web Soil Survey (USDA – NRCS 2011) identified four soil map units within the Project area: Aguilares sandy clay loam (AgB), Montell clay (MnB), Catarina clay (CaB), and Brundage fine sandy loam (Bd; Figure 2). Areas consisting of Montell and Catarina clays would be surveyed for Johnston's frankenia and ashy dogweed. Since one known occurrence of ashy dogweed occurs along the border of Hebbbronville soils and Aguilares soils (TxNDD 2011), it was determined that areas consisting of Aguilares sandy clay loam would also be surveyed for ashy dogweed. No known occurrences of either ashy dogweed or Johnston's frankenia exist for Brundage fine sandy loam; therefore, this soil map unit was not included in the survey.

Surveys were performed by two qualified biologists, Gena Janssen and Barrett Clark, along multiple transects within individual soil map units. Transect widths varied based on field conditions (e.g., narrow widths in areas of dense vegetation and wider widths in areas of open to sparse vegetation). Representative plant lists were recorded by soil map unit (with the exception of the Brundage fine sandy loam), and illustrative digital photographs were taken as the landscape or habitats changed.

3.0 RESULTS

Overall range conditions of the Project area were extremely dry from drought and severely overgrazed, with some areas mechanically altered by root-plowing or similar clearing methods in the past. Large areas of bare ground were present, including notably absent herbaceous cover across much of the Project area. The survey results, including observed species of vegetation, are presented by the three high priority soil map unit classifications: Aguilares fine sandy loam, Montell clay, and Catarina clay.

3.1 Aguilares Fine Sandy Loam

Vegetation within the Aguilares fine sandy loam was relatively dense compared to the other soil map units within the Project area. Vegetation within this soil map unit was particularly dense along the northern portion of the Project area. Species diversity was relatively higher within this soil map unit than those of the other soil map units. Ashy dogweed was not observed during the survey. Johnston's frankenia was not expected to be present in this soil type and none were observed. Representative vegetation communities of the Aguilares fine sandy loam soil map units are presented in Photos 1 – 3.

Observed woody species included honey mesquite (*Prosopis glandulosa*), dwarf screw-bean mesquite (*Prosopis reptans*), common goldenweed (*Isocoma coronopifolia*), knife-leaf condalia (*Condalia spathulata*), desert yaupon (*Schaefferia cuneifolia*), guayacan (*Guaiacum angustifolium*), allthorn (*Koeberlinia spinosa*), lotebush (*Ziziphus obtusifolia*), oreja de perro (*Tiquilia canescens*), blackbrush (*Acacia rigidula*), whitebrush (*Aloysia gratissima*), saladillo (*Varilla texana*), coma (*Sideroxylon celastrina*), creosote (*Larrea tridentata*), Tulipan del monte (*Hibiscus martianus*), goat-bush (*Castela texana*), orange zexmenia (*Wedelia texana*), paloverde (*Parkinsonia texana*), guajillo (*Acacia berlandieri*), coppery false fanpetals (*Billieturnera helleri*), leather stem (*Jatropha dioica*), and popote (*Ephedra antisyphilitica*).

Observed herbaceous species included sueada (*Sueada* sp.), Dahlberg daisy (*Thymophylla tenuiloba*), and buffelgrass (*Pennisetum ciliare*). Observed cacti species included Texas prickly pear (*Opuntia engelmannii*), tasajillo (*Opuntia leptocaulis*), dog cholla (*Opuntia schottii*), pitaya (*Echinocereus enneacanthus*), rat-tail cactus (*Wilcoxia poselgeri*), horse creeper (*Echinocactus texensis*), nipple cactus (*Mammillaria heyderi*), Berlandier's alicocha (*Echinocereus berlandieri*), and Fitch's hedgehog cactus (*Echinocereus reichenbachii* var. *fitchii*).



Photo 1. Typical Aguilares fine sandy loam vegetation. Dominant species included honey mesquite and Texas prickly pear.



Photo 2. Typical Aguilares fine sandy loam vegetation. A mosaic of bare ground was present throughout this soil map unit.



Photo 3. Typical Aguilares fine sandy loam vegetation. Dense vegetation was present in many areas.

3.2 Montell Clay

Areas of Montell clay within the Project area were dominated by clusters of saladillo and Texas prickly pear, forming a mosaic with large expanses of bare ground and other woody species. Vegetation density was variable across the Montell clay soil map units. The dominant landscape feature in many areas consisted of bare ground while some areas exhibited higher vegetation density, such as along drainages and swales. Johnston's frankenia was not observed during the survey. Ashy dogweed was not expected to be present in this soil type and none were observed. Representative vegetation communities of the Montell clay soil map units are presented in Photos 4 – 6.

Observed woody species included honey mesquite, dwarf screw-bean mesquite, saladillo, blackbrush, lotebush, common goldenweed, goat-bush, coppery false fanpetals, desert yaupon, guayacan, allthorn, white brush, knife-leaf condalia, leather stem, sueada, rough agave (*Agave scabra*), snake-eyes (*Phaulothamnus spinescens*), twisted acacia (*Acacia schaffneri*), Texas broomweed (*Gutierrezia texana*), palma pita (*Yucca treculeana*), and sea ox-eye daisy (*Borrchia frutescens*).

Observed herbaceous species included jicamilla (*Jatropha cathartica*), bitterweed (*Hymenoxys odorata*), whorled dropseed (*Sporobolus pyramidatus*), and buffelgrass. Observed cacti species included Texas prickly pear, tasajillo, pitaya, Fitch's hedgehog cactus, horse creeper, nipple cactus, longmamma nipple cactus (*Mammillaria sphaerica*), and miniature barrel cactus (*Thelocactus setispinus*). Species recorded near the stock ponds included smallhead sneezeweed (*Helenium microcephalum*), Plains coreopsis (*Coreopsis tinctoria*), bearded dalea (*Dalea pogonantha*), Carolina wolfberry (*Lycium carolinianum*), retama (*Parkinsonia aculeata*), and Gregg keelpod (*Synthlipsis greggii*).



Photo 4. Typical Montell clay vegetation. Many areas consisted of a mosaic of saladillo and Texas prickly pear clusters, bare ground, and clusters of other woody species.



Photo 5. Typical Montell clay vegetation. Some areas exhibited increased vegetation density(background).



Photo 6. Typical Montell clay vegetation. In many areas, bare ground was the dominant landscape feature.

3.3 Catarina Clay

Areas of Catarina clay soil map units within the Project area contained relatively low species diversity and were dominated by honey mesquite, Texas prickly pear, saladillo, and (in the western portion of the Project area) Texas broomweed. Vegetation density was variable across the Catarina clay soil map units and ranged from large areas of bare ground to areas of higher density shrubland. Johnston's frankenia and ashy dogweed were not observed during the survey. Representative vegetation communities of the Catarina clay soil map units are presented in Photos 7 – 10.

Observed woody species included saladillo, honey mesquite, dwarf screw-bean mesquite, goat-bush, guayacan, knife-leaf condalia, common goldenweed, lotebush, snake-eyes, leather stem, jicamilla, palma pita, broomweed, sueada, coppery false fanpetals, Dahlberg daisy, Texas prickly pear, tasajillo, horse crippler, pitaya, Fitch's hedgehog cactus, miniature barrel cactus, nipple cactus, and root cactus (*Ancistrocactus scheeri*). The two identifiable grasses in these areas were whorled dropseed and red grama (*Bouteloua trifida*).



Photo 7. Typical Catarina clay vegetation. In some areas, bare ground was the dominant landscape feature.



Photo 8. Typical Catarina clay vegetation. Severe overgrazing was evident throughout the Project area.



Photo 9. Typical Catarina clay vegetation. Increased vegetation density was located in the southeastern Catarina clay soil map unit.



Photo 10. Typical Catarina clay vegetation. Within the western Catarina clay soil map unit, broomweed was an additional dominant species.

4.0 CONCLUSION

TRC was contracted by Rancho Viejo Waste Management, LLC to conduct a biological survey in order to identify the presence of two federally and state-listed endangered plant species, ashy dogweed and Johnston's frankenia, for the proposed Project. Ashy dogweed and Johnston's frankenia were not observed within any of the high priority soil map units of the Project area during the March 2011 survey. Based on review of background data and the results of the field investigation, qualified biologists from TRC determined that ashy dogweed and Johnston's frankenia are not present within the Project survey area.

5.0 REFERENCES

- Poole, J. M., W. R. Carr, D. M Price, and J. R. Singhurst. 2007. *Rare Plants of Texas*. Texas A & M University Press, College Station, Texas. 640 pp.
- Texas Parks and Wildlife Department (TPWD). 2011. *Annotated County List of Rare Species –Webb County*. Retrieved March 14, 2011, from <http://gis.tpwd.state.tx.us/TpwEndangeredSpecies/DesktopDefault.aspx>.
- Texas Natural Diversity Database (TXNDD). 2011. TXNDD Element Occurrence Record Report. Data request received March 16, 2011, from txndd@tpwd.state.tx.us.
- USDA – NRCS. 2011. Soil Survey Division. Web Soil Survey. Accessed on March 14, 2011 at: <http://websoilsurvey.nrcs.usda.gov/app/>.

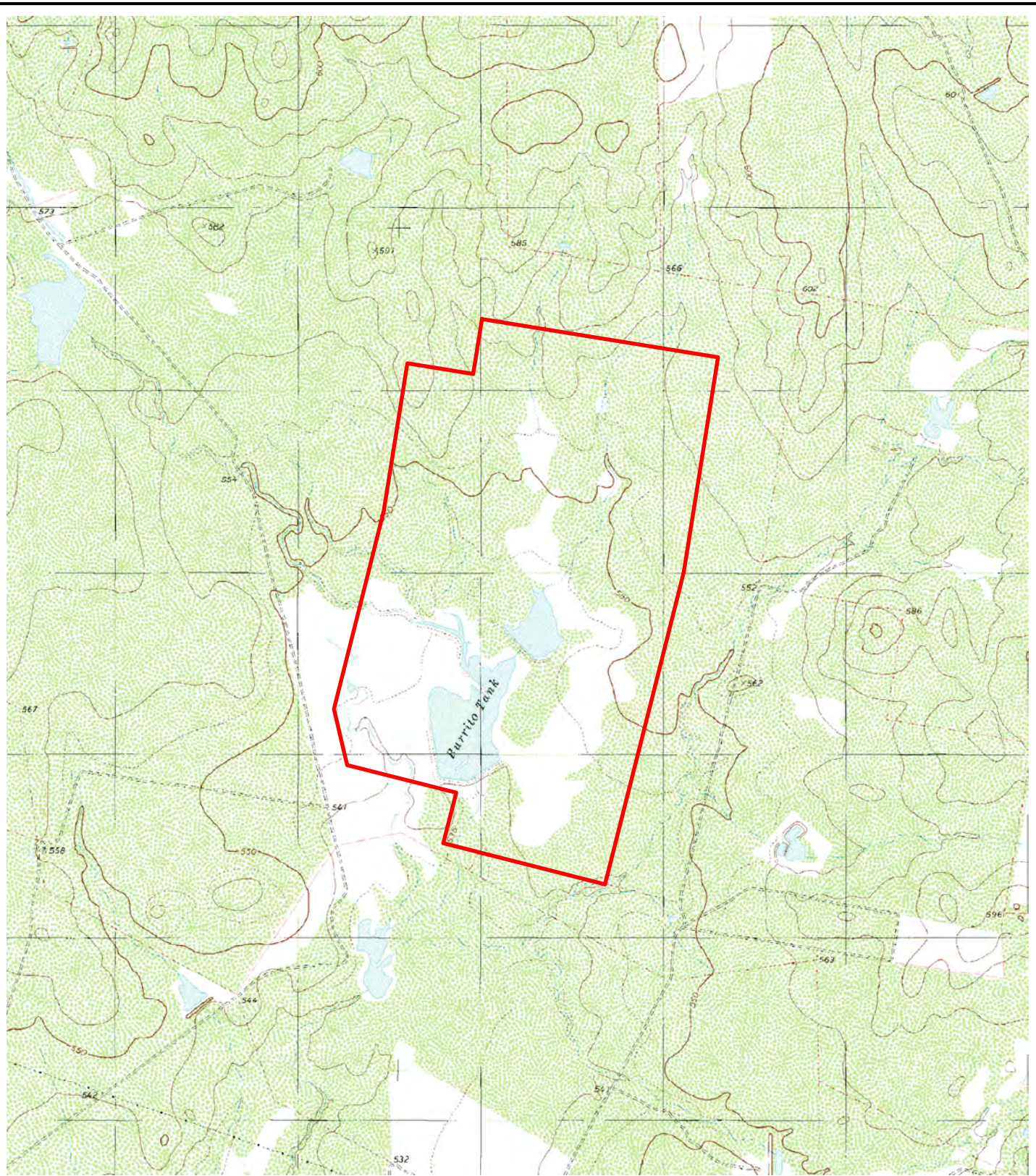
U.S. Fish and Wildlife Service [USFWS]. (2011). *Endangered Species List – Webb County, Texas*. Retrieved March 14, 2011, from, <http://www.fws.gov/southwest/es/EndangeredSpecies/lists/ListSpecies.cfm>

USFWS 1988. Johnston's Frankenia (*Frankenia johnstonii*) Recovery Plan. USFWS, Region 2. Albuquerque, New Mexico: J.M. Poole, Texas Natural Heritage Program, TPWD, Austin, Texas. C. McDonald (Ed.).

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FIGURE 1
SITE LOCATION MAP

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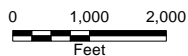


LEGEND

— Survey Area



Source: U.S.G.S 7.5-Minute Series Topographic Map, Burrito Tank (1980), Texas.



SITE LOCATION MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



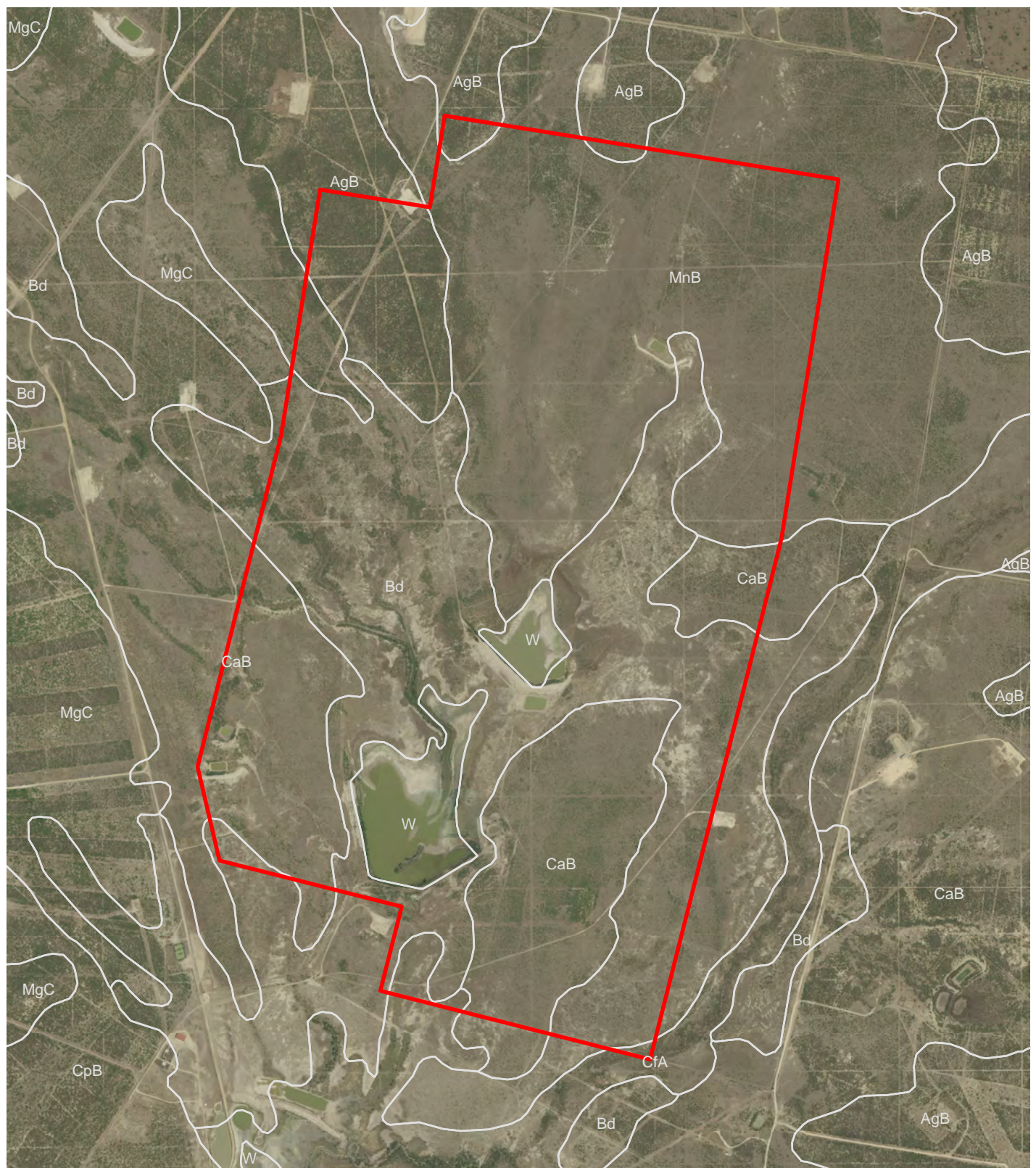
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AUSTIN, TEXAS 78752
512-329-6080

FIGURE
1

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FIGURE 2
SOILS MAP

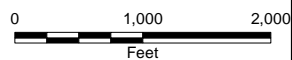
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LEGEND

— Survey Area

N



Source: Soil Survey Geographic (SSURGO)
Database for Webb County, Texas

SOILS MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080



FIGURE
2

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APPENDIX B:
PHOTOGRAPHIC LOG

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PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 1		
Feature: Stock Tank WB101		
Date: 4/19/2011		
Comments: Stock tank WB101 in northeastern portion of project area. Facing north.		
Photograph ID: 2		
Feature: Stream S123		
Date: 4/21/2011		
Comments: Ephemeral stream S123 in northwestern portion of project area. Facing downstream (south).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 3		
Feature: Northwestern portion of project area		
Date: March 2011		
Comments: Typical Aguilares fine sandy loam vegetation. Moderately dense vegetation was present in many areas with a mosaic of bare ground present throughout this soil map unit.		
Photograph ID: 4		
Feature: Stock Tank WB104		
Date: 4/19/2011		
Comments: Large stock tank in central portion of project area. Facing south.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 5			
Feature: Stream S103			
Date: 4/19/2011			
Comments: Ephemeral stream S103 in central portion of the project area. Facing north (upstream).			
Photograph ID: 6			
Feature: Stream S120			
Date: 4/20/2011			
Comments: Ephemeral stream S120 (left of photo) in west-central portion of project area. Facing east (downstream).			


PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 7		
Feature: Typical upland in west-central portion of project area		
Date: 4/21/2011		
Comments: Upland habitat in west-central portion of project area. Facing west.		
Photograph ID: 8		
Feature: Wetland and Stock Tank WB128		
Date: 4/21/2011		
Comments: Fringe area of wetland W127 near large stock tank in southern portion of project area. Stock tank in background. Facing southwest.		

PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 9		
Feature: Upland habitat; southern portion of site		
Date: 4/21/2011		
Comments: Upland habitat near large stock tank in southern portion of the project area. Facing northwest.		
Photograph ID: 10		
Feature: Upland Habitat; southwest portion of site		
Date: 4/20/2011		
Comments: Upland habitat at in southwestern portion of project area. Facing east.		

PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 11		
Feature: Typical Habitat; southeastern portion of site		
Date: March 2011		
Comments: Typical habitat in the southeastern portion of the project area.		

APPENDIX C:
WETLAND DELINEATION REPORT

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WATERS OF THE UNITED STATES DELINEATION REPORT

Pescadito Environmental Resource Center Project Webb County, Texas

**Prepared For: Rancho Viejo Waste Management, LLC
Webb County, Texas**

**Prepared By: TRC Environmental Corporation
Austin, Texas**



Revision No. 00
August 2011

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WATERS OF THE UNITED STATES DELINEATION REPORT

Pescadito Environmental Resource Center Project Webb County, Texas

Submitted By:

TRC Environmental Corporation
505 East Huntland Drive, Suite 250
Austin, Texas 78752

512.329.6080 (phone)
512.329.8750 (fax)

Prepared By: Barrett Clark

Reviewed By: Jason Sean Lancaster

Approved By: Deborah Blackburn

Revision No. 00
August 2011

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ABBREVIATIONS AND ACRONYMS

AgB	Aguilares sandy clay soil, 0 to 3 percent slope
Bd	Brundage fine sandy loam, occasionally flooded
CaB	Catarina clay, 0 to 2 percent slopes
CBD	Cannot Be Determined
CfA	Catarina, occasionally flooded
FAC	Facultative Species Status
FACU	Facultative Upland Species Status
FACW	Facultative Wetland Species Status
FEMA	Federal Emergency Management Agency
GPS	Global Positioning System
JD	Jurisdictional Determination
MnB	Montell clay, 0 to 2 percent slopes
NASIS	National Soil Information System
NI	No Indicator Status
NWI	National Wetland Inventory
OBL	Obligate Wetland Species Status
OHWM	Ordinary High Water Mark
Project	Rancho Viejo Waste Management Subsurface Investigation Project
RPW	Relatively Permanent Water
TNW	Traditionally Navigable Water
TRC	TRC Environmental Corporation
UPL	Obligate Upland Species Status
U.S.	United States
USACE	United States Army Corps of Engineers
USDA – NRCS	United States Department of Agriculture – Natural Resource Conservation Service
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UTM	Universal Transverse Mercator

1.0 INTRODUCTION

TRC Environmental Corporation (TRC) has been contracted by Rancho Viejo Waste Management, LLC to obtain environmental clearances and consultations for a proposed landfill project in Webb County, Texas (Project). The Project is located approximately 20 miles east of Laredo, Texas. A topographic vicinity map is included as Figure 1. A delineation of waters of the United States (U.S.) was conducted in April 2011 for the Project.

Pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, TRC conducted a survey of wetlands, waterbodies, and other special aquatic sites for the Project survey area. This wetland delineation report describes the results of delineation of waters of the U.S. conducted in April 2011.

2.0 METHODS

The wetland determination and delineation was performed using the routine on-site determination methods described in the *Corps of Engineers Wetlands Delineation Manual* (U.S. Army Corps of Engineers [USACE], Environmental Laboratory 1987), hereafter referred to as the “1987 Manual,” and is consistent with the methods, guidelines, and indicators present in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0)* [Regional Supplement] (USACE 2010). The determination and delineation consisted of: (1) background data collection and assessment, (2) field investigation, and (3) reporting.

2.1 Background Data Review

Prior to initiation of the routine on-site investigation, existing background data and information were reviewed to provide information regarding the presence of previously identified wetlands, the location of hydric soils, and/or locations where jurisdictional wetlands could exist that have not been previously mapped. The background data reviewed consisted of the following materials:

- U.S. Geological Survey (USGS), 7.5-minute series quadrangle topographical maps, Burrito Tank Quadrangle in Webb County, Texas (USGS 1980)
- USDA – NRCS, National Soil Information System (NASIS) Database, National Hydric Soils List by State, Texas (USDA – NRCS 2011a)
- U.S. Department of Agriculture – Natural Resource Conservation Service (USDA – NRCS), Web Soil Survey Application (USDA – NRCS 2011b)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Wetlands Mapper Application (USFWS 2011)
- Federal Emergency Management Agency (FEMA), Map Service Center: FEMA Issued Flood Maps, Webb County, Texas, Flood Map ID 48479C1275C (FEMA 2011)

2.2 Field Investigation

An on-site determination and delineation of waters of the U.S. was conducted by a qualified wetland scientist within the Project survey area in April 2011.

The Project spatial boundaries were confirmed by aerial photograph interpretation and initial site reconnaissance. The survey area was then examined for the presence of atypical situations via site reconnaissance to identify any recent and sufficient natural or human-induced alteration that may have significantly changed the area vegetation, soils, and/or hydrology.

A site reconnaissance was conducted of all portions of the survey area to identify and develop an approximate location map of each different plant community type present to ensure all plant community types were included in the investigation. Each identified plant community type was further examined to determine the type(s) and number of vegetative layers in each community, including trees (woody overstory), shrubs (woody understory), herbs (herbaceous understory), and/or woody vines.

Observation points were established and documented within each vegetative community. The investigators determined whether normal environmental conditions were present at each observation point by considering whether: (a) hydrophytic vegetation and/or hydrologic indicators were lacking due to annual or seasonal fluctuations in precipitation or groundwater levels; and (b) hydrophytic vegetation indicators were lacking due to seasonal fluctuations in temperature.

Data points were recorded using a sub-meter Trimble Global Positioning System (GPS) unit. GPS data were recorded as NAD 1983 UTM coordinates. Soil pit sampling was conducted to determine the presence of hydric soil indicators, with plant communities identified and characterized for hydrophytic properties, indicator status, and percent cover. Particular wetland hydrology indicators were also identified.

Vegetation, soil, and hydrologic information for each sample plot was recorded on data forms and used to determine wetland boundaries. A description of the methods employed to assess each parameter is provided in Sections 2.2.1 to 2.2.3.

2.2.1 Hydrophytic Vegetation

According to the 1987 Manual, hydrophytic vegetation is defined as, “the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present.” Plant species are further categorized according to their probability of occurrence in wetlands. Each plant species is assigned an “Indicator Status,” which ranges from Obligate Wetland (100% occurrence in wetlands) to Obligate Upland (does not occur in wetlands). Indicator status categories are further defined as follows:

- Obligate Wetland (OBL): A species that almost always (under natural conditions) occurs in wetlands (estimated probability greater than 99%).
- Facultative Wetland (FACW): A species that usually occurs in wetlands (estimated probability 67% - 99%), but occasionally is found in non-wetlands.
- Facultative (FAC): A species that is equally likely to occur in non-wetlands (estimated probability 34% - 66%).
- Facultative Upland (FACU): A species that usually occurs in non-wetlands (estimated probability 67% - 99%), but is occasionally found in wetlands.

- Obligate Upland (UPL): A species that almost always (under natural conditions) occurs in non-wetlands (estimated probability greater than 99%).
- No Indicator (NI): A species for which there is insufficient information to determine an indicator status ranking.
- Cannot Be Determined (CBD): A species that was only identified to the genus level. Therefore, no indicator could be assigned.

All plant communities investigated were characterized by identifying dominant plant species using the dominance test. For each stratum in the plant community (tree, sapling, shrub, herb, and woody vine), a list of plant species (Reed 1988) and their respective percent cover was recorded. Percent cover for each plant species was recorded within a 5-foot radius around a central observation point for herbaceous stratum, as well as a 15-foot radius for saplings and shrub strata and 30-foot radius for trees and woody vines strata. The total cover for each stratum may range from zero to over 100 percent, depending on the density and amount of overlapping of vegetation.

“Dominant” plants were classified using the 50/20 rule, under which any plant species that equaled or exceeded 50 percent of the total percent aerial coverage for each stratum, and any additional species comprising 20 percent or more of the same stratum, was classified as a dominant plant.

Vegetation was reevaluated using the prevalence index in cases where indicators of hydric soil and wetland hydrology were present, but the percentage of dominant species did not exceed 50 percent utilizing the dominance test. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code and the abundance as evaluated by percent cover is weighted. A site scoring less than 3 on the prevalence index meets the wetland hydrophytic vegetation criterion. The prevalence index is used in the Great Plains Regional Supplement to determine whether hydrophytic vegetation is present on sites where indicators of hydric soil and wetland hydrology are present but the vegetation initially fails the dominance test.

2.2.2 Hydric Soils

According to the 1987 Manual, a hydric soil is defined as “a soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation.” The presence or absence of hydric soils was determined by pit sampling to a depth of ten inches or more, and characterization of soil profile layers using Munsell soil color charts (X-Rite Incorporated 2009). The presence of hydric indicators was recorded, including, but not limited to, saturation, gleying, mottling, depleted matrix, and development of other redoximorphic features. The wetland boundary was placed between areas meeting the three wetland criteria and areas which do not meet the criteria. As a result, soil in both the assumed wetland and the surrounding upland were sampled to verify the wetland boundary.

2.2.3 Wetland Hydrology

Guidance in the 1987 Manual indicates that wetland hydrology is found in areas in which “the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively.” The frequency of soil inundation or saturation is dependent on a variety of factors, including topography, soil stratigraphy and soil permeability, in conjunction with the water source(s) of precipitation, runoff, stormwater, and groundwater discharge. Wetland hydrology is

classified according to the extent of soil saturation or inundation and ranges from permanently inundated to irregularly inundated or saturated. Those areas which are either intermittently or never inundated or saturated are not considered to have wetland hydrology.

Indicators of wetland hydrology include, but are not limited to, drainage patterns, drift lines, water marks, sediment and debris deposition, and visual observations and historical records. Wetland hydrology indicators were noted during the investigation.

2.3 Reporting

Maps illustrating the results of the survey are presented in Appendix A. Data collected in the field was subsequently entered onto the data forms presented in the Appendix B. Wetland delineation/GPS data were collected and recorded as NAD 1983 UTM coordinates. Photographs were also taken of the Project site and at data collection points. All survey results are presented in Appendices A and B.

3.0 RESULTS

3.1 Background Data Review

Desktop analysis of potential wetlands was evaluated by reviewing topographic maps (Figure 1; USGS 1980), aerial maps (Figure 2), soils data from the USDA – NRCS online web soil survey (Figure 3; USDA – NRCS 2011b), and wetlands data from the USFWS NWI Wetlands Mapper (USFWS 2011). This analysis provided an indication of the presence of wetlands and waterbodies, areas and soils likely to support hydrophytic vegetation, and photographic signatures of potential wetlands and waterbodies. The results of the background data review are included in the following sections.

3.2 Field Investigation

Seven palustrine, scrub-shrub wetlands (W109, W115, W118, W126, W127, W132, and W133) and one palustrine, emergent wetland (W130) were delineated during the survey. Eleven ephemeral streams (S103, S107, S108, S114, S119, S116, S120, S121, S123, S124, and S125) and nine stock tanks (WB101, WB104, WB106, WB110, WB111, WB113, WB117, WB128, and WB131) were also identified. Numerous erosional features are located throughout the Project survey area and are primarily a result of construction of the stock tanks.

Vegetation throughout the Project survey area has been affected by the presence of cattle. Severe overgrazing was observed throughout nearly all of the Project survey area, making identification of some vegetation (e.g., herbaceous species) impossible. Soil compaction, likely a result of the presence of cattle, was also observed in many areas, particularly around stock tanks WB104, WB128 and the wetlands associated with those systems. Subsequently, identification of wetland indicators was difficult in some areas.

Descriptions of vegetation, soils, and hydrology of the Project survey area are discussed below. Maps illustrating the results of the survey are presented in Appendix A. Data forms, photographs, and the documentation of the presence or absence of wetland vegetation, hydric soils, wetland hydrology, and waterbodies are provided in Appendix B.

3.2.1 Vegetation

Wetland and Riparian Plant Communities

All but one delineated wetland within the Project survey area consisted of palustrine, scrub-shrub habitats. These wetlands are dominated by woody vegetation including retama (*Parkinsonia aculeata*), twisted acacia (*Acacia schaffneri*), saltcedar (*Tamarix ramosissima*), Mexican devil-weed (*Aster spinosus*), sea ox-eye daisy (*Borrchia frutescens*), and rattlebox (*Sesbania drummondii*). Observed herbaceous vegetation includes smallhead sneezeweed (*Helenium microcephalum*), gulf cordgrass (*Spartina spartinae*), and Bermudagrass (*Cynodon dactylon*). Carolina wolfberry (*Lycium carolinianum*) and occasionally gulf cordgrass typically dominated the broad boundaries of the wetlands and often extended from within the limits of the wetlands into adjacent upland habitats.

One palustrine, emergent wetland (W130) is located within the Project survey area and is encircled by scrub-shrub wetland W127. Wetland W130 is dominated by herbaceous vegetation including Bermudagrass, smallhead sneezeweed, salt heliotrope (*Heliotropium curassavicum*), hierba del sapo (*Eringium heterophyllum*), and Plains coreopsis (*Coreopsis tinctoria*). Stunted, woody species including saltcedar, Mexican devil-weed, rattle box, and Carolina wolfberry are scattered in some areas of W130.

Riparian vegetation communities generally consisted of a composition of wetland and upland species (discussed below). Common species included retama, twisted acacia, saltcedar, honey mesquite (*Prosopis glandulosa*), Mexican devil-weed, Texas prickly pear (*Opuntia engelmannii*), rattlebox, smallhead sneezeweed, and gulf cordgrass.

Upland Plant Communities

Observed woody species included honey mesquite, dwarf screw-bean mesquite (*Prosopis reptans*), twisted acacia, blackbrush (*Acacia rigidula*), guajillo (*Acacia berlandieri*), knife-leaf condalia (*Condalia spathulata*), snake-eyes (*Phaulothamnus spinescens*), desert yaupon (*Schaefferia cuneifolia*), guayacan (*Guaiacum angustifolium*), allthorn (*Koeberlinia spinosa*), lotebush (*Ziziphus obtusifolia*), coma (*Sideroxylon celastrina*), goat-bush (*Castela texana*), paloverde (*Parkinsonia texana*), creosote (*Larrea tridentata*), whitebrush (*Aloysia gratissima*), Carolina wolfberry, oreja de perro (*Tiquilia canescens*), popote (*Ephedra antisiphilitica*), orange zexmenia (*Wedelia texana*), palma pita (*Yucca treculeana*), rough agave (*Agave scabra*), saladillo (*Varilla texana*), leather stem (*Jatropha dioica*), coppery false fanpetals (*Billieturnera helleri*), common goldenweed (*Isocoma coronopifolia*), Texas broomweed (*Gutierrezia texana*), Tulipan del monte (*Hibiscus martianus*), and sea ox-eye daisy.

Observed herbaceous species included sueada (*Sueada* sp.), Tiny Tim (*Thymophylla tenuiloba*), jicamilla (*Jatropha cathartica*), wooly tidestromia (*Tidestromia lanuginosa*), bitterweed (*Hymenoxys odorata*), whorled dropseed (*Sporobolus pyramidatus*), red grama (*Bouteloua trifida*), King Ranch bluestem (*Bothriochloa ischaemum*), and buffelgrass (*Pennisetum ciliare*).

Observed cacti species included Texas prickly pear, tasajillo (*Opuntia leptocaulis*), dog cholla (*Opuntia schottii*), rat-tail cactus (*Wilcoxia poselgeri*), nipple cactus (*Mammillaria heyderi*), longmamma nipple cactus (*Mammillaria sphaerica*), horse crippler (*Echinocactus texensis*), Berlandier's alicoeche (*Echinocereus berlandieri*), pitaya (*Echinocereus enneacanthus*), Fitch's hedgehog cactus (*Echinocereus reichenbachii* var. *fitchii*), root cactus (*Ancistrocactus scheeri*), and miniature barrel cactus (*Thelocactus setispinus*).

Species recorded near stock ponds, ephemeral streams, upland swales, and other low lying features within uplands included smallhead sneezeweed (*Helenium microcephalum*), bearded dalea (*Dalea pogonantha*), Carolina wolfberry, retama, sea ox-eye daisy, Gregg keelpod (*Synthlipsis greggii*), and gulf cordgrass.

3.2.2 Soils

Descriptions of these soils are provided by the USDA – NRCS National Cooperative Soil Survey (USDA – NRCS 2011b) and are provided below.

Hydric Soils

A review of the USDA – NRCS Soil Survey (USDA – NRCS 2011b) and Hydric Soils List by State (NRCS 2011a) identified no hydric soils within the Project survey area; consequently, no hydric soils are discussed. However, during the field survey, hydric soils were observed at delineated wetlands W109, W115, W118, W126, W127, W132, W130, and W133 (additional detail provided below and in Appendix B).

Non-Hydric Soils

A review of the USDA – NRCS Soil Survey indicates that the non-hydric soils within the Project survey area include clays, sandy clay loam, and sandy loam and lie on slopes that range from 0 to 3 percent. These deep soils are well- to moderately well drained with moderately or very slow permeability. Descriptions of non-hydric soils, as provided by the USDA – NRCS, are provided below.

Aguilares sandy clay loam, 0-3 percent slopes (AgB): The Aguilares sandy clay loam series consists of deep, well drained, moderately permeable, calcareous and moderately alkaline soils on uplands. This Aguilares soil map unit is found on broad, convex plains. The parent material consists of calcareous loamy residuum weathered from sandstone predominantly from the Jackson Formation. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 3 percent.

Brundage fine sandy loam, occasionally flooded (Bd): The Brundage fine sandy clay loam series consists of deep, moderately well drained, very slowly permeable, saline soils in upland valleys. This Brundage soil map unit is found on valleys along small drainageways and on smooth plains parallel to drainageways. The parent material consists of saline, loamy alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 1 percent.

Catarina Clay, 0 to 2 percent slopes (CaB): The Catarina Clay series consists of deep, moderately well drained, very slowly permeable, saline soils on upland plains and valleys. This Catarina soil map unit is found on broad and narrow valleys along drainageways and on smooth plains. The parent material consists of calcareous, saline, clayey alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 2 percent.

Catarina Clay, occasionally flooded (CfA): The Catarina Clay series consists of deep, moderately well drained, very slowly permeable, saline soils on upland plains and valleys. This Catarina soil map unit is found on narrow valleys along drainageways. The parent material consists of calcareous, saline, clayey alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slopes range from 0 to 1 percent.

Montell clay, 0 to 2 percent, saline (MnB): Montell clay series consists of deep, moderately well drained, very slowly permeable, saline, clayey soil on upland plains and valleys. This Montell soil map unit is found on broad and narrow valleys along drainageways and on smooth plains. The parent material consists of clayey valley side alluvium. Most areas of these soils are mainly used for rangeland and habitat for wildlife. Slope ranges from 0 to 2 percent.

3.2.3 Hydrology

The Project survey area is located entirely within and near the upper limits of the International Falcon Reservoir Watershed (Hydrologic Unit Code [HUC]: 13080003; U.S. Environmental Protection Agency [USEPA] 2011c). According to the FEMA flood map, approximately 60 percent of the Project survey area is located in the 100-year floodplain. Maps presenting the wetland and waterbodies delineated within the Project survey area, as well as unique wetland and waterbody feature names, are provided in Appendix A.

Hydrology of the Project survey area and surrounding area is primarily associated with surface water runoff from infrequent precipitation events. The primary water flow regime of the surrounding watershed area is to the south and southwest, following numerous ephemeral drainage systems. Many constructed stock tanks area also located within the area. Within the Project survey area, surface water generally flows to the south and southeast, following localized topography and along ephemeral streams, upland swales, and erosional gullies into numerous stock tanks. The construction of stock tanks, as well as roads and pipeline right-of-ways, has likely fragmented drainage systems within the Project survey area and surrounding area. Subsequently, defined channels and ordinary high water mark indicators are not present along portions of the drainage systems.

Seven palustrine, scrub-shrub wetlands (W109, W115, W118, W126, W127, W132, W133), one palustrine, emergent wetland (W130), fourteen ephemeral streams (S103, S107, S108, S114, S119, S116, S120, S121, S122, S123, S124, S125, S134, S135), and nine stock tanks (WB101, WB104, WB106, WB110, WB111, WB113, WB117, WB128, WB131) are located within the Project survey area. Numerous erosional gullies are also located throughout the Project survey area and are primarily a result of construction of the stock tanks. The identified features can be separated into three drainage systems:

- Stock tanks WB110, WB111, WB113, and WB117, scrub-shrub wetlands W109, W115, and W118, ephemeral streams S108, S114, S116, and S119
- Stock tanks WB101, WB104, and WB106, scrub-shrub wetland W133, ephemeral streams S103, S107, S122, S123, S134, and S135
- Stock tank WB128 and WB131, scrub-shrub wetlands W126, W127, and W132, emergent wetland W130, ephemeral streams S120, S121, S124, and S125

Two scrub-shrub wetlands (W109, W115) are situated along an historic intermittent drainage system (S108/S114/S116/S119) that has been fragmented by the construction of roads and a series of impoundments and stock tanks (WB110, WB111, WB113, WB117). One upstream fork of this system originates off-site (S116), while another fork (S119) originates from within the limits of the Project survey area. Surface water eventually flows off-site *via* S108. Scrub-shrub wetland W118 is a remnant of the historic intermittent drainage system and is now an enclosed depression with no observed in- or outflow. The delineated area of wetlands W109, W115, and W118 are 0.19-acre (ac), 0.17 ac, and 0.19

ac, respectively. Stock tanks WB110, WB111, WB113, and WB117 are 0.14 ac, 0.40 ac, 0.43 ac, and 0.04 ac in size, respectively.

Wetland W133 is a relatively large (14.70 ac), scrub-shrub, fringe wetland adjacent to stock tank WB104 (13.58 ac), which receives surface water flow from two, small floodplains (Figure 5). Defined channels and/or ordinary high water mark (OHWM) indicators were observed along the eastern floodplain at ephemeral streams S103, S107, and S122. One stock tank (WB101; 0.49 ac) is located between S103/S107 and S122. The eastern floodplain from WB104 to the northern Project survey area boundary is presented as a dashed blue line on the USGS topographical map indicating an intermittent drainage system (Figure 1; USGS 1980). Defined channels and/or OHWM indicators were observed along the western floodplain at ephemeral streams S123, S134, and S135. The western floodplain is presented as a dashed blue line along S134, at the northern Project survey area boundary (Figure 1; USGS 1980). It is possible that the construction of stock tank WB101, roads, and/or pipeline right-of-ways has fragmented the two floodplain drainage systems associated with WB104, resulting in sheet water flow and no defined channel and/or OHWM indicators in some areas. A small stock tank (WB106; 1.01 ac) is also located south of the WB104 impoundment.

Located to the south and downgradient of WB104 is stock tank WB128 (26.68 ac), which receives surface water flow from ephemeral stream S121. Stream S121 originates off-site from the west and is confined by levees along much of its length within the Project survey area. Also originating off-site from the west is stream S120, an ephemeral tributary of S121. Stream S125 is a second, ephemeral tributary of S121 and originates from within the limits of the Project survey area. A relatively shallow and broad upland swale system, which is situated in a floodplain, is located upgradient of S125. A defined channel and OHWM indicators were observed along a segment of the upland swale at ephemeral stream S124. It is possible that the construction of roads and/or pipeline right-of-ways has fragmented the S124/S125 drainage system, resulting sheet water flow and no defined channel and/or OHWM indicators upgradient of S124 and between S124 and S125; on the USGS topographical map, this system appears as a dashed blue line extending off-site to the northwest from S121 (Figure 1; USGS 1980). Wetland W127 (28.46 ac) is situated between stock tanks WB 104 and WB128. An emergent wetland W130 (3.98 ac) is encircled by wetland W127; groundwater from the upgradient WB104 system likely influences these two wetlands, as well as stock tank WB128. A relatively small (0.59 ac) scrub-shrub wetland (W126) is located adjacent to the southwestern levee of S121, near the confluence of S121 and S125. A 2.00 ac scrub-shrub wetland (W132) is located adjacent to the WB128 impoundment; groundwater from the upgradient WB128 system likely influences this wetland. A small stock tank (WB131; 0.31 ac) is located nearby to the northeast.

4.0 JURISDICTION

Following the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States*, the USACE and the U.S. Environmental Protection Agency issued a guidance memorandum in June 2007 summarizing federal jurisdiction over waters of the U.S. under the Clean Water Act. A brief summary of the key points of that memorandum is outlined below.

The USACE and EPA will assert jurisdiction over the following waters:

- Traditional navigable waters (TNW);

- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent (relatively permanent waters; RPW) where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and
- Wetlands that directly abut such tributaries.

The USACE and EPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and
- Wetlands adjacent to but do not directly abut a relatively permanent non-navigable tributary.

The USACE and EPA generally will not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and do not carry a relatively permanent flow of water.

The USACE and EPA will apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream traditional navigable waters; and
- Significant nexus includes consideration of hydrologic and ecologic factors.

Based on these criteria, all TNWs, RPWs (*i.e.*, perennial and intermittent streams), and their directly abutting wetlands identified within the Project survey area would be considered jurisdictional waters of the U.S. All non-directly abutting wetlands and non-RPWs would be examined on a case-by-case basis to determine if the significant nexus criteria were met before being considered a jurisdictional water of the U.S.

Ephemeral streams S103, S107, S108, S114, S116, S119, S120, S121, and S125 would be considered non-RPWs by the USACE. Palustrine, scrub-shrub wetlands W109, W115, W127, and W133 and palustrine, emergent wetland W130 would be considered directly abutting wetlands to a waterbody or waterbodies constructed within historically relatively permanent waters (unnamed tributaries of San Juanita Creek). Palustrine, scrub-shrub wetlands W118 and W126 would most likely be considered non-directly abutting wetlands. If impacts to wetlands W109, W115, W118, W126, W127, W130, W132, and W133 or streams S103, S107, S108, S114, S116, S119, S120, S121, and S125 are anticipated,

consultation with the USACE is recommended to determine if the agency will exert jurisdiction over those systems.

Stock tanks WB101, WB104, WB110, WB111, WB113, WB117, and WB128 are features that are excavations and/or impoundments of streams that would be considered historically RPWs by the USACE. If impacts to the stock tanks are anticipated, consultation with the USACE is recommended to determine if the agency will exert jurisdiction over those systems. Stock tanks WB106 and WB131 are features that are excavations and/or impoundments of dry land. Artificial lakes or ponds created by excavating and/or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing are generally not considered jurisdictional waters of the U.S. (51 FR, No. 219, page 41,217). However, WB106 and WB131 are located adjacent to excavations and/or impoundments of streams that would be considered non-RPWs by the USACE. If impacts to stock tanks WB106 and WB131 are anticipated, consultation with the USACE is recommended to determine if the agency will exert jurisdiction over those systems.

Defined channels and OHWM indicators were observed along ephemeral streams S122, 123, S124, S134, and S135. Although the five segments all originate and terminate in uplands, the USGS topographical map (Figure 1; USGS 1980) indicates that S122, S123, S124, S134, and S135 may have been components of contiguous drainage systems that were possibly fragmented by the construction of stock tank WB101, roads, and/or pipeline right-of-ways. However, the large upland expanses between these ephemeral streams and another relevant hydrological feature are very broad and nearly flat landforms that dissipate surface water flow and appear to provide no significant nexus to the nearest up- or downstream feature; given the semi-arid nature of the region and nearly level landforms of the area, the typical regime in these upland areas following a typical precipitation event would primarily be dissipation and evaporation, as well as some additional percolation into the soil. If impacts to S122, S123, S124, S134, and S135 are proposed, coordination with the USACE is recommended to determine if the agency will exert jurisdiction over those systems.

Several erosional gullies are present within the Project survey area and are a result of the construction of the stock tanks. The erosional gullies do not appear to be an important hydrological component of the area. The USACE generally will not exert jurisdiction over these systems.

5.0 CONCLUSIONS

TRC was contracted by Rancho Viejo Waste Management, LLC to conduct a determination and delineation of waters of the U.S. for the proposed Rancho Viejo Landfill Project. The determination was performed in order to identify the presence and delineate the boundaries of wetlands and other waters potentially subject to regulation by the USACE pursuant to Section 404 of the Clean Water Act.

Based on review of background data and the results of the field investigation, qualified wetland scientists from TRC determined that potentially jurisdictional wetlands and waters of the U.S. are present within the Project survey area and include seven palustrine, scrub-shrub wetlands (W109, W115, W118, W126, W127, W132, W133), one palustrine, emergent wetland (W130), nine ephemeral streams (S103, S107, S108, S114, S119, S116, S120, S121, S125), and nine stock tanks (WB101, WB104, WB106, WB110, WB111, WB113, WB117, WB128, WB131). Five ephemeral streams (S122, S123, S124, S134, and S135) that may have been components of contiguous drainage systems are also present within the Project survey area. Coordination with the USACE is recommended to determine if the agency will exert

jurisdiction over the identified systems within the Project survey area. Maps presenting the results of the determination and further details regarding the collected data are presented in Appendices A and B.

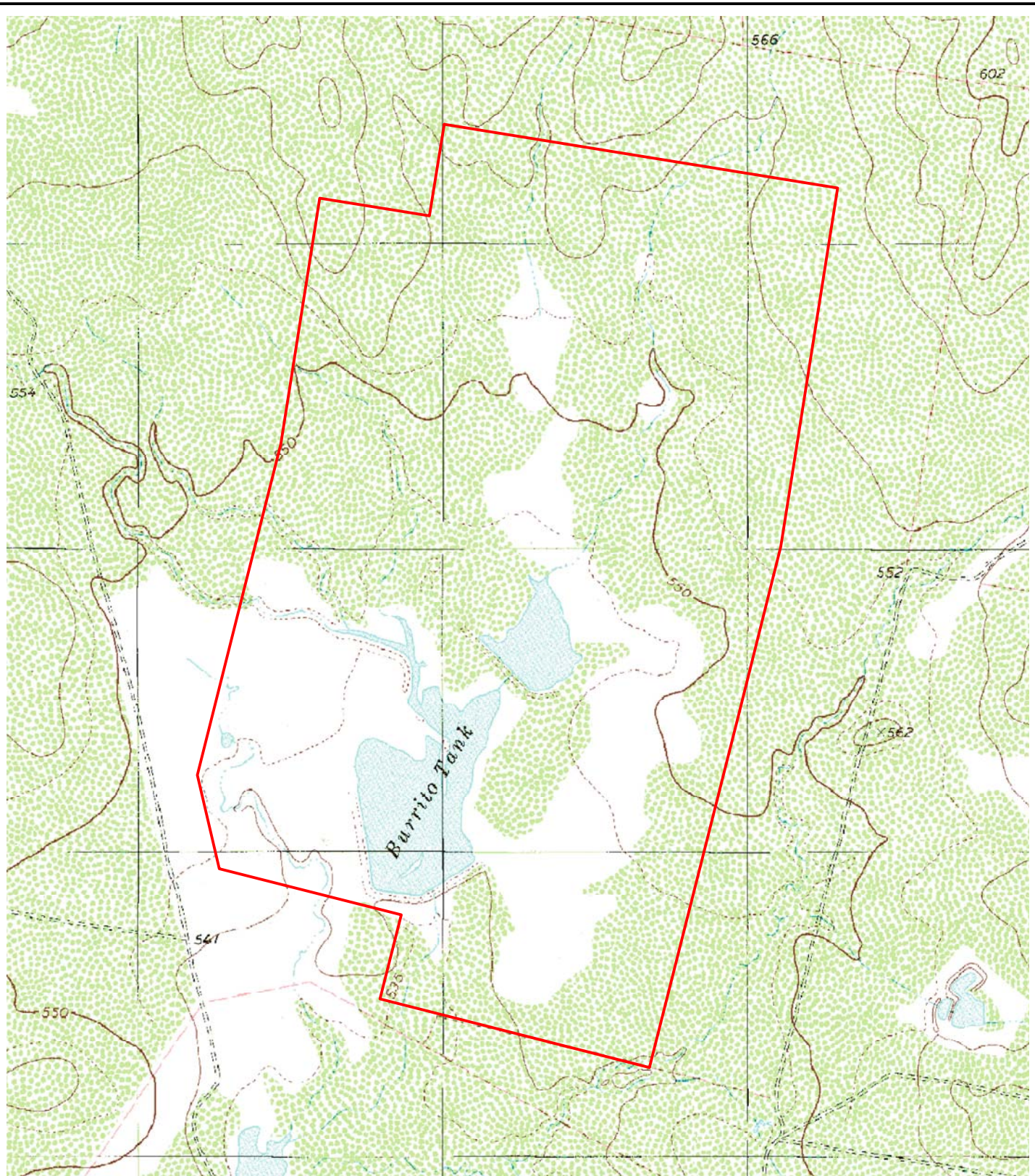
6.0 REFERENCES

- FEMA. 2011. Map Service Center: FEMA Issued Flood Maps. Webb County, Texas. Flood Map ID 484791275. Accessed on April 15, 2011, at:
<http://gis1.msc.fema.gov/Website/newstore/viewer.htm>.
- Reed, P. 1988. National List of Plant Species that Occur in Wetlands: Southeast (Region 6). Accessed April 15, 2011, at:
<http://www.fws.gov/pacific/ecoservices/habcon/pdf/National%20List%20of%20Plant%20Species%201988.pdf>.
- USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-1. U.S. Army Engineer Research and Development Center, Vicksburg, MS.
- USACE, Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. U.S. Army Corps of Engineers, Waterways Experiment Station, Wetlands Research Program, Technical Report Y-87-1. Vicksburg, MS. January 1987 - Final Report. 92 pp. + app.
- USDA – NRCS. 2011a. National Hydric Soils List by State. Accessed on April 15, 2011, at:
<http://soils.usda.gov/use/hydric/>.
- USDA – NRCS. 2011b. Soil Survey Division. Web Soil Survey. Accessed on April 15, 2011, at:
<http://websoilsurvey.nrcs.usda.gov/app/>.
- USEPA. 2011c. Surf Your Watershed Database. Accessed on April 15, 2011, at:
<http://cfpub.epa.gov/surf/locate/index.cfm>.
- USFWS. 2011. NWI Wetlands Mapper. Accessed on April 15, 2011 at:
<http://www.fws.gov/wetlands/Data/Mapper.html>
- USGS. 1980. 7.5-minute series quadrangle topographical map, Burrito Tank Quadrangle, Webb County, Texas.
- X-Rite, Incorporated. 2009. Munsell Soil Color Charts. Munsell Color Division, Grand Rapids, MI. Revised Edition.

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FIGURE 1
SITE LOCATION MAP

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LEGEND

— Survey Area

N



0 250 500
Meters

Source: U.S.G.S 7.5-Minute Series Topographic Map, Burrito Tank (1980), Texas.

SITE LOCATION MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



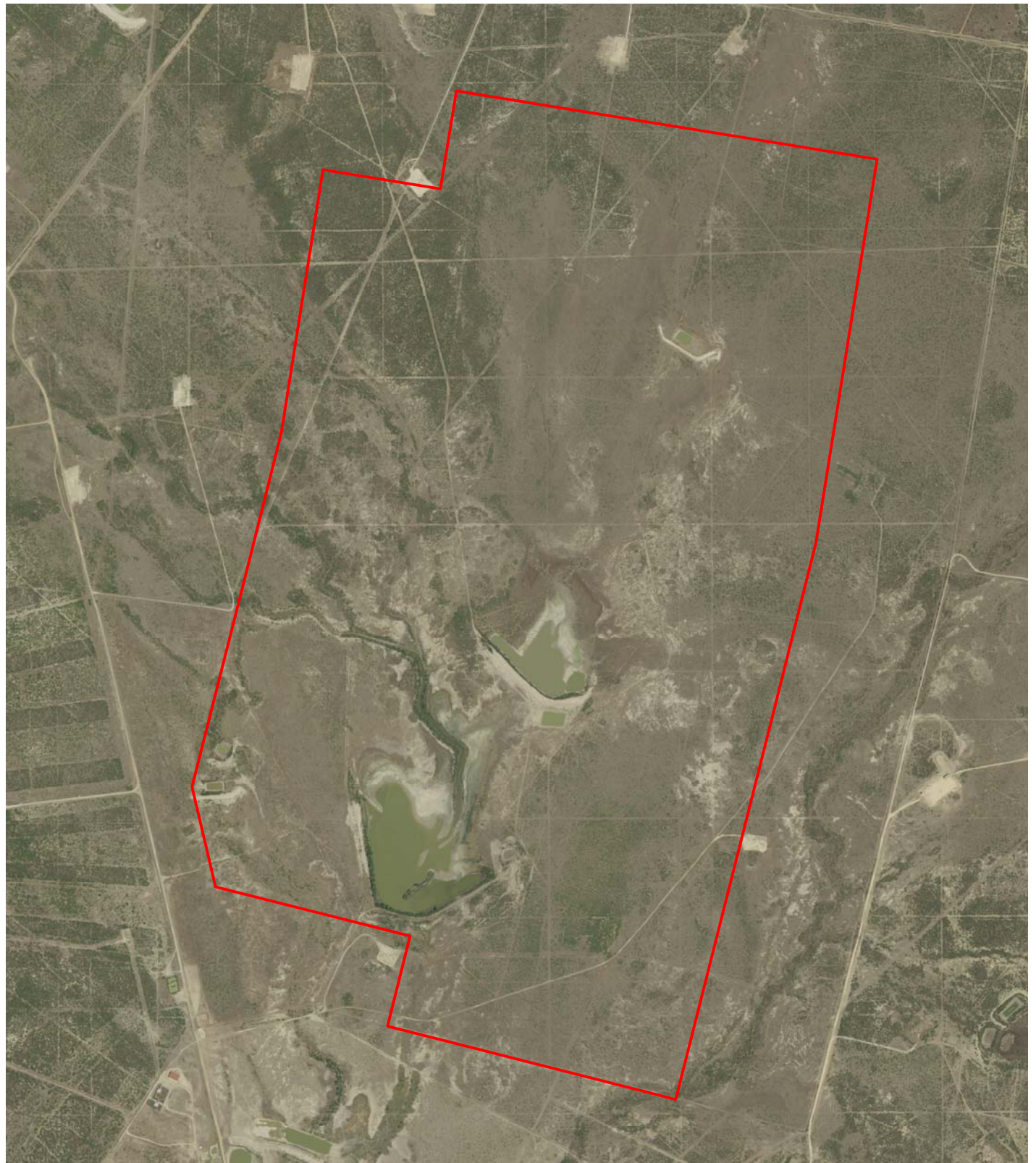
505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
1

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FIGURE 2
SITE LOCATION MAP

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LEGEND

— Survey Area

N



0 250 500
Meters

Source: National Agriculture Imagery Program (NAIP), 2008.

SITE LOCATION MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



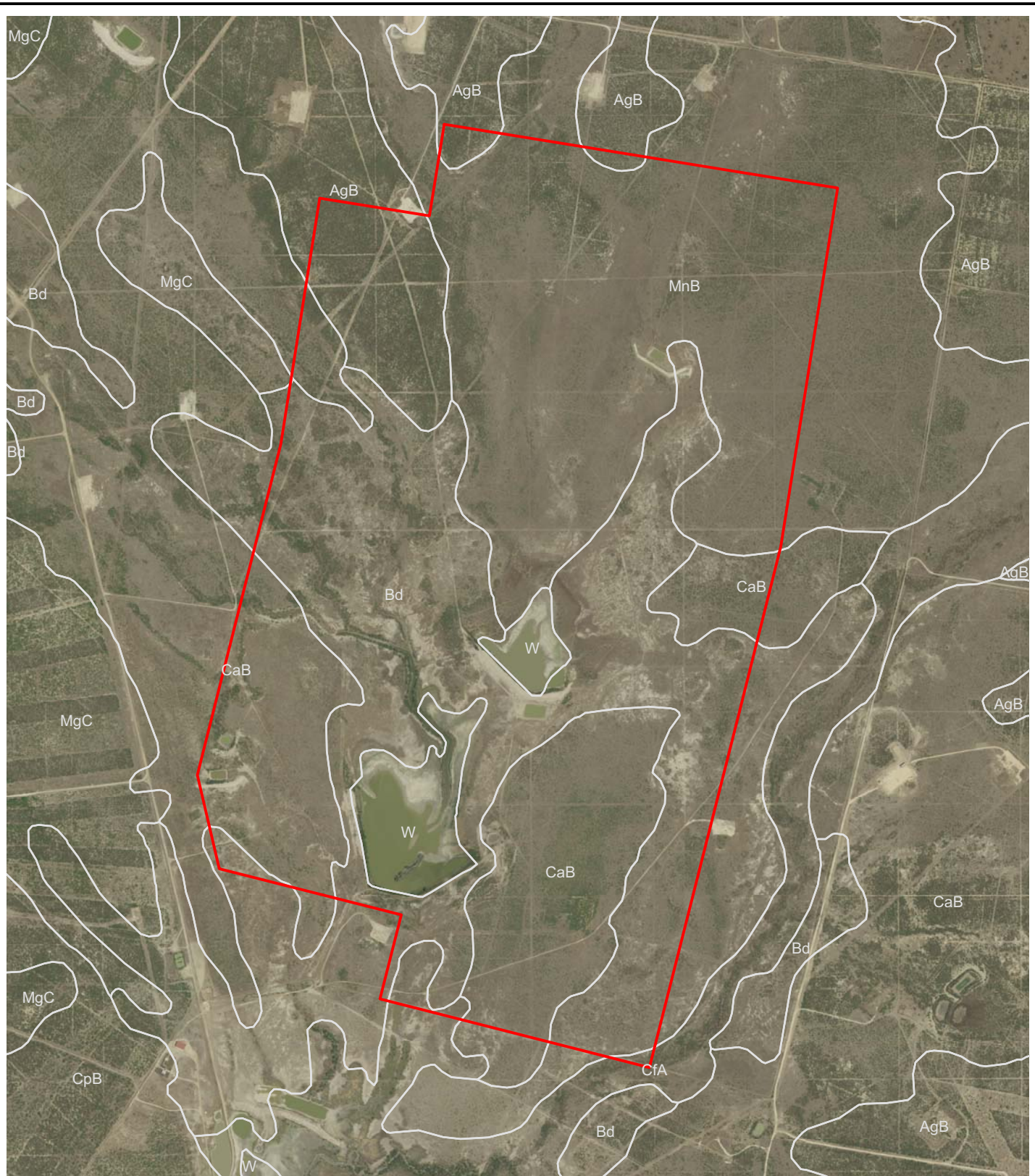
505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
2

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FIGURE 3
SOILS MAP

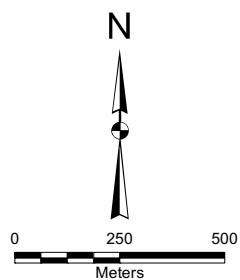
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LEGEND

- Survey Area
- Soil Map Unit Boundary

Source: Soil Survey Geographic (SSURGO)
Database for Webb County, Texas



SOILS MAP

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 5/18/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
3

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FIGURE 4
USFWS NATIONAL WETLANDS INVENTORY MAP

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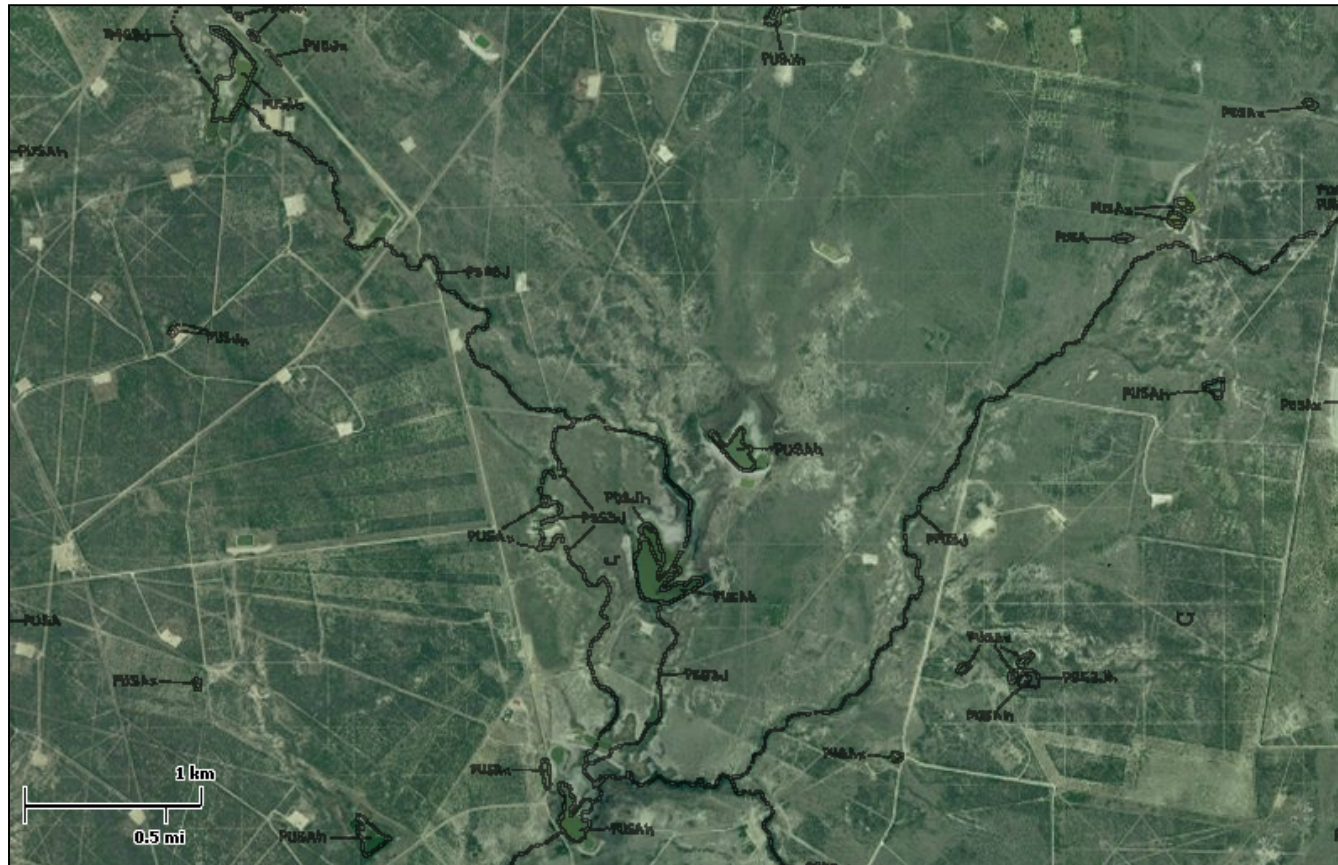


U.S. Fish and Wildlife Service

National Wetlands Inventory

Pescadito
Environmental
Resource Ctr

Aug 8, 2011



Wetlands

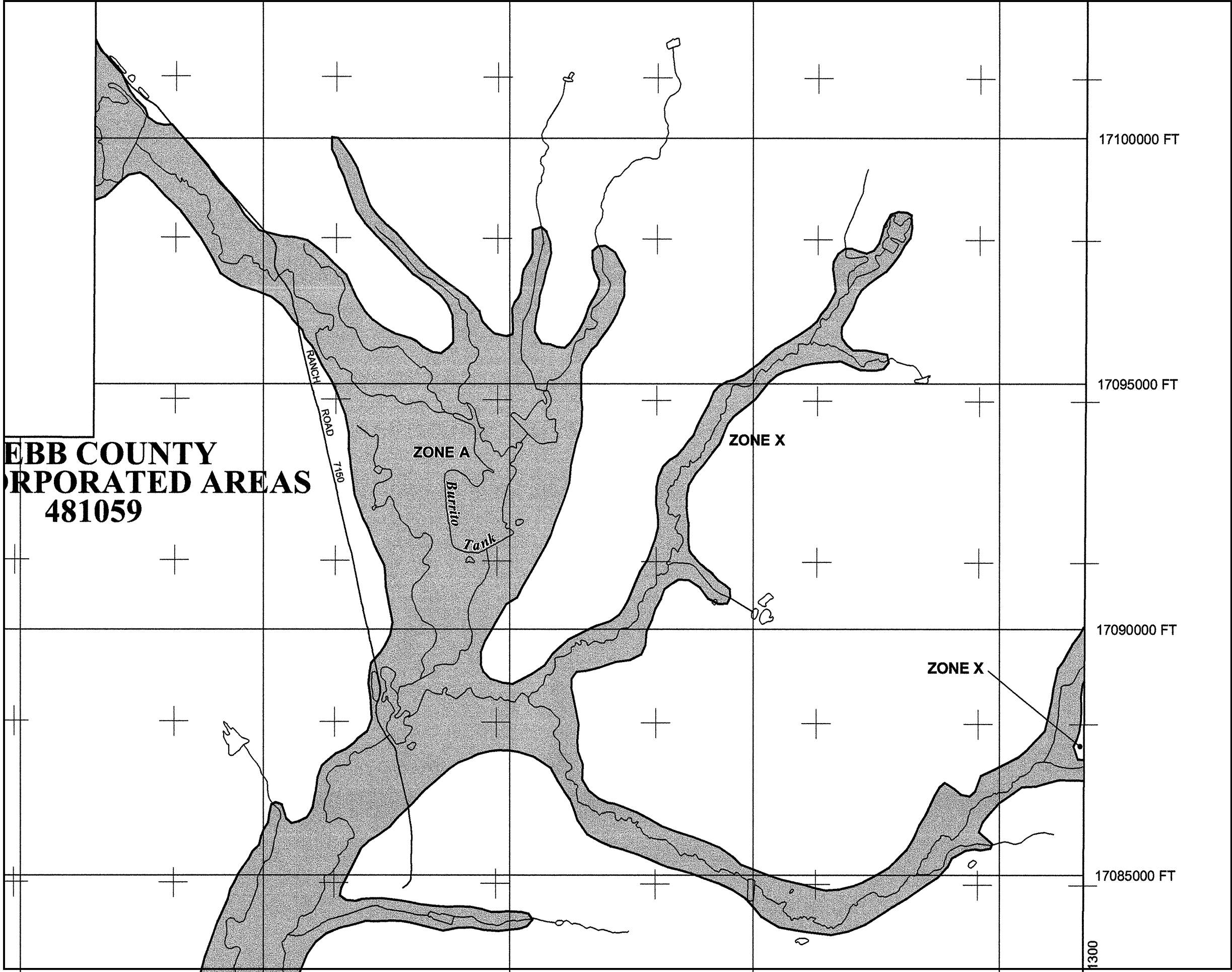
- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

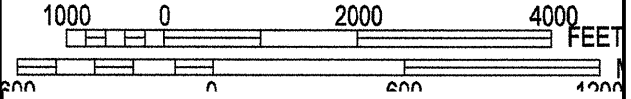
User Remarks:

FIGURE 5
FEMA FLOOD INSURANCE RATE MAP

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MAP SCALE 1" = 2000'



PANEL 1275C

FIRM
FLOOD INSURANCE RATE MAP
WEBB COUNTY,
TEXAS
AND INCORPORATED AREAS

PANEL 1275 OF 1700
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

<u>COMMUNITY</u>	<u>NUMBER</u>	<u>PANEL</u>	<u>SUFFIX</u>
WEBB COUNTY	481059	1275	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.



MAP NUMBER
48479C1275C

EFFECTIVE DATE
APRIL 2, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

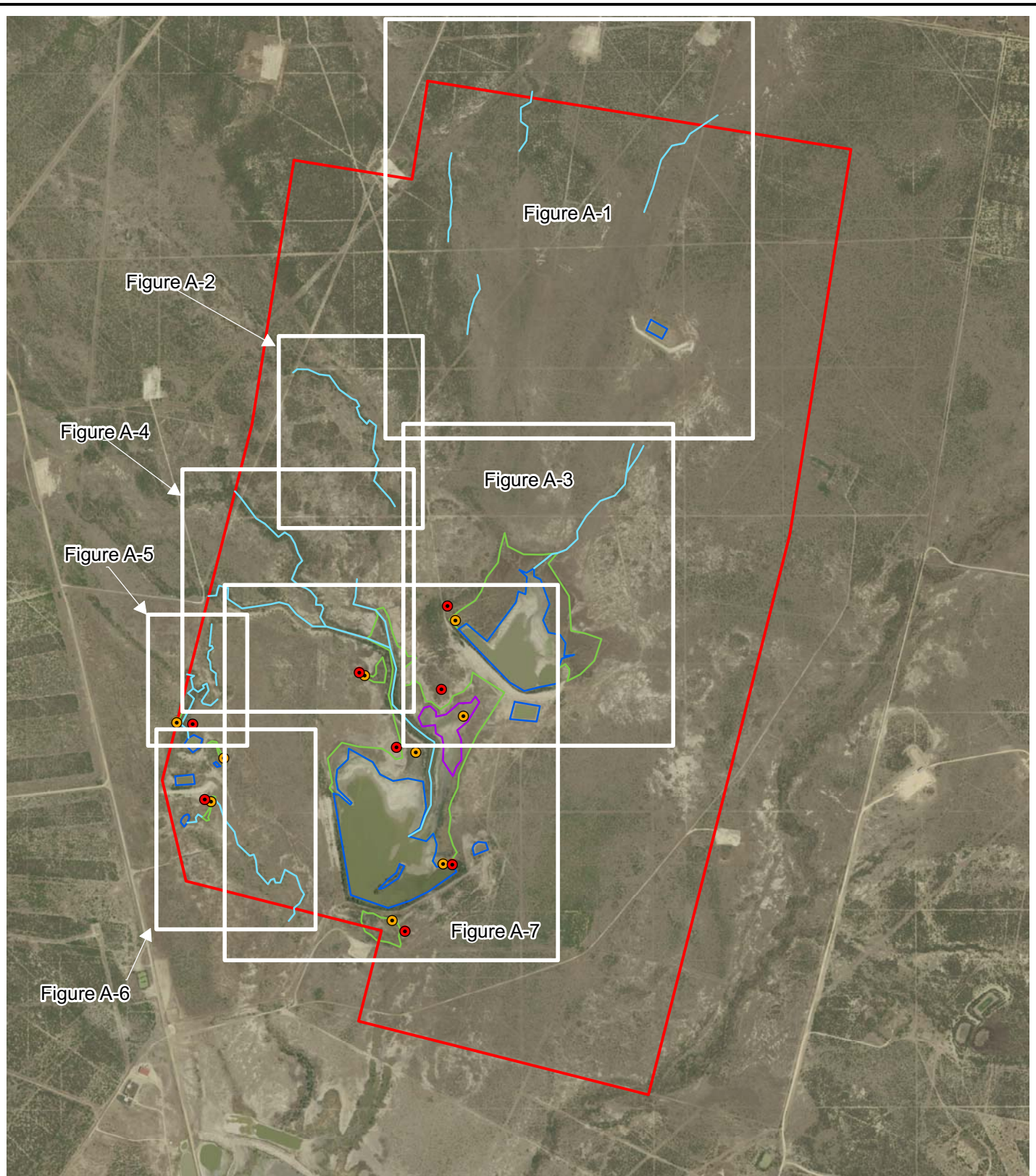
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APPENDIX A

SURVEY RESULTS -

AERIAL PHOTOGRAPH-BASED WETLAND SURVEY MAPS

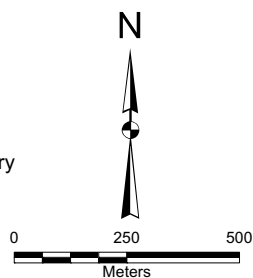
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LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Emergent (PEM) Wetland Boundary
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UPD)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS INDEX MAP

WEBB COUNTY, TEXAS

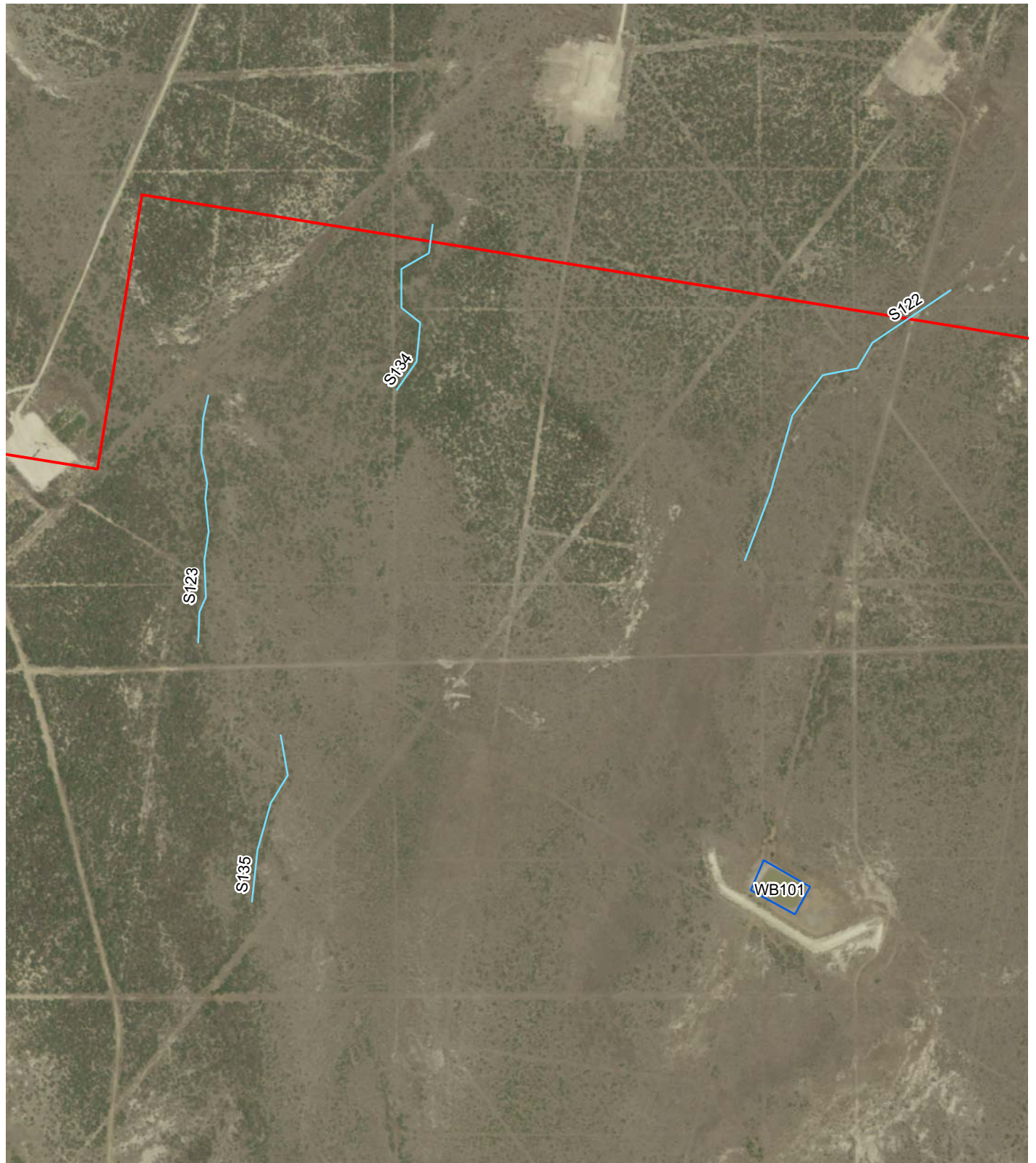
PROJECT NO.: 182277

DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A



LEGEND

- Survey Area
- Streams
- Stock Tanks

N



0 100 200
Meters

SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-1

Source: National Agriculture Imagery Program (NAIP), 2008.



LEGEND

- Survey Area
- Streams

N



0 50 100
Meters

SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

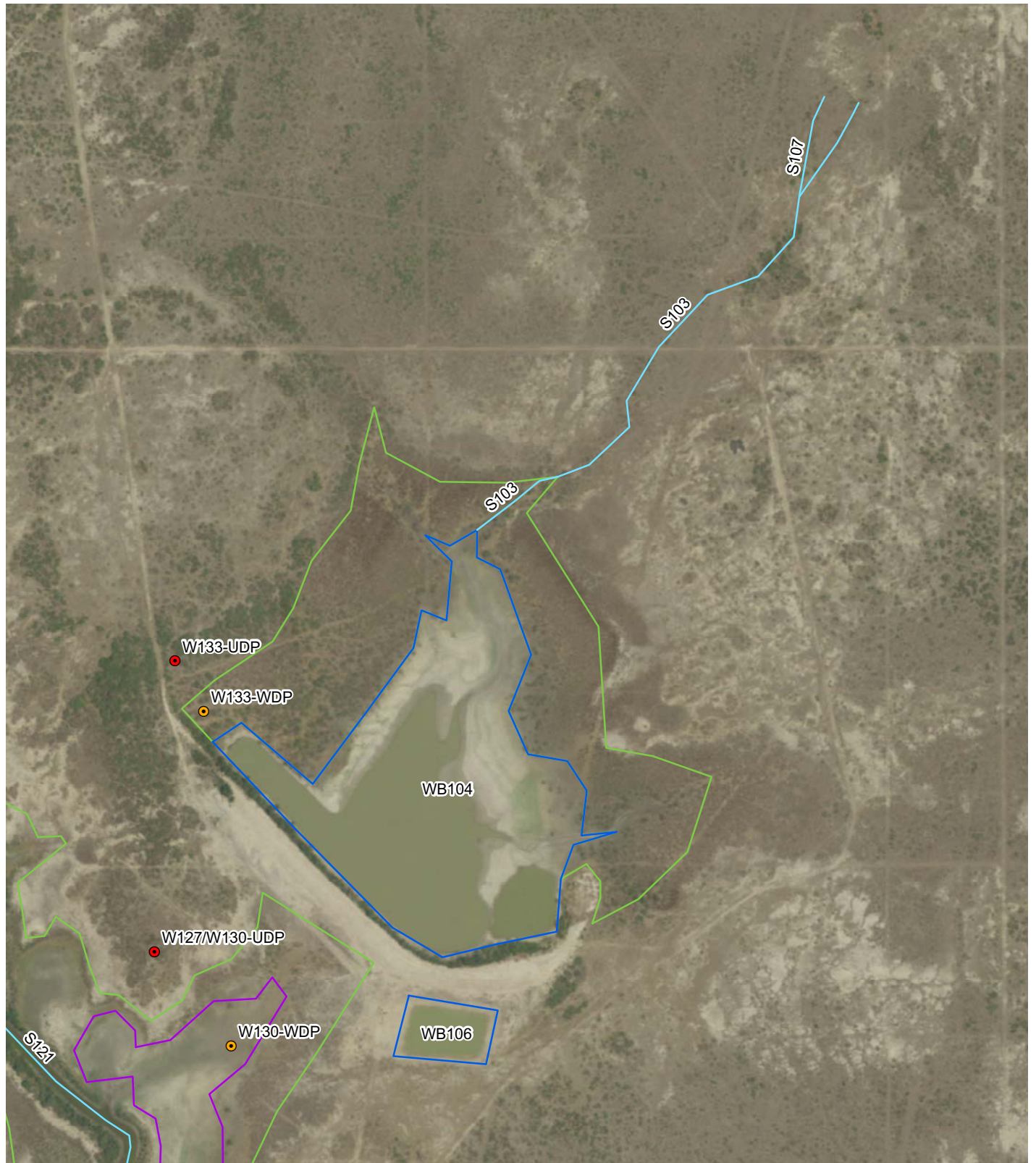
DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-2

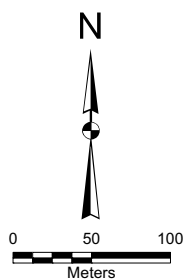
Source: National Agriculture Imagery Program (NAIP), 2008.



LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Emergent (PEM) Wetland Boundary
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

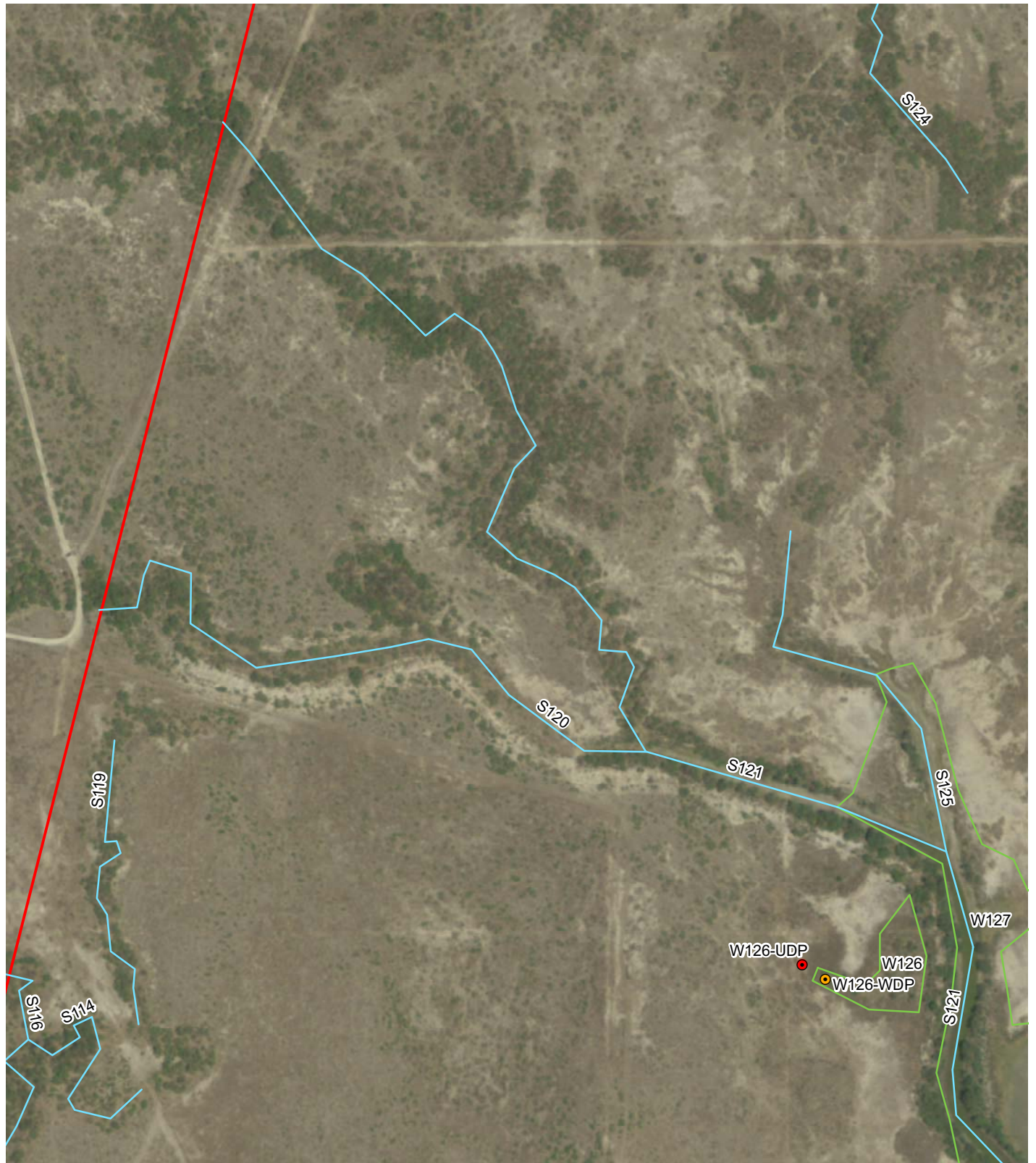
PROJECT NO.: 182277

DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

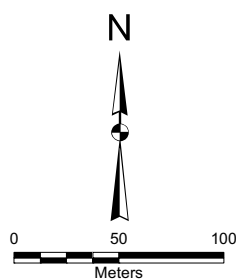
FIGURE
A-3



LEGEND

- Survey Area
- Streams
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
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FIGURE
A-4



LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

N



0 25 50
Meters

SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

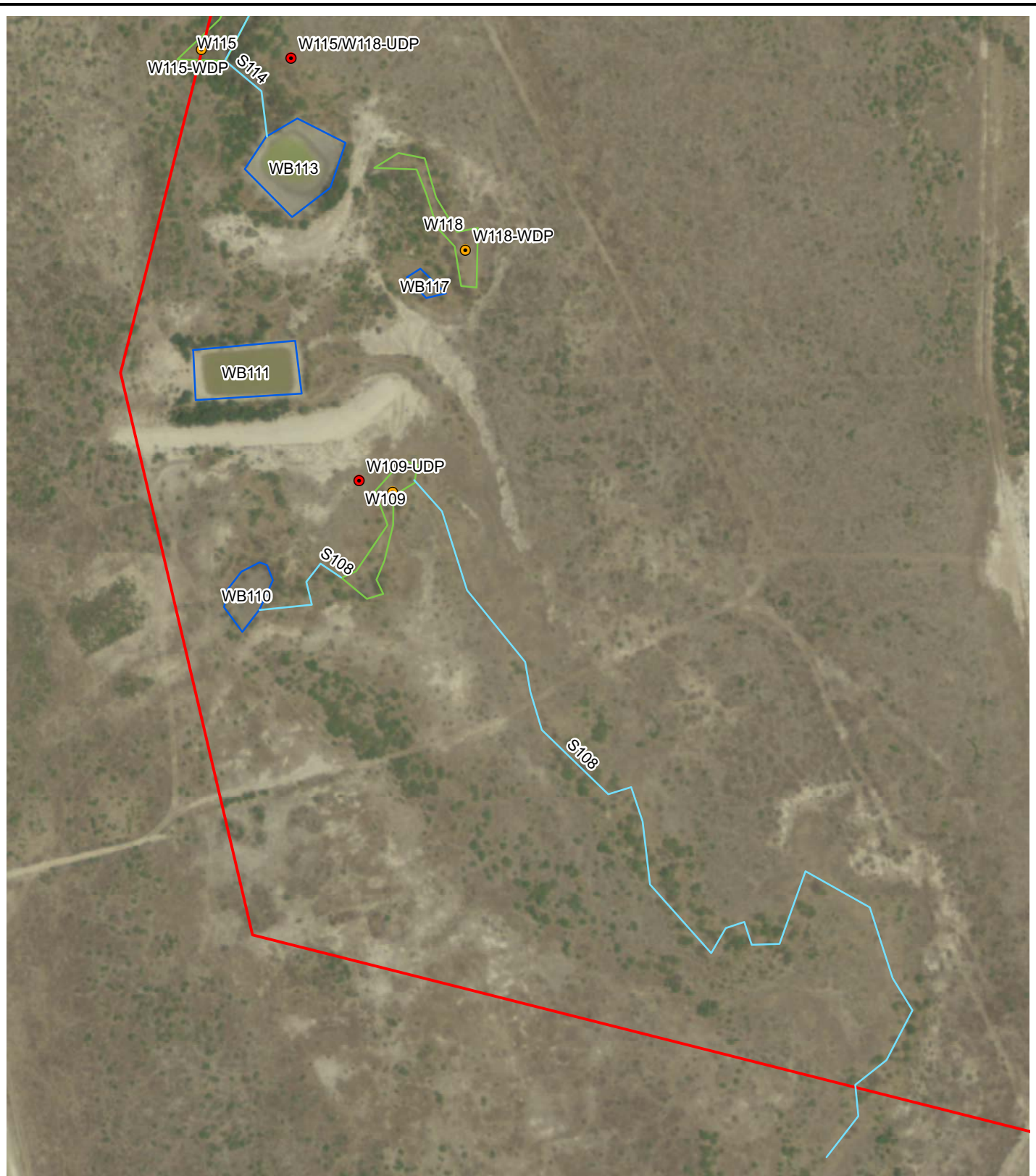
DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-5

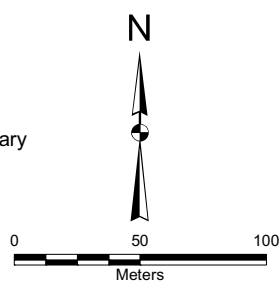
Source: National Agriculture Imagery Program (NAIP), 2008.



LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

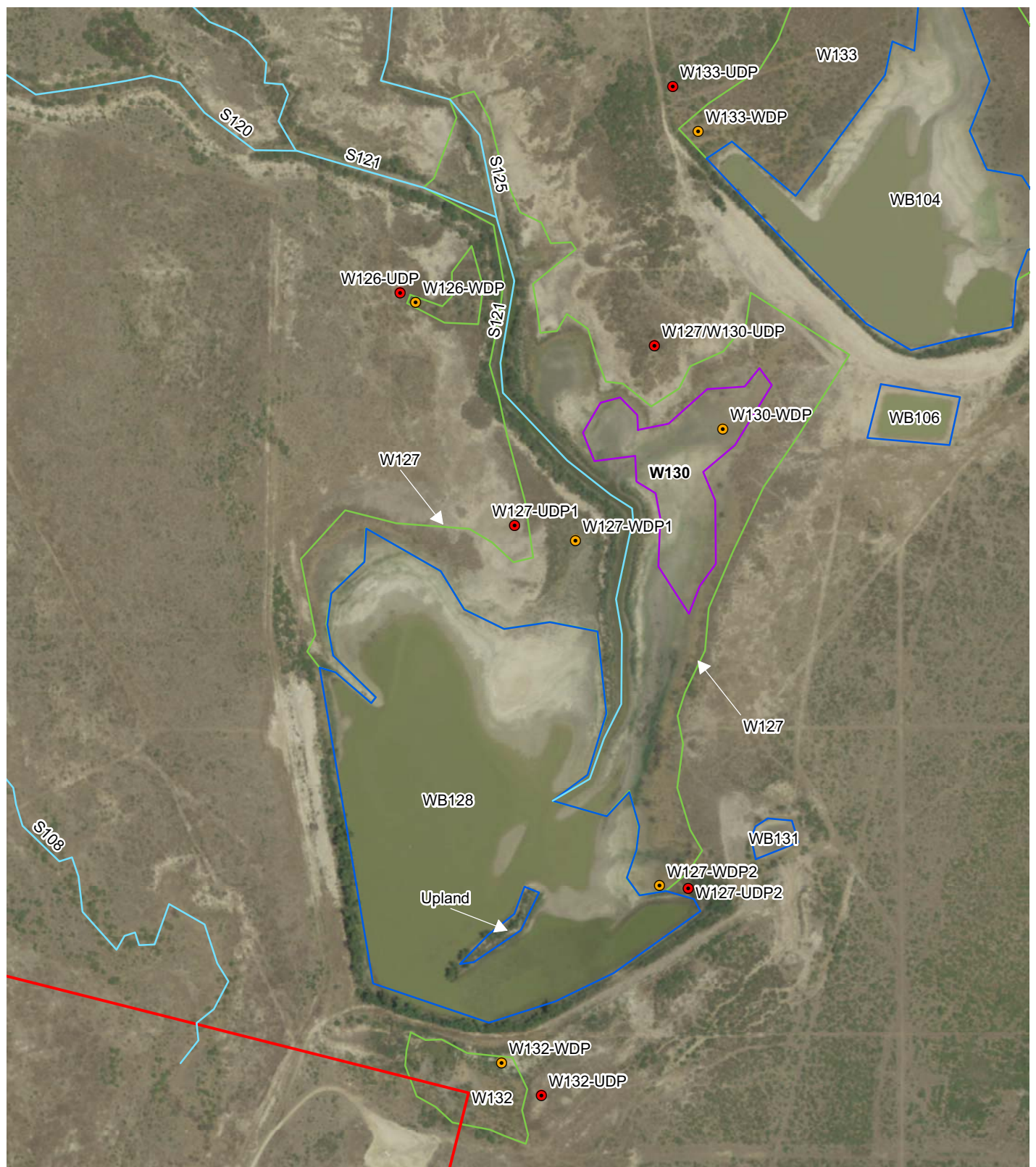
PROJECT NO.: 182277

DATE: 6/21/2011



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SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

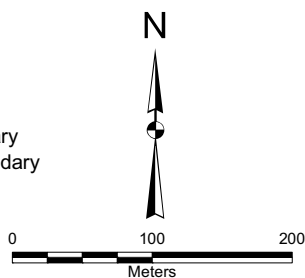
FIGURE
A-6



LEGEND

- Survey Area
- Streams
- Stock Tanks
- Palustrine Emergent (PEM) Wetland Boundary
- Palustrine Scrub Shrub (PSS) Wetland Boundary
- Wetland Data Point (WDP)
- Upland Data Point (UDP)

Source: National Agriculture Imagery Program (NAIP), 2008.



SURVEY RESULTS

WEBB COUNTY, TEXAS

PROJECT NO.: 182277

DATE: 6/21/2011



505 EAST HUNTLAND DRIVE
SUITE 250
AUSTIN, TEXAS 78752
512-329-6080

FIGURE
A-7

APPENDIX B
SURVEY RESULTS -
INCLUDED FOR EACH WETLAND DETERMINATION DATA POINT

- Wetland Determination Data Forms
- Photographic Log

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WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W109-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048393.622 N Long: 483296.342 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
1. <u>Prosopis glandulosa (Mesquite,honey)</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing. No species present with listed indicator status.

SOIL

Sampling Point: W109-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR4/2	100			N/A	N/A	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W109-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Drainageway Local relief (concave, convex, none): concave Slope (%): 2
 Subregion (LRR): LRR I Lat: 3048387.371 N Long: 483314.876 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS located along ephemeral drainage (S108). Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10</u>)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>10</u>)				
1. <u>Helenium microcephalum (Sneezeweed, small-head)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W109-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR4/2	95	7.5YR4/6	5	C	M	Clay	
3-4	10YR6/3	100			N/A	N/A	Sandy	
4-18	10YR 3/2	100			N/A	N/A	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:
 Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)
Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located within ephemeral drainage system (S108).

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W115/W118-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048624.906 N Long: 483259.123 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
1. <u>Prosopis glandulosa</u> (Mesquite,honey)	<u>15</u>	<u>Y</u>	<u>n/a</u>	
2. <u>Acacia schaffneri</u> (Acacia,twisted)	<u>10</u>	<u>Y</u>	<u>n/a</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) X Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>15</u>	<u>Y</u>	<u>n/a</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>85</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area. No species present with listed indicator status.

SOIL

Sampling Point: W115/W118-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR4/2	100			N/A	N/A	Sandy	
3-18	10YR4/2	100			N/A	N/A	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u> X </u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W115-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Drainageway Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048629.461 N Long: 483209.961 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS located along ephemeral drainage (S114). Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Aster spinosus (Aster, spiny)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Aster spinosus (Aster, spiny)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>90</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W115-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features			Loc ²	Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹			
0-12	7.5YR4/2	95	5YR4/4	5	C	M	Clay	
					N/A	N/A	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present?Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 20, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W118-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Abandoned drainageway Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048519.898 N Long: 483354.649 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks: PSS located along abandoned drainageway and is an enclosed depression. Historic ephemeral system (S108/S114/S119) interrupted by series of impoundments/stock tanks (W110, W111, W113, W117). Vegetation highly disturbed from severe overgrazing throughout project area.		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>10</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W118-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR4/2	98	2.5YR4/4	2	C	M	Sandy Clay	
					N/A	N/A	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W126-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048782.571 N Long: 483769.058 E Datum: _____
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
 Are Vegetation X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No ____	Is the Sampled Area within a Wetland? Yes ____ No <u>X</u>
Hydric Soil Present? Yes ____ No <u>X</u>	
Wetland Hydrology Present? Yes ____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>15</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: ____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% ____ 3 - Prevalence Test is ≤ 3.0 ¹ ____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Opuntia engelmannii var. lindheimeri</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No ____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>80</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area.

SOIL

Sampling Point: W126-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR7/3	100			N/A	N/A	Sandy	
2-5	7.5YR4/4	100			N/A	N/A	Clay	Visible salt crystals
5-15	10YR4/3	100			N/A	N/A	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present?Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W126-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): Drainageway Local relief (concave, convex, none): concave Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048772.829 N Long: 483784.291 E Datum: _____
 Soil Map Unit Name: _____ NWI Classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS located adjacent to ephemeral drainage levee/dike (S121) and within small low area/drainage. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>5</u>)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>55</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W126-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR4/2	100			N/A	N/A	Sandy Clay	
2-6	10YR4/2	95	7.5YR4/4	5	C	M	Clay	
6-12	10YR6/3	98	7.5YR4/4	2	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-UDP1
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048551.46 N Long: 483907.416 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ <u>0</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Herb Stratum (Plot size: <u>10</u>) 1. <u>Borrchia frutescens (Oxeye, sea)</u> <u>10</u> <u>Y</u> <u>FACW</u> 2. <u>Lycium carolinianum (Wolf-berry, carolina)</u> <u>10</u> <u>Y</u> <u>FACW</u> 3. <u>Tamarix ramosissima (Saltcedar)</u> <u>2</u> _____ <u>FACW</u> 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ <u>22</u> = Total Cover				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ <u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>80</u>				
Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area.

SOIL

Sampling Point: W127-UDP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR7/2	100			N/A	N/A	Sandy	
2-16	7.5YR3/2	100			N/A	N/A	Sandy Clay	
					N/A	N/A	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.**Restrictive Layer (if observed):**
 Type: _____
 Depth (inches): _____
Hydric Soil Present?Yes _____ No X**Remarks:**

Stunted hydrophyte growth compared with growth of same species within W127.

HYDROLOGY

Wetland Hydrology Indicators:Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present?Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-UDP2
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) Ridge Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): LRR I Lat: 3048195.083 N Long: 484052.996 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area. Soil compacted from livestock at W129-UDP.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
1. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	<u>30</u>	<u>= Total Cover</u>		
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>20</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Aster spinosus (Aster, spiny)</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	<u>40</u>	<u>= Total Cover</u>		
Herb Stratum (Plot size: _____)				
1. <u>Cynodon dactylon (Grass, bermuda)</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Aster spinosus (Aster, spiny)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	<u>40</u>	<u>= Total Cover</u>		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
% Bare Ground in Herb Stratum <u>60</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W127-UDP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR5/2	100			N/A	N/A	Sandy	
3-10	10YR4/2	100			N/A	N/A	Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127/W130-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048730.584 N Long: 484019.776 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Isocoma coronopifolia (Goldenweed, common)</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Opuntia engelmannii var. lindheimeri</u>	<u>15</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Jatropha dioica (Leatherstem)</u>	<u>5</u>	_____	<u>n/a</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area. No species present with listed indicator status.

SOIL

Sampling Point: W127/W130-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR5/2	100			N/A	N/A	Sandy	
2-10	7.5YR4/2	100			N/A	N/A	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-WDP1
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR I Lat: 3048538.163 N Long: 483941.687 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Large PSS abutting ephemeral stream S121 and stock tank W128. A portion of W127 is within sparsely to non-vegetated area caused by high soil salt content (hydric soil and few oxidized roots present). Levees are present ephemeral stream S121; similar hydrophytic vegetation, hydric soil, and hydrology indicators were observed within S121 and along its levees; therefore, levees are included within the W127 survey polygon. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10</u>)				
1. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Tamarix ramosissima (Saltcedar)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>25</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u>X</u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% 3 - Prevalence Test is ≤ 3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless d sturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W127-WDP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR7/2	100			N/A	N/A	Sandy	
2-10	7.5YR4/1+	95	7.5YR5/6	5	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W127-WDP2
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 2
 Subregion (LRR): LRR I Lat: 3048197.819 N Long: 484024.834 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area. Soil likely compacted from livestock.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Aster spinosus (Aster,spiny)</u>	<u>15</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Lycium carolinianum (Wolf-berry,carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>20</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Cynodon dactylon (Grass,bermuda)</u>	<u>40</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>40</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>50</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation highly disturbed from severe overgrazing throughout project area.

SOIL

Sampling Point: W127-WDP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR5/2	100			N/A	N/A	Sandy	
2-12	10YR4/2	95	7.5YR4/4	5	C	M	Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W130-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048648.316 N Long: 484087.144 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PEM
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PEM located within a PSS (W127) and downgradient of tank W104. Vegetation highly disturbed from severe overgrazing throughout project area. Soil compacted, likely from livestock.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>20</u> X 2 = <u>40</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>15</u> X 4 = <u>60</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>35</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>2.86</u>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Herb Stratum (Plot size: _____)				
1. <u>Cynodon dactylon (Grass, bermuda)</u>	<u>15</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% <u>X</u> 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Helenium microcephalum (Sneezeweed, small-head)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Aster spinosus (Aster, spiny)</u>	<u>5</u>		<u>FACW</u>	
4. <u>Eryngium nasturtiifolium (Hierba del sapo)</u>	<u>5</u>		<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>35</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>65</u>				

Remarks: (Include photo numbers here or on a separate sheet.)

Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing. Cynodon dactylon exhibiting stunted growth.

SOIL

Sampling Point: W130-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-6	10YR5/2	98	7.5YR4/4	2	C	M	Sandy	
6-10	10YR4/2	95	7.5YR4/4	5	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

Soil compacted, likely from livestock.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input checked="" type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W132-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3047991.051 N Long: 483908.196 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.		

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>NaN</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> X 2 = <u>0</u> FAC species <u>0</u> X 3 = <u>0</u> FACU species <u>0</u> X 4 = <u>0</u> UPL species <u>0</u> X 5 = <u>0</u> Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = <u>NaN</u>
= Total Cover				

Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation _____ 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
= Total Cover				

Herb Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. <u>Varilla texana (Saladillo)</u>	<u>5</u>	<u>Y</u>	<u>n/a</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
= Total Cover				

Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
= Total Cover				

% Bare Ground in Herb Stratum _____				

Remarks: (Include photo numbers here or on a separate sheet.)

Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing. No species present with listed indicator status.

SOIL

Sampling Point: W132-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u> X </u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u> X </u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W132-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048023.448 N Long: 483868.978 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: PSS downgradient of and abutting an impoundment of stock tank W128. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Tamarix ramosissima (Saltcedar)</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Borrichia frutescens (Oxeye, sea)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Spartina spartinae (Cordgrass, gulf)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Test is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W132-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR6/2	100			N/A	N/A	Sandy	
2-10	7.5YR4/2	98	5YR4/4	2	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W133-UDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.) flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048985.983 N Long: 484037.758 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Prosopis glandulosa (Mesquite,honey)</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ X 2 = _____ FAC species _____ X 3 = _____ FACU species _____ X 4 = _____ UPL species _____ X 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Acacia schaffneri (Acacia,twisted)</u>	<u>5</u>	_____	<u>n/a</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>55</u>	= Total Cover		
Herb Stratum (Plot size: _____)				
1. <u>Opuntia engelmannii var. lindheimeri</u>	<u>30</u>	<u>Y</u>	<u>n/a</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Lycium carolinianum (Wolf-berry,carolina)</u>	<u>5</u>	_____	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
	<u>35</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
	<u>0</u>	= Total Cover		
% Bare Ground in Herb Stratum <u>65</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Little herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W133-UDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR4/2	100			N/A	N/A	Sandy Clay	
4-18	7.5YR4/2	100			N/A	N/A	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix (S4) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | (MLRA 72 & 73 of LRR H) |

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |
| (LRR H outside of MLRA 72 & 73) |
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift Deposits (B3) | (where not tilled) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Water Table Present?	Yes _____	No <u>X</u>	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No <u>X</u>	Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Great Plains Region

Project/Site: Rancho Viejo Webb County Landfill City/County: Webb Sampling Date: Apr 21, 2011
 Applicant/Owner: Rancho Viejo Waste Management, LLC State: Texas Sampling Point: W133-WDP
 Investigator(s): B.Clark, T.Schnakenberg Section, Township, Range: _____
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR I Lat: 3048941.718 N Long: 484062.844 E Datum: NAD83
 Soil Map Unit Name: _____ NWI Classification: PSS
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: Large PSS abutting ephemeral stream S103 and stock tank W104. Vegetation highly disturbed from severe overgrazing throughout project area.	

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>0</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>Parkinsonia aculeata (Jerusalem-thorn)</u>	<u>30</u>	<u>Y</u>	<u>FACW</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Acacia schaffneri (Acacia, twisted)</u>	<u>10</u>	<u>Y</u>	<u>n/a</u>	
3. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>50</u> = Total Cover				
Herb Stratum (Plot size: _____)				
1. <u>Lycium carolinianum (Wolf-berry, carolina)</u>	<u>5</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is > 50% _____ 3 - Prevalence Test is ≤ 3.0 ¹ _____ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u>X</u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
<u>5</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
<u>0</u> = Total Cover				
% Bare Ground in Herb Stratum <u>95</u>				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparse herbaceous vegetation. Vegetation in the area highly disturbed from severe overgrazing.

SOIL

Sampling Point: W133-WDP

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	7.5YR4/2	98	5YR4/3	2	C	M	Sandy Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR F, G, H)	<input checked="" type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 & 73 of LRR H)

Indicators for Problematic Hydric Soils³:

<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)
<input type="checkbox"/> Coast Prairie Redox (A16) (LRR F, G, H)
<input type="checkbox"/> Dark Surface (S7) (LRR G)
<input type="checkbox"/> High Plains Depressions (F16)
(LRR H outside of MLRA 72 & 73)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	(where not tilled)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water-Stained Leaves (B9)	

Secondary Indicators (minimum of two required)

<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
(where tilled)
<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Geomorphic Position (D2)
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Frost-Heave Hummocks (D7) (LRR F)

Field Observations:



Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
Water Table Present? Yes ☐ No ☒ Depth (inches): _____
Saturation Present? Yes ☐ No ☒ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐



Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 1		
Feature: Stock Tank WB101		
Date: 4/19/2011		
Comments: Stock tank WB101. Facing north.		
Photograph ID: 2		
Feature: Stream S103		
Date: 4/19/2011		
Comments: Ephemeral stream S103. Facing south (downstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 3		
Feature: Stream S103		
Date: 4/19/2011		
Comments: Ephemeral stream S103. Facing north (upstream).		
Photograph ID: 4		
Feature: Ephemeral stream S107		
Date: 4/19/2011		
Comments: Ephemeral stream S107, a short tributary of S103. Facing north (upstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 5		
Feature: Stock Tank WB104 and Wetland W133		
Date: 4/19/2011		
Comments: Stock tank SB104 and wetland W133 (left of photo). Facing south.		
Photograph ID: 6		
Feature: Wetland W133 and Stock Tank W1B104		
Date: 4/21/2011		
Comments: Wetland W133 (background) at the edge of stock tank WB104 (foreground). Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 7			
Feature: Wetland W133			
Date: 4/21/2011			
Comments: Wetland W133. Facing north.			
Photograph ID: 8			
Feature: Soil at W133-WDP			
Date: 4/19/2011			
Comments: Soil at W133-WDP wetland data point.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 9			
Feature: Upland Habitat at W133-UDP			
Date: 4/19/2011			
Comments: Upland habitat at W133-UDP upland data point. Facing north.			
Photograph ID: 10			
Feature: Soil at W133-UDP			
Date: 4/20/2011			
Comments: Soil at W133-UDP upland data point.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 11			
Feature: Stock Tank WB106			
Date: 4/19/2011			
Comments: Stock tank WB106. Facing north.			
Photograph ID: 12			
Feature: Wetland W109 (W109-WDP)			
Date: 4/20/2011			
Comments: Wetland W109 at W109-WDP. Facing south.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 13			
Feature: Soil at W109-WDP			
Date: 4/20/2011			
Comments: Soil profile at W109-WDP wetland data point.			
Photograph ID: 14			
Feature: Upland habitat at W109-UDP			
Date: 4/20/2011			
Comments: Upland habitat at W109-UDP upland data point. Facing north.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 15			
Feature: Soil at W109-UDP			
Date: 4/20/2011			
Comments: Soil profile at W109-UDP upland data point.			
Photograph ID: 16			
Feature: Stock Tank WB110			
Date: 4/20/2011			
Comments: Stock tank WB110. Facing north.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 17		
Feature: Stock Tank WB111		
Date: 4/20/2011		
Comments: Stock Tank WB111. Facing east.		
Photograph ID: 18		
Feature: Stock Tank WB113		
Date: 4/20/2011		
Comments: Stock Tank WB113. Facing south.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 19		
Feature: Stock Tank WB113 at Stream S114		
Date: 4/20/2011		
Comments: Stock tank WB113 at ephemeral stream S114. Facing north.		
Photograph ID: 20		
Feature: Wetland W115 and Stream S114		
Date: 4/20/2011		
Comments: Wetland W115 (left of photo), located adjacent to ephemeral stream S114 (background). Facing north (upstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 21		
Feature: Stream S114		
Date: 4/20/2011		
Comments: Ephemeral stream S114. Facing north (upstream).		
Photograph ID: 22		
Feature: Upland Habitat at W115/W118-UDP		
Date: 4/20/2011		
Comments: Upland habitat at W115/W118-UDP upland data point. Facing east.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 23		
Feature: Soil at W115/W118-UDP		
Date: 4/20/2011		
Comments: Soil at W115/W118-UDP upland data point.		
Photograph ID: 24		
Feature: Stock Tank WB117		
Date: 4/20/2011		
Comments: Stock Tank WB117. Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 25		
Feature: Wetland W118		
Date: 4/20/2011		
Comments: Wetland W118, located within an abandoned drainage channel created by stock tank construction. Facing north.		
Photograph ID: 26		
Feature: Stream S116		
Date: 4/20/2011		
Comments: Ephemeral stream S116. Facing north (upstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 27		
Feature: Stream S120		
Date: 4/20/2011		
Comments: Ephemeral stream S120 (left of photo). Facing east (downstream).		
Photograph ID: 28		
Feature: Streams S120 and S121		
Date: 4/20/2011		
Comments: Confluence of ephemeral stream S120 (left of photo) and S121 (foreground and background). Facing east (downstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 29		
Feature: Stream S123		
Date: 4/21/2011		
Comments: Ephemeral stream S123. Facing downstream (south).		
Photograph ID: 30		
Feature: Stream S124		
Date: 4/21/2011		
Comments: Ephemeral stream S124. Facing south (downstream).		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 31		
Feature: Stream S125		
Date: 4/21/2011		
Comments: Ephemeral stream S125. Facing south (downstream).		
Photograph ID: 32		
Feature: Wetland W126		
Date: 4/21/2011		
Comments: Wetland W126. Facing west.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 33		
Feature: Soil at W126-WDP		
Date: 4/21/2011		
Comments: Soil at W126-WDP wetland data point.		
Photograph ID: 34		
Feature: Upland habitat at W126-UDP		
Date: 4/21/2011		
Comments: Upland habitat at W126-UDP upland data point. Facing west.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 35		
Feature: Soil at W126-UDP		
Date: 4/21/2011		
Comments: Soil at W126-UDP upland data point.		
Photograph ID: 36		
Feature: Wetland W127 at W127-WDP1		
Date: 4/21/2011		
Comments: Wetland W127 at W127-WDP1. Facing south.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 37		
Feature: Soil at W127-WDP1		
Date: 4/21/2011		
Comments: Soil at W127-WDP1 wetland data point.		
Photograph ID: 38		
Feature: Sparse Vegetation at W127 and Stock Tank WB128		
Date: 4/21/2011		
Comments: Area of sparse vegetation at W127, a result of saline soils. Stock tank WB128 in background. Facing south.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 39		
Feature: Soil at W127		
Date: 4/21/2011		
Comments: Hydric soil at sparsely vegetated area of W127.		
Photograph ID: 40		
Feature: Upland habitat at W127-UDP1		
Date: 4/21/2011		
Comments: Upland habitat at W127-UDP1 upland data point. Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 41			
Feature: Soil at W127-UDP1			
Date: 4/21/2011			
Comments: Soil profile at W127-UDP1 upland data point.			
Photograph ID: 42			
Feature: Wetland W127 at W127-WDP2 and Stock Tank WB128			
Date: 4/21/2011			
Comments: Fringe area of wetland W127, near W127-WDP2. Stock tank WB128 in background. Facing southwest.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 43			
Feature: Soil at W127-WDP2			
Date: 4/21/2011			
Comments: Soil at W127-WDP2 wetland data point.			
Photograph ID: 44			
Feature: Upland habitat at W127-UDP2			
Date: 4/21/2011			
Comments: Upland habitat at W127-UDP2 upland data point. Facing southeast.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 45		
Feature: Soil at W127-UDP2		
Date: 4/21/2011		
Comments: Soil profile at W127-UDP2 upland data point.		
Photograph ID: 46		
Feature: Wetland W127 at Stream S121		
Date: 4/21/2011		
Comments: Wetland W127 at ephemeral stream S121 (left of photo). Facing north.		



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 47			
Feature: Wetland W127 at W104 Impoundment			
Date: 4/21/2011			
Comments: Wetland W127 (background) at W104 impoundment (foreground). Facing south.			
Photograph ID: 48			
Feature: Wetland W130			
Date: 4/21/2011			
Comments: Wetland W130. Facing south.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277	
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas	
Photograph ID: 49			
Feature: Soil at W130-UDP1			
Date: 4/21/2011			
Comments: Soil at W130-WDP wetland data point.			
Photograph ID: 50			
Feature: Upland habitat at W127/W130-UDP			
Date: 4/21/2011			
Comments: Upland habitat at W127/W130-UDP upland data point. Facing northwest.			



PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 51		
Feature: Soil at W12/W130-UDP		
Date: 4/21/2011		
Comments: Soil at W127/W130- UDP upland data point.		
Photograph ID: 52		
Feature: Stock Tank WB131		
Date: 4/21/2011		
Comments: Stock tank WB131. Facing west.		

PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 53		
Feature: Wetland W132		
Date: 4/21/2011		
Comments: Wetland W132. Facing southeast.		
Photograph ID: 54		
Feature: Soil at W132-WDP		
Date: 4/21/2011		
Comments: Soil at W132-WDP wetland data point.		

PHOTOGRAPHIC LOG

Client: Rancho Viejo Waste Management, LLC		Project Number: 182277
Project Name: Pescadito Environmental Resource Center		County, State: Webb County, Texas
Photograph ID: 55		
Feature: Upland Habitat at W132-UDP		
Date: 4/21/2011		
Comments: Upland habitat at W132-UDP upland data point. Facing east.		
Photograph ID: 56		
Feature: Soil at W132-UDP		
Date: 4/21/2011		
Comments: Soil at W132-UDP upland data point.		

APPENDIX D:
RESUMES

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DEBORAH BLACKBURN

EDUCATION

B.S., Biology, University of Texas at Austin, 2000

PERMITS AND CERTIFICATIONS

U.S. Fish and Wildlife Endangered Species Permit No. TE33863A for
Golden-cheeked Warbler and Southwestern Willow Flycatcher
TxDOT Pre-certification Codes: 2.4.1, 2.4.2, 2.6.1, 2.6.2

AREAS OF EXPERTISE

Ms. Deborah Blackburn has program management and technical experience in the following general areas:

- NEPA Documentation and Environmental Impact Assessments
- Threatened and Endangered Species Assessments and Consultation
- Section 404 Permitting
- Water Resource Planning

REPRESENTATIVE EXPERIENCE

With over 10 years of experience, Ms. Blackburn is a Senior Scientist at TRC in Austin, Texas. She leads multi-discipline teams in the completion of environmental compliance activities and National Environmental Policy Act (NEPA) documentation for federal and state agencies, municipalities, utility districts, energy companies and private developers. Her responsibilities include agency consultation and coordination, field investigation, permitting, and project management. As a NEPA Coordinator with the Bureau of Reclamation, she was solely responsible for the scientific and legal adequacy of the hundreds of NEPA documents produced by the Oklahoma-Texas Area Office. As the environmental representative for a federal agency, she worked closely with numerous local, state and federal officials including USACE, USFWS, NRCS, and EPA.

USIBWC, River Restoration Implementation Plan: Avian Surveys – New Mexico (Project Manager: Present)

TRC has been contracted by the United States International Boundary and Water Commission (USIBWC) to provide environmental services to restore healthy riparian function and enhance natural riverine processes along a 105-mile section of the Rio Grande. Ms. Blackburn is the project manager responsible for conducting multi-year avian surveys for the federally endangered southwestern willow flycatcher and the yellow-billed cuckoo, a species of concern. Ms. Blackburn's responsibilities include conducting surveys in accordance with U.S. Fish and Wildlife Service (USFWS) protocols, coordinating property access with private landowners, and preparing technical reports for USIBWC and USFWS.

USIBWC, Mission Levee Supplemental EA (Project Manager: Present) – Hidalgo County, Texas

TRC has been contracted by the USIBWC to prepare a supplemental EA for a levee rehabilitation project in Hidalgo County, TX. Ms. Blackburn is responsible for coordinating all aspects of the supplemental EA including biological and cultural resource surveys, agency coordination, and development of the EA in accordance with USIBWC regulations.

Southmost Regional Water Authority, Desalination Plant Improvements EID (Project Manager: Present) – Cameron County, Texas

Ms. Blackburn is the project manager responsible for preparing the Environmental Information Document (EID) for improvements to the Regional Desalination Plant in Cameron County, Texas. This project would involve new construction in order to treat elevated levels of arsenic in the raw brackish water. SRWA is seeking funding under the Drinking Water State Revolving Fund Program administered by the Texas Water Development Board (TWDB) for this project. Ms. Blackburn is responsible for coordinating with federal and state agencies to ensure environmental compliance and developing the EID in accordance with TWDB regulations.

Texas Department of Transportation, Biological Services Contract (Project Manager: 2009 – Present)

Ms. Blackburn is the project manager for this 2-year ID/IQ Contract, managing all assigned tasks orders for biological services including presence/absence surveys, habitat analysis, and biological analyses. Task orders have included modifying existing protocols for conducting habitat and presence/absence surveys for mussels in order to meet TxDOT's obligations under state law and to further knowledge regarding habitat requirements and abundance of state-listed species. TRC has conducted mussel habitat and presence/absence surveys for 15 road/bridge improvement projects throughout the state. Surveys have encompassed all types of waterways including lakes, rivers, streams, and creeks. Task orders have also included conducting presence/absence surveys for federally listed plant species.

City of Pflugerville, Environmental Services – Pflugerville, Texas (Project Manager: Present)

TRC has been contracted to provide environmental services for development of a 160-acre property. Ms. Blackburn is responsible for providing environmental services for the project that includes wetland delineations, threatened and endangered species habitat assessment, archeological survey, and an Individual Permit under Section 404 of the Clean Water Act.

City of Baton Rouge, Hooper Road Sanitary Sewer Storage: Environmental Services – Baton Rouge, Louisiana (Project Manager: 2009 – Present)

TRC has been contracted by the City of Baton Rouge and East Baton Rouge Parish to provide engineering design and environmental services for two 5 million gallon wastewater storage tanks, storage tank odor control, and associated pipelines. Ms. Blackburn is the lead biologist responsible for providing environmental services for the project that includes wetland delineations, Phase I Environmental Site Assessments, archeological survey, and any associated permitting.

**City of Yoakum, Sanitary Sewer Improvement Project – Phase III
Lavaca and DeWitt Counties, Texas (Task Manager: Present)**

Ms. Blackburn serves as the task manager responsible for preparing the EA for a sanitary sewer project in Yoakum, Texas. The City of Yoakum is seeking funding under the Clean Water State Revolving Fund Program administered by the TWDB for this \$2.5 million sanitary sewer project. Ms. Blackburn is responsible for coordinating with federal and state agencies to ensure environmental compliance, overseeing wetland delineations and archeological surveys and developing the EA in accordance with TWDB regulations.

**Confidential Client, Threatened and Endangered Species Habitat
Assessment and Waters of the U.S. Determination, Webb County, Texas
(Task Manager: Present)**

Ms. Blackburn is the task manager for a threatened and endangered species habitat assessment and a waters of the U.S. determination for a proposed landfill located in Webb County, Texas. She is responsible for coordinating the wetland delineation report and well as the biological evaluation report for state and federal protected species in support of a municipal solid waste permit application.

**Confidential Client, Waters of the U.S. Determination, Guadalupe County,
Texas (Task Manager: Present)**

Ms. Blackburn is the task manager for a waters of the U.S. determination for a wastewater treatment plant in Guadalupe County, Texas. She is also responsible for acquiring all necessary 404 permitting that may be required as part of the project.

**Confidential Client, Golden-cheeked Warbler Presence/Absence Surveys,
Hays County, Texas (Task Manager: 2011)**

Ms. Blackburn was the task manager for a presence/absence survey for the federally endangered golden-cheeked warbler at a proposed cell tower expansion. The project also included habitat assessment for the federally endangered black-capped vireo. Neither species was observed at the site.

Guadalupe-Blanco River Authority, Waters of the U.S. Determination, Caldwell County, Texas (Task Manager: 2011)

Ms. Blackburn was the task manager for a waters of the U.S. determination for a water pipeline replacement project in Caldwell County, Texas. She was also responsible for coordinating with the USACE regarding the jurisdictional determination and nationwide permit requirements.

City of Lockhart, Waters of the U.S. Determination, Caldwell County, Texas (Task Manager: 2011)

Ms. Blackburn was the task manager for a waters of the U.S. determination for City of Lockhart property located in Caldwell County, Texas. She was also responsible for coordinating with the USACE regarding the jurisdictional determination.

USIBWC, Arroyo Colorado South Levee EA (Project Manager: 2010) Hidalgo and Cameron Counties, Texas

Ms. Blackburn was the project manager responsible for preparing the EA/FONSI for a levee rehabilitation project in Hidalgo and Cameron Counties, Texas. This project involves raising the existing levee several feet in height for a distance of approximately 16 miles. Ms. Blackburn was responsible for coordinating all aspects of the EA including biological and cultural resource surveys, agency coordination, and development of the EA in accordance with USIBWC regulations. A FONSI was signed by USIBWC on November 26, 2010.

Love's Travel Stops, Categorical Exclusion – Robertson County, Texas (Project Manager: 2010)

Ms. Blackburn served as the project manager responsible for preparing the categorical exclusion (CE) document for a road improvement project in Hearne, Texas. Ms. Blackburn was responsible for developing the CE in accordance with TxDOT regulations.

Timber Lane Utility District, Categorical Exclusion – Harris County, Texas (Task Manager: 2010)

Ms. Blackburn was the task manager responsible for preparing the categorical exclusion (CE) document for a hike and bike trail along Cypress Creek near Spring, TX. She was also responsible for coordinating the wetland delineation report and any associated 404 permitting that may be required as part of the project.

Brownsville Public Utility Board and Laguna Madre Water District, Seawater Desalination Permitting Strategy – Cameron County, Texas (Project Manager: 2009)

Ms. Blackburn was the project manager responsible for developing permitting and environmental compliance strategies for two seawater desalination plants in

Cameron County, Texas. These two facilities would be the first seawater desalination plants permitted in the state of Texas. Ms. Blackburn was responsible for providing reports that will include a detailed list of permits and compliance documents required for each desalination project as well as a projected timeline for each identified permit and compliance document as well as a projected cost to obtain permit and compliance approvals.

Wind Energy Transmission Texas, CREZ Transmission Lines – West Texas (Biologist: 2009 – 2010)

Wind Energy Transmission Texas is proposing to build approximately 300 miles of transmission line in order to deliver renewable energy from Competitive Renewable Energy Zones (CREZ) in West Texas. Ms. Blackburn was responsible for coordinating and preparing threatened and endangered species reports and wetland delineation reports for five switching stations in West Texas. Ms. Blackburn also participated in several public meetings as the environmental representative.

City of Yoakum, Sanitary Sewer Improvement Project – Phase II Lavaca and DeWitt Counties, Texas (Project Manager: 2009)

Ms. Blackburn served as the project manager responsible for preparing the Environmental Assessment for a sanitary sewer project in Yoakum, Texas. The City of Yoakum was seeking funding under the Clean Water State Revolving Fund Program administered by the TWDB for this \$2.5 million sanitary sewer project. Ms. Blackburn was responsible for coordinating with federal and state agencies to ensure environmental compliance and developed the EA in accordance with TWDB regulations. The TWDB approved the Environmental Assessment on March 11, 2010.

USIBWC, Environmental Management System Implementation Texas, New Mexico, Arizona (Biologist: 2009)

Ms. Blackburn was the project biologist responsible for auditing and preparing an Environmental Management System at four USIBWC field offices in Texas, New Mexico and Arizona. This project involved identifying environmental aspects and assisting USIBWC staff in developing objectives and targets at each facility.

AES, Avian & Bat Mortality Study – Abilene, Texas (Task Leader/Biologist: 2007 – 2009)

Ms. Blackburn was the lead biologist responsible for monitoring avian and bat mortality at the AES Buffalo Gap 2 and Buffalo Gap 3 wind farms near Abilene, Texas. She was responsible for management of biological survey crews as well as authoring interim and final reports on the projects. In addition, Ms. Blackburn conducted carcass searches according to established protocols and provided species identification, along with photo and GPS documentation of carcasses.

Austin Energy, Mueller Substation – Austin, Texas (Biologist: 2009)

Ms. Blackburn served as the lead biologist for a proposed 4.5-acre electrical substation installation in Austin, Texas. She was responsible for preparing an environmental report focusing on critical environmental features such as floodplains, water quality zones, and vegetation preservation and mitigation.

New Mexico Suntower – Santa Teresa, New Mexico (Biologist: 2009)

Ms. Blackburn served as the lead biologist for a proposed 420-acre solar power facility in Doña Ana County, New Mexico. She was responsible for preparing the biological resources report focusing on suitable habitat and presence/absence of threatened and endangered species.

Energy Transfer Partners, LP, Tiger Pipeline Project – Louisiana and Texas (Biologist: 2009)

Ms. Blackburn served as a biologist for a 180-mile natural gas pipeline route from Panola County, Texas to Richland Parish, Louisiana. She was responsible for delineating wetland and stream resources along portions of the pipeline route in north central Louisiana and identifying numerous upland and wetland plants, hydric soils, and rare habitat for threatened and endangered species. Additional responsibilities included acquiring GPS data for wetland and stream boundaries along the proposed pipeline route, reroutes, and access roads.

**Green Light Plan, Old Hammond Highway – Segment 2
Baton Rouge, Louisiana (Project Manager: 2007 – 2008)**

Ms. Blackburn served as the biologist responsible for preparing the EA for a road widening project in Baton Rouge, Louisiana. This is a \$15 million transportation project expanding an existing 2-lane road to 4-lanes. Ms. Blackburn was responsible for coordinating public involvement meetings with the City of Baton Rouge and East Baton Rouge Parish, agency coordination, and development of the EA in accordance with Federal Highway Administration (FHWA) and Louisiana Department of Transportation and Development regulations. A Finding of No Significant Impact was signed by FHWA on November 24, 2008.

U.S. Bureau of Reclamation – NEPA Specialist/Coordinator (2002 – 2007)

Ms. Blackburn served as a NEPA specialist/coordinator for the Bureau of Reclamation's Oklahoma-Texas Area Office (OTAO) for almost 6 years. She developed and directed environmental compliance and permitting strategies for water resources planning, construction and management activities in Texas, Oklahoma, and Kansas. She directed and conducted environmental impact analyses and prepared documentation to meet the requirements of the NEPA, ESA and all other related laws, regulations and directives for OTAO activities. As NEPA Coordinator, she was solely responsible for the scientific and legal adequacy of the hundreds of NEPA documents produced by the Area Office. As the environmental representative for a federal agency, she worked closely with

numerous local, state and federal officials including USACE, USFWS, NRCS, and EPA. Selected projects include:

**Equus Beds Aquifer Storage and Recovery EIS - Wichita, Kansas
(2006 – 2007)**

Ms. Blackburn was responsible for overseeing the management of the Environmental Impact Statement for the Bureau of Reclamation. This \$137 million aquifer storage project is designed to halt saltwater intrusion into the aquifer in addition to meeting the future water supply needs of Wichita. Ms. Blackburn participated in high-level scoping and development meetings, developed assignment scopes of work and budgets, prepared the draft Notice of Intent and provided senior-level review of project deliverables.

**Lower Rio Grande Valley Program – U.S./Mexico Border, Texas
(2002 – 2007)**

Ms. Blackburn served as a NEPA Coordinator/Specialist for the *Lower Rio Grande Valley Water Resources Conservation and Improvement Act of 2000* (Program). The Program authorizes the investigation and identification of opportunities to improve the water supply in 11 Texas counties along the U.S./Mexico border for the purpose of reducing raw water conveyance losses and improving operational efficiencies in the Program area. As the NEPA Specialist/Coordinator for the Program, Ms. Blackburn was responsible for coordinating and preparing NEPA documentation and permits for 19 projects with an estimated construction cost of \$96 million. These activities included obtaining Individual Permits from the USACE, conducting habitat surveys for the endangered ocelot and jaguarundi and coordinating with the Texas Historical Commission.

Additionally, she was responsible for quarterly monitoring of projects to ensure environmental commitments were met. As the representative for environmental compliance on the team, she was also intimately involved with discussions and decisions regarding implementation guidance of the Program. Implementation of this Program has proven so successful that it now serves as a basis for other major Reclamation funding programs such as *Water 2025*, *Water for America* and *WaterSMART*.

**Ocelot and Jaguarundi Survey – Choke Canyon Reservoir, Texas
(2004 – 2005)**

Ms. Blackburn served as team member surveying the federal lands surrounding Choke Canyon Reservoir for the federally endangered ocelot and jaguarundi. Ms. Blackburn assisted with the installation and determination of site locations for photo monitoring equipment based on habitat requirements for the felids. She was also a reviewer for the final report presented to the U.S. Fish and Wildlife Service.

Bat Exclusion San Angelo Dam – San Angelo, Texas (2002)

Ms. Blackburn was responsible for designing and implementing a bat exclusion plan for *Myotis velifer* (cave myotis) at the outlet works of San Angelo Dam. Ms. Blackburn coordinated construction of artificial roosts for the resident bat population and provided engineers with concept designs of exclusion devices for the outlet works opening. She also monitored the occupation of the artificial roosts to assist in determining the success of the exclusion.

SPECIALIZED TRAINING

- USFWS Southwestern Willow Flycatcher Training, May 2010
- Gull Identification Class, March 2008
- Wetlands Delineator Certification Training, February 2008
- Intro to NEPA & Transportation Decisionmaking (NHI), September 2007
- NEPA Compliance Course, March 2007
- Black-capped Vireo Habitat Assessment, July 2006
- Cumulative Impacts Analysis, June 2005
- Visual Display of Quantitative Information, October 2004
- USFWS Interagency Consultation for Endangered Species, Nov. 2002
- Preparing and Documenting Environmental Impact Analysis, June 2002
- Groundwater Field Techniques, October 2001
- Operation of Borehole Geophysical Instrumentation, November 2000
- Installation & Operation Satellite Data Collection Platforms, October 2000
- Bat Conservation and Management Workshop, 1998
- Emergency Medical Technician, May 2009
- 24-Hour HAZWOPER, with 8-Hour Refresher, December 2004 – Present

PUBLICATION

Cressler, Alan M., Deborah K. Blackburn and Kristen Bukowski McSwain. 2001. *Ground-Water Conditions in Georgia, 2000*. Open-File Report 01-220. U.S. Geological Survey, Atlanta, Georgia.

HONORS AND AWARDS

- Vice Chancellor's Award in Excellence for Industry/Agency/University/Association Partnerships – College of Agriculture & Life Sciences, Texas A&M University 2005
- Customer Service Excellence Award – Department of the Interior 2004
- Customer Service Excellence Award – Bureau of Reclamation 2003

PROFESSIONAL AFFILIATIONS

- National Association of Environmental Professionals
- Society for Conservation Biology

BARRETT R. CLARK

EDUCATION

M.S., Biology – Restoration Ecology, Louisiana Tech University, 2005

B.S., Biology, Louisiana Tech University, 2002

AREAS OF EXPERTISE

Mr. Barrett R. Clark has technical experience in the following areas:

- Wetland Delineations
- Waters of the U.S. Jurisdictional Determinations
- Ecological Risk Assessments
- Threatened and Endangered Species Surveys and Habitat Characterization
- Biological Monitoring
- Vegetation Identification, Surveying, and Sampling
- Environmental Assessments
- Natural Resource Assessments
- Multi-Phase Site Investigations and Assessments
- Regulatory Support and Compliance

REPRESENTATIVE EXPERIENCE

Mr. Clark has over five years of experience and progressive responsibility in environmental consulting. His range of qualifications include conducting wetland delineations, conducting threatened and endangered species surveys and habitat assessments, plant and freshwater mussel (Texas) taxonomy, providing biological monitoring, completing field investigations and surveys, analyzing investigation results, writing work plans and technical reports, permitting and regulatory compliance, planning, cost estimating and writing proposals, and assisting in project management. He currently serves as a Staff Scientist in the TRC – Austin, Texas office.

THREATENED AND ENDANGERED SPECIES SURVEYS AND HABITAT ASSESSMENTS

Texas Department of Transportation, Presence/Absence Survey, Hidalgo and Starr Counties, Texas (Biologist: 2009)

Mr. Clark served as a Biologist for a presence/absence survey for threatened and endangered plant species along the proposed La Joya Relief Route Highway 83 realignment project in Hidalgo and Starr Counties, Texas. He was responsible for identifying threatened and endangered plant and animal species, characterizing vegetation communities, and reviewing the biological survey report. Surveyed species included the federally and state-listed Walker's manioc (*Manihot walkerae*), star cactus (*Astrophytum asterias*), and Johnston's frankenia (*Frankenia johnstonii*). Two populations of Walker's manioc were identified within the survey corridor, as well as five Texas tortoises (*Gopherus berlandieri*) and one Texas horned lizard (*Phrynosoma*

cornutum). Prior to conducting the survey, the survey crew also visited sites with known populations of Walker's manioc, star cactus, and Johnston's frankenia.

Texas Department of Transportation, Habitat Survey, Upshur and Smith Counties, Texas (Biologist/Field Technician: 2011)

Mr. Clark serves as a Biologist/Field Technician for a multi-phased survey for threatened mollusks for a proposed highway improvement project in Upshur and Smith counties, Texas. The multi-phased approach will consist of preliminary habitat and Phase II probability-based presence/absence surveys for a highway crossing of the Sabine River and relief channel. He is responsible for managing the survey crew, collecting geomorphology data, assisting with species identification, data modeling and analysis, and writing the biological survey reports. Surveyed threatened species included the state-listed Louisiana pigtoe (*Pleurobema riddellii*), sandbank pocketbook (*Lampsilis satura*), southern hickorynut (*Obovaria jacksoniana*), Texas heelsplitter (*Potamilus amphichaenus*), and Texas pigtoe (*Fusconaia askewi*). Observed species included the pondmussel (*Ligumia subrostrata*), yellow sandshell (*Lampsilis teres*), pistolgrip (*Tritogonia verrucosa*), giant floater (*Anodonta grandis*), and lilliput (*Toxolasma parvus*). Phase II presence/absence surveys are planned for the crossings.

Texas Department of Transportation, Habitat Survey, San Saba County, Texas (Biologist/Field Technician: 2011)

Mr. Clark serves as a Biologist/Field Technician for a multi-phased survey for threatened mollusks for a proposed highway improvement project in San Saba County, Texas. The multi-phased approach will consist of preliminary habitat and Phase II probability-based presence/absence surveys for a road crossing of the San Saba River (Colorado River Basin). He is responsible for managing the survey crew, collecting geomorphology data, assisting with species identification, data modeling and analysis, and writing the biological survey reports. Surveyed threatened species included the state-listed Texas fatmucket (*Lampsilis bracteata*), golden orb (*Quadrula aurea*), false spike mussel (*Quadrula mitchelli*), Texas fawnsfoot (*Truncilla macrodon*), and Texas pimpleback (*Quadrula petrina*). One live smooth pimpleback, as well as several dead Texas fawnsfoot and Texas pimpleback specimens were recorded. Other observed species included the bleufer (*Potamilus purpuratus*), threeridge (*Ablema plicata*), pistolgrip, fragile papershell (*Leptodea fragilis*), and paper pondshell (*Utterbackia imbecillis*). A Phase III comprehensive survey is planned for the crossing.

Texas Department of Transportation, Presence/Absence Survey, Collin County, Texas (Biologist/Field Technician: 2011)

Mr. Clark served as a Biologist/Field Technician for a presence/absence survey for threatened mollusks for a proposed highway improvement project at Brinlee Creek (Trinity River Basin) in Collin County, Texas. He was responsible for managing the survey crew, collecting geomorphology data, data modeling and analysis, writing and reviewing the biological survey reports, and assisting with species identification. Surveyed threatened species included the state-listed Texas heelsplitter and Louisiana

pigtoe. Observed species included the giant floater, pondhorn, Texas lilliput (*Toxolasma texasensis*), and paper pondshell.

Texas Department of Transportation, Habitat and Presence/Absence Surveys, Denton County, Texas (Biologist/Field Technician: 2010)

Mr. Clark served as a Biologist/Field Technician for a multi-phased survey for threatened mollusks for a proposed highway improvement project at Lake Lewisville (Trinity River Basin) in Denton County, Texas. The multi-phased approach consisted of a preliminary habitat, Phase II probability-based presence/absence, and Phase III comprehensive surveys in the lake and two stream tributaries. He was responsible for managing the survey crew and dive team, collecting geomorphology data, data modeling and analysis, writing and reviewing the biological survey reports, and assisting with species identification. Surveyed threatened species included the state-listed Texas heelsplitter, sandbank pocketbook, and Louisiana pigtoe. One live Texas heelsplitter was recorded during the Phase II probability-based presence/absence survey. Other observed species included the southern mapleleaf (*Quadrula apiculata*), threeridge, bleufer, giant floater, yellow sandshell, Louisiana fatmucket (*Lampsilis hydiana*), pink papershell (*Potamilus ohioensis*), pondhorn, and tapered pondhorn (*Uniomereus declivis*).

Texas Department of Transportation, Habitat and Presence/Absence Surveys, Kaufman County, Texas (Biologist/Field Technician: 2010)

Mr. Clark served as a Biologist/Field Technician for a multi-phased survey for threatened mollusks for a proposed highway improvement project in Kaufman County, Texas. The multi-phased approach consisted of a preliminary habitat and Phase II probability-based presence/absence surveys in two creeks in the Trinity River Basin. He was responsible for managing the survey crew and dive team, collecting geomorphology data, data modeling and analysis, writing and reviewing the biological survey reports, and assisting with species identification. Surveyed threatened species included the state-listed Texas heelsplitter, sandbank pocketbook, and Louisiana pigtoe. Observed species included the southern mapleleaf, threeridge, giant floater, Texas lilliput, pink papershell, pondmussel, and pondhorn.

Texas Department of Transportation, Habitat Surveys, Kendall, Comal, Guadalupe, and Bexar Counties, Texas (Biologist/Field Technician: 2010)

Mr. Clark serves as a Biologist/Field Technician for a multi-phased survey for threatened mollusks for eight proposed highway improvement projects in Kendall, Comal, Guadalupe, and Bexar counties, Texas. The multi-phased approach will consist of preliminary habitat and Phase II probability-based presence/absence surveys for several highway crossings of the Guadalupe River and associated tributaries. He is responsible for managing the survey crew, collecting geomorphology data, species identification, data modeling and analysis, and writing the biological survey reports. Surveyed threatened species included the state-listed Texas fatmucket, golden orb, false spike mussel, and Texas pimpleback. Observed species included the Tampico pearlymussel (*Cyrtonaias tampicoensis*), yellow sandshell, and threeridge. Phase II probability-based presence/absence surveys are planned for several of the crossings.

Texas Department of Transportation, Habitat Survey, Runnels County, Texas (Biologist/Field Technician: 2010)

Mr. Clark served as a Biologist/Field Technician for a habitat survey for threatened mollusks for a proposed railroad improvement project at the Colorado River in Runnels County, Texas. He was responsible for managing the survey crew, collecting geomorphology data, assisting with species identification, reviewing data modeling and analysis, and reviewing the biological survey reports. Surveyed threatened species included the state-listed Texas fatmucket, Texas pimpleback, smooth pimpleback, and Texas fawnsfoot. Observed species included the Tampico pearlymussel, bleufer, and southern mapleleaf.

Confidential Client, Waters of the U.S. Determination and Threatened and Endangered Species Habitat Assessment, Webb County, Texas (Biologist: 2009)

Mr. Clark served as the Biologist for a Waters of the U.S. Determination and Threatened and Endangered Species Habitat Assessment for a proposed landfill located in Webb County, Texas. He was responsible for identifying potential Waters of the U.S., characterizing vegetation communities, assessing threatened and endangered species habitats, including those for the federally- and state-listed Johnston's frankenia (*Frankenia johnstonii*) and the state-listed indigo snake (*Drymarchon corais*), reticulate collard lizard (*Crotaphytus reticulatus*), Texas horned lizard (*Phrynosoma cornutum*), and Texas tortoise (*Gopherus berlandieri*), and preparing the summary report. One indigo snake was identified within the project area during the assessment.

ECOLOGICAL RISK ASSESSMENTS**Austin Energy, Tier 2 Screening Level Ecological Risk Assessment (SLERA) – Austin, Texas (Task Leader/Ecologist: 2006 - Present)**

Mr. Clark serves as the Task Leader/Ecologist for a Tier 2 Screening-Level Ecological Risk Assessment (SLERA) of the Holly Street Power Plant located on Town Lake in Austin, Texas. He is responsible for reviewing existing site data, conducting a threatened and endangered species habitat assessment, analyzing ecological significance of site contamination, developing the ecotoxicity model involving a number of wildlife receptors and chemicals of concern (COCs) including polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs), preparing the SLERA in accordance with current regulations, agency consultation with the Texas Commission on Environmental Quality (TCEQ) and the Texas Parks and Wildlife Department (TPWD), and assisting in project management.

Austin Energy, Tier 3 Site Specific Ecological Risk Assessment (SSERA) – Austin, Texas (Task Leader/Ecologist: 2007 – Present)

Mr. Clark serves as the Task Leader/Ecologist for a Tier 3 Site Specific Ecological Risk Assessment (SSERA) for the Holly Street Power Plant located on Town Lake in Austin, Texas. He is responsible for agency consultation with the TCEQ, developing a site-specific sediment sampling strategy and sediment toxicity analysis, which are dependent on the results of the Holly Street Power Plant SLERA. Mr. Clark is also responsible for collecting sediment samples for analytical and ecological toxicity tests, evaluating the benthic invertebrate sediment toxicity test results, and preparing the SSERA in accordance with current regulations. The assessment focused on identifying risks to benthic invertebrates from PCBs and PAHs through a weight-of-evidence approach so that a balanced approach could be undertaken in the risk management process for the evaluation of remediation options. The next phase of the Holly Street Power Plant project will involve conducting a remediation feasibility study and Ecological Services Analysis (ESA), an evaluation to be used for eventually performing an on-site or off-site compensatory ecological restoration project, possibly in combination with more standard remedial actions.

WETLAND DELINEATIONS

The City of Baton Rouge and East Baton Rouge Parish, Waters of the U.S. Determination and Wetland Delineation – Baton Rouge, Louisiana (Biologist: 2009-2010)

Mr. Clark served as the Biologist responsible for conducting a waters of the U.S. determination and wetland delineation for two sites for a proposed waste water storage facility in Baton Rouge. He was responsible for assessing the jurisdictional limits of wetlands within the project area, identifying numerous upland and wetland plants, identifying hydric soils, completing wetland delineation forms, acquiring spatial data with sub-meter GPS equipment, and writing the wetland delineation report. No jurisdictional wetlands were identified within the survey area.

CenterPoint Energy Gas Transmission Company (CEGT), Line E, EM-7, EM-9 Abandonment, Nevada and Ouachita Counties, Arkansas (Biologist: 2010)

Mr. Clark provided support as a Biologist and wetland delineator for several pipeline abandonment projects in south Arkansas. He was responsible for delineating numerous wetland and stream resources along assigned pipeline route sections and identifying numerous upland and wetland plants, hydric soils, and rare habitat for threatened and endangered species.

CEGT, Line H Abandonment, Union Parish, Louisiana and Union County, Arkansas (Biologist: 2010)

Mr. Clark provided support as a Biologist and wetland delineator for a pipeline abandonment project in south Arkansas and north Louisiana. He was responsible for delineating numerous wetland and stream resources along assigned pipeline route sections and identifying numerous upland and wetland plants, hydric soils, and rare habitat for threatened and endangered species.

CEGT, Line K Abandonment, Union Parish, Louisiana and Union County, Arkansas (Senior Biologist: 2010)

Mr. Clark provided support as a Biologist and wetland delineator for a pipeline abandonment project in south Arkansas and north Louisiana. He was responsible for delineating numerous wetland and stream resources along assigned pipeline route sections and identifying numerous upland and wetland plants, hydric soils, and rare habitat for threatened and endangered species.

Energy Transfer Partners, LP, Tiger Pipeline Project – Bienville, Jackson, Ouachita, and Richland Parishes, Louisiana (Biologist: 2009)

Mr. Clark provided support as a Biologist for several segments of a 180-mile natural gas pipeline route from Panola County, Texas to Richland Parish, Louisiana. He was responsible for delineating numerous wetland and stream resources along assigned pipeline route sections in Bienville, Jackson, Ouachita, and Richland Parishes in north central Louisiana and identifying numerous upland and wetland plants, hydric soils, and rare habitat for threatened and endangered species.

Brownsville Public Utility Board, Waters of the U.S. Determination and Wetland Delineation – Brownsville, Cameron County, Texas (Biologist: 2009-2010)

Mr. Clark serves as the Biologist responsible for conducting a waters of the U.S. determination and wetland delineation for two proposed sludge sites near Brownsville, Texas. He was responsible for assessing the jurisdictional limits of wetlands within the project area, identifying numerous upland and wetland plants, identifying hydric soils, completing wetland data forms, acquiring spatial data with sub-meter GPS equipment, and writing the wetland delineation report.

The Cascades, Waters of the U.S. Determination, Wetland Delineation, and Temporary Soil Stabilization and Sediment Control – Tyler, Smith County, Texas (Biologist: 2008)

Mr. Clark served as the Biologist responsible for conducting a waters of the U.S. determination and wetland delineation for waters associated with Bellwood Lake and Indian Creek. He was responsible for assessing the jurisdictional limits of wetlands within the project area, identifying numerous upland and wetland plants, identifying hydric soils within the wetlands, completing wetland data forms, acquiring spatial data with a sub-meter GPS equipment, and reviewing the wetland delineation report. Mr. Clark also assisted in developing a Temporary Soil Stabilization and Sediment Control Plan for revegetation of up to approximately 12 acres of disturbed wetlands and slopes.

Confidential Client, Waters of the U.S. Determination and Wetland Delineation – Harris County, Texas (Biologist: 2008)

Mr. Clark served as a Biologist for a Waters of the U.S. Determination and Wetland Delineation at a chemical plant located in Harris County, Texas. He was responsible for assessing the jurisdictional limits of wetlands within the project area, identifying numerous upland and wetland plants, identifying hydric soils within the wetlands,

completing wetland data forms, acquiring spatial data with a sub-meter GPS equipment, and preparing the wetland delineation report.

The City of Seguin, Waters of the U.S. Determination and Wetland Delineation – Seguin Borrow Pit, Guadalupe County, Texas (Biologist: 2007 - 2008)

Mr. Clark served as a Biologist for a waters of the U.S. determination and wetland delineation of a borrow pit located in Seguin, Texas. He was responsible for assessing the jurisdictional limits of an atypical, problematic wetland within the project area, identifying numerous upland and wetland plants, identifying hydric soils within the wetlands, completing wetland data forms, acquiring spatial data with a sub-meter GPS equipment, and reviewing the wetland delineation report.

BIOLOGICAL MONITORING

Holly Energy Partners, L.P. – Navajo Refinery, Pipeline Construction Oversight and Monitoring – Lea and Eddy Counties, New Mexico (Biologist: 2009)

Mr. Clark provided biological monitoring and environmental inspection services for the construction of an 8-inch crude oil pipeline within areas of land owned by the Bureau of Land Management in Lea and Eddy Counties, New Mexico. Permit requirements for the construction of the pipeline required biological monitoring for the BLM property, located within the Mescalero Sands ecosystem, which contains habitat preferred by the endangered sand dune lizard (*Sceloporus arenicolus*). Mr. Clark monitored construction crews, ensured that no sensitive species entered work areas, and ensured contractor compliance with the project's environmental permits.

SPECIALIZED TRAINING AND COURSEWORK

- OSHA HAZWOPER 40-hour Health and Safety Training, 2005
- Annual OSHA 8-hour Refresher Training, 2006 – 2011
- United States Army Corps of Engineers Wetland Delineation Certification and Regulatory IV Interagency Wetland Delineation Training, 2007
- Regulatory Permitting of Activities in Waters of the U.S. and the State of Texas Including Wetlands, 2006
- Selected Wetland Indicator Plants for Region 2 and Region 6, 2009

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Cellular: 512.461.4684

- South Texas *Conservation Cooperative and Conservation Partner* development. Texas Nature Conservancy. **IN PROGRESS**
- Research and recovery of star cactus (*Astrophytum asterias*). USFWS Section 6. **IN PROGRESS**
- Population augmentation and reintroduction of large-fruited sand verbena (*Abronia macrocarpa*). USFWS Section 6. **COMPLETED 2007**
- Lower Rio Grande Valley candidate plant conservation agreement project. USFWS Section 6. **COMPLETED 2006**
- Johnston's frankenia (*Frankenia johnstonii*) annual photo-monitoring. USFWS Section 6. **COMPLETED 2003**
- Ashy dogweed (*Thymophylla tephroleuca*) disturbance study. USFWS Section 6. **COMPLETED 2003**
- Large-fruited sand verbena (*Abronia macrocarpa*) landowner outreach and site management study. USFWS Section 6. **COMPLETED 2003**
- Conservation seed collection of south Texas endangered plants. Center for Plant Conservation. **COMPLETED 2002**

SUBCONTRACTED RARE & ENDANGERED PLANT SURVEYS

- Sept. 2009. Two proposed Verizon cell phone tower sites, Starr County, Texas. **SEA—Shoreline Environmental Assessments**
- Aug. 2008-Aug. 2009. 100 square mile seismic, Starr County, Texas. **Edge Petroleum & EOG**
- June 2008-Nov. 2008. Monthly surveys for proposed gas well pad sites in Zapata County, Texas. **ConocoPhillips**
- Aug. 2007-May 2008. Mapped and censused endangered plants potentially impacted by the Highway 83 expansion, and acted as the landowner's representative in TxDOT meetings. **Lopez Family Trusts**
- Oct. 2007-April 2008. Border Fence segments in Maverick, Starr, Hidalgo, and Cameron Counties. **E²M**
- Aug. 2007. Surveys of proposed gas well pad sites and the transplantation of 30 Johnston's frankenia individuals to a safe site, Zapata County, Texas. **ConocoPhillips**
- August 2007. TPWD Park Grant required survey for Romeo T. Flores Park, Zapata County, Texas. **The County of Zapata**
- June 2006-April 2007. Proposed new 30 mile highway: Rio Grande City Bypass. **Hicks and Company**
- Dec. 2005-June 2006. 50 square mile seismic in Zapata County, Texas. **ConocoPhillips**
- Oct. 2005-Nov. 2005. Proposed 200 mile Energy Transfer Pipeline in Freestone and Anderson Counties. **PBS&J**
- Oct. 2005. Proposed pad site surveys, Zapata County, Texas. **Laredo Energy**
- July 2005. Proposed 737 acre Lower Valley Regional Landfill, Cameron County, Texas. **BNC Engineering**
- June 2005. Seven miles of alternative routes for the proposed Highway 83 expansion, Starr County, Texas. **Blanton and Associates**
- 2004. Ten miles of alternative routes for the proposed Highway 83 expansion, Zapata County, Texas. **Blanton and Associates**
- 2003. Two proposed cell phone tower sites in Kerr and Kimble Counties, Texas. **Drash Consulting Engineers**
- 2002-2003. 63 miles (both sides) of the proposed Highway 83 expansion in Zapata and Starr Counties, Texas. **Blanton and Associates**

- 2002. Right-of-entry for a majority of the Highway 83 expansion in Zapata County. **Dannebaum Engineering Corporation**

Texas Parks and Wildlife Department

1991-1999

Endangered Species Botanist

Set new standards for working with private landowners and endangered plant conservation. Surveyed, sampled and monitored rare and endangered plant species state-wide.

- Responsible for recovery research on rare plants in Texas, including grant writing for funding, data analysis, and presentations at scientific meetings.
- Conducted annual monitoring on rare plants in Texas to establish trends and threats.
- Worked extensively with private landowners to achieve communication and trust resulting in more positive relationships for biologists and landowners during very volatile times. These efforts led to the voluntary conservation of rare plants on private lands.
- Conducted a tremendous amount of public education and outreach of rare plants, including (but not limited to) public speaking, media releases; workshops for school children, landowners, and other conservation professionals; and the development of outreach materials.
- Administered and managed Section 6 Contracts pertaining to rare plants.
- Worked cooperatively with other agencies to achieve rare plant conservation.
- Annually prepared scientific reports on data collected throughout the year.

Education

Texas State University

1988-1991

M.S. Biology

Reproductive biology and leaf structure of Abronia macrocarpa Galloway (Nyctaginaceae), an endangered east Texas endemic.

Texas State University

1983-1988

B.S. Geography

Other Activities

My kids, cooking and reading cookbooks, growing as many flowers as possible in my yard, and camping.

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Attachment G
USFWS and TPWD Correspondence



505 East Huntland Drive
Suite 250
Austin, TX 78752

512.329.6080 PHONE
512.329.8750 FAX

www.TRCsolutions.com

August 12, 2011

Mr. Allan Strand
Field Supervisor
U.S. Fish & Wildlife Service
c/o TAMU-CC
6300 Ocean Drive, Unit 5837
Corpus Christi, TX 78412-5837

Re: Request for Review – Solid Waste Landfill Application, Webb County, Texas

Dear Mr. Strand:

Rancho Viejo Waste Management, LLC proposes to establish a solid waste management facility on an 1,110-acre tract of land located approximately 20 miles east of Laredo in Webb County, Texas. The proposed Pescadito Environmental Resource Center (PERC) would be located entirely within the 12,000-acre Yugo ranch. PERC would be a comprehensive waste management facility that would provide municipal and industrial solid waste landfill disposal, processing of recyclable materials to extract reusable commodities, processing of liquid wastes from grease and grit traps, and disposal of liquid waste from the oilfield in an injection well. TRC Environmental Corporation (TRC) has been contracted to provide environmental, engineering and permitting services for the proposed landfill.

Please find enclosed the Biological Evaluation that has been prepared to address potential impacts to threatened and endangered species. Five federally listed threatened or endangered species potentially occur in Webb County (USFWS, 2011). These include the jaguarundi (*Herpailurus yaguarondi*), ocelot (*Leopardus pardalis*), least tern (*Sternula antillarum*), ash dogweed (*Thymophylla tephroleuca*) and Johnston's frankenia (*Frankenia johnstonii*).

A field reconnaissance survey was conducted by TRC on November 2 and 3, 2009, to assess habitat suitability for threatened and endangered species in the project area. The majority of the project area consists of heavily grazed rangeland with few areas of moderately dense scrub-shrub. No federally listed threatened or endangered species were observed during the field survey. Potential habitat for ash dogweed and Johnston's frankenia was identified during this survey. TRC recommended a species-specific presence/absence survey of areas with suitable soils for both ash dogweed and Johnston's frankenia.

Mr. Allan Strand
August 12, 2011
Page 2

TRC biologists, Ms. Gena Janssen and Mr. Barrett Clark, conducted a presence/absence survey for ashy dogweed and Johnston's frankenia at the project area from March 29 to 31, 2011. No ashy dogweed or Johnston's frankenia were identified during the survey. The full survey report is enclosed for your review.

In addition to the presence/absence survey of endangered plant species, a wetland delineation survey was conducted for the project area from April 18 to 21, 2011 (enclosed). During both the presence/absence survey and the wetland delineation survey, no federally listed species were observed.

According to Title 30, Chapter 330.61(n) of the Texas Administrative Code, the construction and operation of a solid waste disposal facility "...shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species." Based on the marginal to poor habitat for ocelot, jaguarundi and least tern as well as the confirmed absence of ashy dogweed and Johnston's frankenia, TRC has determined that the proposed landfill would not result in the destruction or adverse modification of critical habitat or cause or contribute to the taking of any federally listed threatened or endangered species.

TRC respectfully requests your review and comment regarding this proposed project. In order to ensure a timely submittal to the TCEQ, comments are requested by **September 12, 2011**. If you have any questions or concerns, please contact Adrienne Boer or me at (512) 329-6080 or by email at dblackburn@trcsolutions.com. Thank you for your timely assistance in this matter.

Sincerely,



Deborah Blackburn
Senior Scientist

Enclosures



From: Mary.Orms@fws.gov
To: [Blackburn, Deborah \(Austin, TX-US\)](#)
Subject: Pescadito Environmental Resource Center (landfill) Consultation no. 02ETCC00-2012-TA-0032
Date: Friday, October 28, 2011 1:22:20 AM

Deborah,

The Service has reviewed the Biological Evaluation (BE) for the above referenced proposed landfill. TRC determined there would be a "no effect" to the least tern, ashy dogweed, Johnston's frankenia, Surveys revealed no plant species and no suitable habitat was found for the least tern. The Service does not provide concurrences on "no effect" determinations. However, by making a determination the Service believes the federal agency has complied with section 7(a)(2) of the Endangered Species Act. No further action is required from this office on those species.

However, cats have been known to utilize less than optimal habitat as travel corridors in Webb County, especially along riparian areas. The BE describes areas of heavy scrub shrub brush and the pictures seem to also indicate the same. Would it be possible for you to calculate how much scrub shrub is going to be removed? Are there any areas of that type of habitat that could be avoided or conservation measures implemented to minimize the impact?

Mary Orms
U.S. Fish and Wildlife Service
Corpus Christi Ecological Services Field Office
c/o Texas A&M University at Corpus Christi
6300 Ocean Drive, Unit 5837
Corpus Christi, TX 78412-5837
Phone: (361) 994-9005 Ext: 246
Fax: (361) 994-8262

From: Mary_Orms@fws.gov
To: [Blackburn, Deborah \(Austin, TX-US\)](#)
Subject: RE: Pescadito Environmental Resource Center (landfill) Consultation no. 02ETCC00-2012-TA-0032
Date: Monday, December 12, 2011 4:31:29 PM

Deborah:

In TRC's August 15, 2011, letter and Biological Evaluation TRC concluded that potential habitat for ashy dogweed and Johnston's frankenia was identified during the reconnaissance survey conducted on November 2 and 3, 2009, therefore, a species specific presence/absence survey of the areas with suitable soils for both ashy dogweed and Johnston's frankenia was conducted by Ms. Gena Janssen and Mr. Barrett Clark on March 29 to 31, 2011. No ashy dogweed or Johnston's frankenia were identified during the survey. In addition to the presence/absence survey of endangered plant species, a wetland delineation survey was conducted for the project area from April 18 to 21, 2011 and no endangered species were observed.

During a site visit, Ernesto Reyes, of our Alamo Suboffice identified some potential jaguarundi habitat in the northwest corner of the site. As per your email the landfill footprint would impact approximately 20 acres and the construction of a drainage ditch to divert water around the landfill would impact approximately 12.2 acres and that approximately 0.9 acres of riparian habitat would be impacted and that all these areas would be surveyed for wetlands, endangered plants and species prior to submittal of the individual permit. Conservation measures will include revegetation of the constructed drainage ditch with appropriate vegetation for jaguarundi, subject to U.S. Army Corps of Engineers (USACE) approval.

The Service appreciates your early coordination, however, the Service is unable to agree with a "no effect" determination for the jaguarundi at this time. As stated in our telephone call we look forward to continued discussions as project plans are finalized during the USACE permit application.

Mary Orms
U.S. Fish and Wildlife Service
Corpus Christi Ecological Services Field Office
c/o Texas A&M University at Corpus Christi
6300 Ocean Drive, Unit 5837
Corpus Christi, TX 78412-5837
Phone: (361) 994-9005 Ext: 246
Fax: (361) 994-8262

"Blackburn, Deborah (Austin, TX-US)"
<DBlackburn@trcsolutions.com>

12/12/2011 07:58 AM

To "Mary_Orms@fws.gov" <Mary_Orms@fws.gov>
cc

Subject RE: Pescadito Environmental Resource Center (landfill) Consultation
no. 02ETCC00-2012-TA-0032

Mary,

I just wanted to follow up on our phone conversation last Wednesday (12/7) regarding whether USFWS can provide a letter or email stating that we have been coordinating with USFWS on this project. You indicated that you would be able to provide that. We are running up against a deadline with TCEQ and we really need to have some official correspondence **before Wednesday (12/14)**. Please let me know as soon as possible if you will be able to provide the requested letter or email (letter is preferred; scanned version is fine) in time to meet our deadline.

Thank you again for your assistance and cooperation.

Deborah Blackburn
Senior Scientist



505 E. Huntland Drive, Suite 250, Austin, TX 78752
T: 512.684.3134 | F: 512.329.8750

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From: Blackburn, Deborah (Austin,TX-US)
Sent: Thursday, December 01, 2011 6:57 PM
To: Mary_Orms@fws.gov
Cc: Ernesto_Reyes@fws.gov
Subject: Pescadito Environmental Resource Center (landfill) Consultation no. 02ETCC00-2012-TA-0032
Importance: High

Mary,

As you know, Ernesto met with us at the proposed Pescadito Environmental Resource Center (Site) on Wednesday afternoon. During the visit he requested additional information on the section of the site in the northwest corner that you previously had expressed interest in. The area in question is closely associated with the Aguilares fine sandy loam soil type as demonstrated on the attached map. Specifically, he indicated that this area was potential jaguarundi habitat and requested additional information regarding the type and amount of impacts to this area. As you can see on the attached map, the landfill footprint itself would impact approximately **20 acres** and the construction of a drainage ditch to divert water around the landfill would impact approximately **12.2 acres**.

In order to ensure that the landfill is not located in a floodplain, the ephemeral streams along the west side of the Site would have to be redirected. The new, relocated stream would be directed south along the western boundary of the Site and connect into the existing drainage feature south of the Site (see attached map). In addition, two additional detention ponds would be constructed on the north end of the Site. These areas will be surveyed prior to submittal of the Individual Permit for wetlands and endangered plants, species and habitat. It is currently estimated that approximately 0.9 acres of riparian habitat would be impacted in this area.

As part of the Project Plan, we intend to incorporate mitigation for the loss of this habitat by revegetating the constructed drainage ditch with appropriate vegetation for jaguarundi. In addition, we intend to revegetate the relocated stream and all stream mitigation areas with appropriate vegetation for jaguarundi, subject to USACE

approval.

Although the section of the landfill that encroaches on the area of interest would result in a complete clearing of vegetation, the projected schedule for work in this location would be 5 – 10 years after the landfill opens for operation. It is anticipated that mitigation measures implemented for this area would be well established by this time.

I understand that Ernesto will be meeting with you tomorrow to discuss this and other projects. I will be available all day tomorrow should you require any additional information or have any questions. Thank you again for your assistance with this project.

Deborah Blackburn
Senior Scientist



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August 12, 2011

Wildlife Habitat Assessment Branch
Wildlife Division
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744

Re: Request for Review – Solid Waste Landfill Application, Webb County, Texas

To Whom It May Concern:

Rancho Viejo Waste Management, LLC proposes to establish a solid waste management facility on an 1,110-acre tract of land located approximately 20 miles east of Laredo in Webb County, Texas. The proposed Pescadito Environmental Resource Center (PERC) would be located entirely within the 12,000-acre Yugo ranch. PERC would be a comprehensive waste management facility that would provide municipal and industrial solid waste landfill disposal, processing of recyclable materials to extract reusable commodities, processing of liquid wastes from grease and grit traps, and disposal of liquid waste from the oilfield in an injection well. TRC Environmental Corporation (TRC) has been contracted to provide environmental, engineering and permitting services for the proposed landfill.

Please find enclosed the Biological Evaluation that has been prepared to address potential impacts to threatened and endangered species. Twenty-three state-listed threatened or endangered species potentially occur in Webb County (TPWD, 2011).

A field reconnaissance survey was conducted by TRC on November 2 and 3, 2009, to assess habitat suitability for threatened and endangered species in the project area. The majority of the project area consists of heavily grazed rangeland with few areas of moderately dense scrub-shrub. The state threatened indigo snake was observed during the field survey. Potential habitat for ashy dogweed, Johnston's frankenia, reticulate collared lizard, Texas horned lizard, and Texas tortoise was identified during this survey. TRC recommended a species-specific presence/absence survey of areas with suitable soils for both ashy dogweed and Johnston's frankenia.

August 12, 2011

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TRC biologists, Ms. Gena Janssen and Mr. Barrett Clark, conducted a presence/absence survey for ashy dogweed and Johnston's frankenia at the project area from March 29 to 31, 2011. No ashy dogweed or Johnston's frankenia were identified during the survey. The full survey report is enclosed for your review.

In addition to the presence/absence survey of endangered plant species, a wetland delineation survey was conducted for the project area from April 18 to 21, 2011 (enclosed). During both the presence/absence survey and the wetland delineation survey, no federal or state-listed species were observed.

According to Title 30, Chapter 330.61(n) of the Texas Administrative Code, the construction and operation of a solid waste disposal facility "...shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species." It is anticipated that indigo snake, reticulate collared lizard, Texas tortoise and Texas horned lizard, if present, would move to adjacent, undisturbed areas during construction and operation of the landfill. TRC has determined that the proposed landfill would not result in the destruction or adverse modification of critical habitat or cause or contribute to the taking of any state-listed threatened or endangered species.

TRC respectfully requests your review and comment regarding this proposed project. In order to ensure a timely submittal to the TCEQ, comments are requested by **September 12, 2011**. If you have any questions or concerns, please contact Adrienne Boer or me at (512) 329-6080 or by email at dblackburn@trcsolutions.com. Thank you for your timely assistance in this matter.

Sincerely,



Deborah Blackburn
Senior Scientist

Enclosures





Life's better outside.®

September 19, 2011

Deborah Blackburn
TRC Environmental Corporation.
505 East Huntland Drive, Suite 250
Austin, TX 78752

RE: Proposed Pescadito Environmental Resource Center, Solid Waste Landfill
Application, Webb County, Texas

Dear Ms. Blackburn:

This letter is in response to your request for review of the project referenced above. In compliance with the Texas Administrative Code, a landfill applicant must demonstrate that a proposed project will not negatively impact listed species.

Project Description

Rancho Viejo Waste Management, LLC proposes to establish a waste management facility, Pescadito Environmental Resource Center (PERC) on a 1,100-acre tract of land approximately 20 miles east of Laredo, Webb County, Texas. The landfill would occupy approximately 900-acres. PERC would be a comprehensive waste management facility that would provide municipal and industrial solid waste disposal, processing of recyclable materials, processing of liquid wastes from grease and grit traps, and disposal of liquid waste from oilfields in an injection well.

Federal Regulations

Clean Water Act and Compensatory Mitigation for losses of aquatic resources, Corps of Engineers

The Clean Water Act (CWA) provides for the federal protection and regulation of surface water quality. The CWA regulates point and nonpoint sources of water pollution, including the placement of "fill" in jurisdictional waters. Compensatory Mitigation for Losses of Aquatic Resources (33 CFR §332.3(e)(3)) requires stream compensation for unavoidable stream impacts.

The proposed project would permanently fill several wetlands and convert them and a tributary of San Juanito Creek into uplands. TPWD is concerned with the impacts associated with disconnecting the upper and lower portions of the watershed and potential impacts further downstream of the project when water flow is stopped.

Commissioners

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Carter P. Smith
Executive Director

Recommendation: Due to their importance to wildlife, particularly in arid environments, TPWD encourages preservation of aquatic resources, regardless of their jurisdictional status. Maintaining connectivity of streams and riparian corridors is preferred over attempts to artificially create habitats to compensate for the loss of the function and value of the aquatic resources. If preservation of these important resources is not selected as an alternative during project planning, TPWD recommends all mitigation for impacts to aquatic resources be on-site and in-kind.

Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) implicitly prohibits intentional *and unintentional* take of migratory birds, including their nests and eggs, except as permitted by the USFWS. Although not documented in the TXNDD or protected by the ESA, many bird species that are protected by the MBTA are known to reside in or migrate through the potential project areas.

Due to the occurrence of woodland/thornscrub, wetland and riparian vegetation and natural and manmade aquatic habitats, the project sites could support a high diversity of bird species. Multiple bird surveys (including breeding bird surveys) conducted over the past 10 years by the U.S. Geological Survey in Webb County have documented exceptional avifauna diversity on public and private land around Laredo.

Recommendation: Because the entire 1,100 acre site would ultimately be cleared of all vegetation, TPWD recommends scheduling all vegetation clearing or trampling to occur outside of the April 1-July 15 migratory bird nesting season in order to fully comply with the MBTA. Contractors should be made aware of the potential of encountering migratory birds (either nesting or wintering) at the proposed project site and be instructed to avoid negatively impacting them. Please contact the U.S. Fish and Wildlife Service Southwest Regional Office (Region 2) at (505) 248-6879 for more information regarding the MBTA

State regulations

Parks and Wildlife Code

State law prohibits any take (incidental or otherwise) of state-listed species. Laws and regulations pertaining to state-listed endangered or threatened animals are contained in Chapters 67 and 68 of the Texas Parks and Wildlife (TPW) Code; laws pertaining to endangered or threatened plants are contained in Chapters 88 of the TPW Code.

TRC conducted a field reconnaissance survey, a presence/absence survey for federally listed plants, and a wetland delineation survey. No federal and one state-listed species were observed during the surveys. TRC concluded that suitable habitat for state-listed reptiles occurs on the site but that these species would move to adjacent areas during construction and operation of the landfill.

TPWD agrees that the project area and adjacent habitat types provide food, browse, and cover for many species of wildlife, including state-listed species. The availability of vegetated cover that includes leguminous species or other mast producing species can support many bird species as well as state-listed reptiles adapted to arid environments (*e.g.*, reticulate collared lizard, Texas indigo snake) and prey species (*e.g.*, lizards, mice) for raptors common in the area.

Recommendation: Texas tortoises: TPWD agrees that Texas tortoises could be encountered as the landfill is constructed. Because tortoises could have been inactive during the March and November surveys of the site, TPWD recommends that multiple surveys specifically for the Texas tortoise should be conducted during periods when they are most active (March/April through October) to adequately assess the local population. Because tortoises are less able to quickly avoid construction equipment, TPWD recommends scheduling construction activities to occur when tortoises are inactive (late October through March) if possible. If surface disturbance (*i.e.*, clearing) must occur while tortoises are active, a onsite biological monitor should be present during all activities in which tortoise encounters may occur.

Also, if encountered, Texas tortoises should be avoided and permitted to leave the project area on their own. Attempting to relocate them by picking them up can cause them to evacuate their bladders. Evacuation of their bladder, along with the stress of being moved, could cause the tortoises to become dehydrated and die.

Texas indigo snakes: A Texas indigo snake was observed during a November 2009 survey of the site. Because snakes are generally perceived as a threat and killed when encountered during clearing or construction, TPWD recommends contractors be advised that many snakes, including the protected Texas indigo snake, have been documented in Webb County. Contractors should be advised to avoid impacts to snakes as long as the safety of the workers is not compromised. Western diamondback rattlesnakes also occur in Webb County. Contractors should avoid contact with this species if encountered and allow the snake to safely leave the work area.

Ms. Blackburn
Page 4 of 4
September 19, 2011

Please note that relocating any state-listed species requires a scientific collection permit. This can be obtained from TPWD Wildlife Permits Program. For more information regarding this permit, please visit TPWD's wildlife permit website at:
<http://www.tpwd.state.tx.us/business/permits/land/wildlife/>

The proposed landfill would occupy approximately 1,100 acres of a 12,000 acre ranch that is described as being severely overgrazed. The entire 1,100 acres would be cleared of vegetation with the assumption that wildlife, including state-listed species, would move to adjacent, undisturbed areas.

Recommendation: In order for the undisturbed areas adjacent to the landfill to provide suitable habitat for wildlife to move into, TPWD recommends that some of those areas be managed for wildlife. If a Wildlife Management Plan has not been already developed for the property, TPWD recommends contacting the local wildlife biologist regarding preparing a Plan. Wildlife management plans can assist the landowner in providing or improving wildlife habitat while continuing ranching or oil/gas activities. Please contact the local biologist for the Laredo area (Kent Williamson (956-568-4618)) for more information regarding land management strategies for private landowners.

I appreciate the opportunity to review and comment on this project. Please contact me at (361) 825-3240 if we may be of further assistance.

Sincerely,



Russell Hooten
Wildlife Habitat Assessment Program
Wildlife Division

/rh 16483