Report Version 5

Hazardous Materials Initial Site Assessment (ISA)

October 2019 District: Austin

Kenney Fort Blvd (Segments 2 and 3)

CSJ: 0914-05-195

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

TxDOT Environmental Affairs Division
Effective Date: April 2017
510.02.DS
Version 5

Hazardous Materials Initial Site Assessment (ISA) Report

This ISA complies with the Federal Highway Administration's (FHWA's) policy dealing with hazardous materials discussed in FHWA's *Supplemental Hazardous Waste Guidance* (January 16, 1997) located at http://www.environment.fhwa.dot.gov/guidebook/vol1/doc7b.pdf.

FHWA's policy emphasizes three objectives: 1) identify and assess potentially contaminated sites early in project development, 2) coordinate early with federal/ state/ local agencies to assess the contamination and the cleanup needed; and 3) determine and implement measures early to avoid or minimize involvement with substantially contaminated properties.

In addition, completing the ISA will aid in identifying hazardous material issues early, avoiding construction delays, and reducing the department's liability associated with the purchase of contaminated right of way.

Maintain a copy of the completed ISA report with all applicable attachments in the project file.

For additional information, refer to TxDOT's online manual: *Hazardous Materials in Project Development:* http://onlinemanuals.txdot.gov/txdotmanuals/haz/index.htm and the Hazardous Materials Toolkit Site: http://www.txdot.gov/inside-txdot/division/environmental/compliance-toolkits/haz-mat.html

Abbreviations and Acronyms

CALF	Closed and Abandoned Landfill
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System
EA	Environmental Assessment
EIS	Environmental Impact Statement
ECOS	Environmental Compliance Oversight System
ERNS	Emergency Response Notification System
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
HAZMAT	Hazardous Materials
MS4	Municipal Separate Storm Sewer System
MSWLF	Municipal Solid Waste Landfill
NPL	National Priorities List
RCRA	Resource Conservation and Recovery Act
ROW	Right of Way
SEMS	Superfund Enterprise Management System
TCEQ	Texas Commission on Environmental Quality
TRRC	Texas Railroad Commission
US	United States
USGS	United States Geological Survey
VCP	Voluntary Cleanup Program

TxDOT Hazardous Materials Initial Site Assessment (ISA) Report

Project Information			
CSJ No:0914-05-195	City:Round Rock	Zip Code:78665	County:Williamson
HWY:Kenney Fort Boulevard	Limits:From Forest Creek Drive to State Highway 45		

Section 1: Identify Previously Completed Environmental Site Assessments, Known Hazmat Conditions, Preliminary Project Design, and Right-of-Way Requirements	
Note: Obtain information/comments from design, right-of-way, and/or environmental staff. Attach maps and/or details as appropriate.	
☐ Yes ☒ No ☐ Unknown	Are there any previous environmental assessments, testing, or studies performed within the proposed project area related to contamination issues (to include Phase I ESAs)? If yes, explain here if there are any concerns to the proposed project:
☒Yes ☐ No	Have the project schematics and/or plan-profile sheets (if available) been reviewed?* Look for substantial excavations (including utilities and storm sewer designs), new ROW and easements, and bridge demolitions or renovations.

* For consultants: this information shall be supplied by TxDOT.

Section 2: Demolition and Renovation Information Related to Asbestos and Lead-Containing-Paint	
☐Yes ☒No	Are there proposed bridges or building demolitions or renovations for this project?
Note: If "Yes" is selected, buildings or structures being acquired through the acquisition process are assessed and mitigated for asbestos, as needed, within the ROW process according to the TxDOT ROW Manual ROW Vol. 6 Miscellaneous -Chapter 1 Section 5. Bridge structures being demolished or renovated are assessed and mitigated for asbestos and lead-containing-paint, as needed, within the construction process according to Standard Specification Item 6.10 (and applicable Provisions), and the TxDOT guidance document: Guidance for Handling Asbestos in Construction Projects, dated January 26, 2007.	

Section 3: Project Screening	
Note: Section 3.1 is only applicable for Categorically Excluded (CE) projects. If you are uncertain of the project type, select "No" and continue to Section 3.2. **Section 3.1** Determine if the proposed project has a low potential to encounter contamination. Refer to the preliminary schematics for project limits and internet-based maps for surrounding land use.	
☐ Yes ☒ No or an EA or EIS Project	Are the limits of the proposed project within a historically undeveloped area and outside the boundaries of a designated MS4 permitted area? Historically undeveloped areas are locations where no commercial buildings are located within one-half (0.5) miles of the proposed project limits and the surrounding land use is historically agricultural, forest, or ranch lands.
If "Yes" is selected, the ISA is complete. The proposed project has a low potential to encounter contamination. Complete Sections 9 and 10 of this ISA and maintain a copy and all applicable attachments in the project file. If "No" is selected, proceed to Section 3.2 of this ISA.	
Section 3.2 **Note:** Determine if the project includes any of the activities listed below:	
☒ Yes ☐ No	**Project Excavations:** Will the work consist of substantial excavation operations. Substantial excavation includes, but is not necessarily limited to: • Underpass construction, • Storm sewer installations, and • Trenching or tunneling that would require temporary or permanent shoring.

☐ Yes ☒ No	**Dewatering of Groundwater:** Are there proposed de-watering operations. If yes, what is the estimated depth to groundwater?
☐ Yes ☒ No	**Encroachments:** Are there known or potential encroachments into the project area? Encroachments include soil and groundwater contamination, dump sites, tanks, and other issues in the ROW.
☒ Yes ☐ No	**ROW and Easements:** Are there any acquisitions of new ROW, easements, temporary construction easements planned for the project?

3.3 Complete the appropriate box below:

☒ If Section 3.2 contains any "Yes" answers, please proceed to Section 4.

☐ If Section 3.2 contains all "No" answers, proceed to Section 6, Site Survey. Please perform a site survey documenting the results in Section 6 and then mark the appropriate box below. If a Phase I ESA has been prepared for this project, you may use the applicable site survey information from the Phase I ESA.

☐ The site survey did not identify evidence of any environmental concerns listed in Section 6. The ISA is complete. Complete Sections 9 and 10 and maintain a copy of the ISA and all applicable attachments in the project file.

☐ The site survey identified evidence of environmental concerns listed in Section 6. Continue with Section 4.

Section 4: Current and Past Land Use Information

Note: Review and assess current and past land use (up to 50 years) in the project area. Document and attach sources that were reviewed. If one or more Phase I ESAs were prepared for this project, please use applicable information from the Phase I ESAs to help complete this section of the ISA.

☒ Yes
☐ No
☐ Not Available
☐ Not Applicable

4.1 Review Current and Past USGS 7.5 Minute Topographic Maps of the project area: Look for oil & gas pipelines, tanks, landfills, or other industrial features.

Describe any concerns:No concerns noted.

List Topo Maps Reviewed:	Dates:	Comments:
Pflugerville West	1968, 1987, 2016	Portions of the ROW parallel/follow an abandoned rail line, by 1987 the railroad was removed or out-of-use. No other industrial features noted. Maps of the project area, including a project location map (Exhibit 1), an aerial map (Exhibit 2), a topographic map (Exhibit 3), and a right-of-entry (ROE) map (Exhibit 4) are included in Attachment A.
Round Rock	1982, 1987, 2016	

☒ Yes
☐ No
☐ Not Available
☐ Not Applicable

4.2 Review Current and Past Aerial Photographs of the project area: Look for oil & gas pipelines, tanks, landfills, or other industrial features.

Describe any concerns:No concerns noted.

List All Aerial Photos Reviewed:	Photo Dates:	Comments:

	Google Earth Aerial Imagery	2/1995, 12/2002, 10/2005, 2/2008, 3/2011, 10/2014, 1/2018	Much of the ROW, including an abandoned rail line, is undeveloped and has been preserved for transportation use. ROW is surrounded by suburban-density residential and undeveloped lots since at least 1995. By 2005, SH 45 was developed from a suburban road to a highway. The area around the project area is steadily being developed for residential use with most undeveloped lots developed into neighborhoods by 2018. No industrial features are noted. Historic aerial images are in included in Attachment B.

☒Yes ☐ No ☐ Not Available ☐ Not Applicable	**4.3 Review Current and Past Right-of-Way Maps/Files*:** Look for oil & gas pipelines, tanks, landfills, or other industrial features. Describe any concerns:No concerns noted.	
	List Maps/ Files & Dates Reviewed:	Comments:
	City of Round Rock, Right Of Way Map Kenney Fort Blvd Segment 2 & 3; 1/23/2018	No hazardous material concerns noted. Project area crosses parcels currently owned by private residents, the City of Round Rock, and the State of Texas. Project ROW file is included in Attachment C.
☐Yes ☐ No ☒ Not Available ☐ Not Applicable	**4.4 Review Sanborn Fire Insurance Maps/Files:** Look for tanks, oil & gas pipelines, landfills, or other industrial features. Describe any concerns:	
	List Maps/ Files & Dates Reviewed:	Comments:
☐Yes ☐ No ☐ Not Available ☒ Not Applicable	**4.5 Review TxDOT As-Built Plans*:** Were any concerns identified during previous work within the project limits? If yes, explain: N/A (new location ROW) If known, what is the previous Project CSJ:	
☒Yes ☐ No ☐ Not Available ☐ Not Applicable	**4.6 Review TxDOT Geotechnical Soil Boring Logs*:** Were any concerns noted on the boring logs such as unusual odors, visible contamination, trash, waste or debris? If yes, explain:No concerns noted. The Geotechnical Engineering Report is attached in Attachment D.	
☐Yes ☐ No ☒ Not Available	**4.7 Review TxDOT Temporary Use ROW Agreements (permits issued by the district to entities to occupy a portion of the ROW)*:** Were any concerns such as monitor wells or treatment systems identified within the ROW? For consultants: this information shall be supplied by TxDOT. If yes, explain:	
☐Yes ☐ No ☒ Not Available	**4.8 Review Notifications of Contamination to TxDOT*** (These are typically letters from TCEQ or third parties explaining the presence of contamination on TxDOT ROW): Were any concerns regarding contamination of ROW from off-site sources? If yes, explain:	

* For consultants: this information shall be supplied by TxDOT. If no information is supplied by TxDOT, then select Not Available.

Section 5: Complete a Regulatory Records Review (Database Search)

Note: Use the comment field in Section 5.1 to provide a synopsis of the total number of sites identified within the search distances of the regulatory record reviewed. No comments are required when no sites were identified or the regulatory record was not reviewed.

Select the appropriate box below:

☒ A Database search was conducted through a contracted service. Indicate in Section 5.1, and if applicable, Section 5.2, the regulatory records searched. Maintain a complete copy of the database search findings (contractor's report deliverable) in the project file with the ISA.

☐ A Database search was conducted in-house. For in-house database searches, not all databases need to be reviewed, but at a minimum the databases listed in Section 5.1 marked in **bold with a star(*)** must be reviewed. Include database records that list potential issues in the project file with the ISA. It is not necessary to include records of negative findings.

Section 5.1 Standard Database Sources of Environmental Information from Government Agency Records

Findings	Regulatory Record
☐**Sites Identified** ☒**No Sites Identified**	**Federal Active NPL or Not NPL list (CERCLIS or SEMS sites)*** **https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm; and/or https://www.epa.gov/cleanups/cleanups-my-community** (1 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐**Sites Identified** ☒**No Sites Identified**	**Federal Archived NPL or Not NPL list (CERCLIS or SEMS sites)*** **https://cumulis.epa.gov/supercpad/CurSites/srchsites.cfm** (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐Sites Identified ☒No Sites Identified ☐Not Reviewed	US EPA Brownfield Properties **https://www.epa.gov/cleanups/cleanups-my-community** (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐Sites Identified ☒No Sites Identified ☐Not Reviewed	Federal RCRA Corrective Action (CORRACTS) list https://www.epa.gov/cleanups/cleanups-my-community, and/or http://www.epa.gov/enviro/ (1 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐Sites Identified ☒No Sites Identified ☐Not Reviewed	Federal RCRA non-CORRACTS Treatment Storage Disposal (TSD) facilities list http://www.envcap.org/statetools/tsdf/ and/or http://www.epa.gov/enviro/ (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐Sites Identified ☒No Sites Identified ☐Not Reviewed	Federal RCRA generators http://www.epa.gov/enviro/ (acquired property and adjoining properties)
Comments for Sites Identified:	
☐Sites Identified ☒No Sites Identified ☐Not Reviewed	Federal ERNS (or Responses) https://www.epa.gov/cleanups/cleanups-my-community (acquired property and adjoining properties)
Comments for Sites Identified:	

☐**Sites Identified** ☒**No Sites Identified**	**TCEQ Industrial Hazardous Waste Corrective Action (IHWCA) sites only*** **http://www15.tceq.texas.gov/crpub/** (1 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐**Sites Identified** ☒**No Sites Identified**	**TCEQ Superfund sites*** **http://www15.tceq.texas.gov/crpub/ and/or** **https://www.tceq.texas.gov/remediation/superfund/sites/index.html** (1 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐**Sites Identified** ☒**No Sites Identified**	**Closed and abandoned municipal solid waste landfill sites*** **http://www.tceq.texas.gov/permitting/waste_permits/msw_permits/msw-data** (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐**Sites Identified** ☒**No Sites Identified**	**TCEQ leaking petroleum storage tank remediation lists (LPST)*** **http://www15.tceq.texas.gov/crpub/** (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☒**Sites Identified** ☐**No Sites Identified**	**TCEQ registered petroleum storage tank lists (PST)*** **http://www15.tceq.texas.gov/crpub/** (acquired property and adjoining properties)
Comments for Sites Identified: The database report identified one PST site adjacent to the nothern limit of the project area: Map ID 3, Forest Creek Gas Station. The PST is a new installation, no releases or violations are reported for this site. A map displaying the location of Map ID 3 is provided in the GeoSearch Radius Report in Attachment E. No ROW acquisition is planned for this location. This site is not anticipated to impact the project area.	
☐**Sites Identified** ☒**No Sites Identified**	**TCEQ voluntary cleanup program (VCP) sites*** **http://www15.tceq.texas.gov/crpub/** (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐Sites Identified ☒No Sites Identified ☐Not Reviewed	TCEQ Innocent Owner/ Operator (IOP) sites http://www15.tceq.texas.gov/crpub/ (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐**Sites Identified** ☒**No Sites Identified**	**TCEQ Dry Cleaners remediation only Database*** http://www15.tceq.texas.gov/crpub/ (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
☐**Sites Identified** ☒**No Sites Identified**	**Texas Railroad Commission VCP sites*** **http://www.rrc.state.tx.us/oil-gas/environmental-cleanup-programs/site-remediation/voluntary-cleanup-program/** (0.5 mile minimum search distance from project limits)
Comments for Sites Identified:	
Section 5.2 List below other pertinent records reviewed such as local records and/or additional state records	
Record Source and Comments: The Texas Railroad Commission Public GIS Viewer was accessed on 11/12/2018 and a print-out is provided in Attachment F. No oil/gas pipelines or wells area mapped within the project area. An unidentified utility line was observed within the project area during field investigations, this is further discussed in Section 6.1 and Section 8.1, below. The project schematic and profile was reviewed. No concerns were noted. A copy of the project schematics is provided in Attachment G.	
Record Source and Comments: The Capital Area Council of Governments (CAPCOG) Closed Landfill Inventory was accessed on 11/19/2018. No closed or abandoned landfills are located within one mile of the project area.	

Section 6: Complete a Project Site Survey

Note: Do not document site survey concerns that were previously identified by the regulatory list search, by the Current and Past Land Use review, or both. In Section 6.1, describe the location and size of the concern. Attach site maps and photographs, as appropriate. If a Phase I ESA has been prepared for this project, you may use the applicable site survey information from the Phase I ESA and updated current site conditions, as needed.

Possible Site Survey Concerns: The following items are to be used as a guide to help identify potential hazardous material issues during a site survey.

- underground storage tanks
- aboveground storage tanks
- injection wells, cisterns, sumps, dry wells
- floor drains, walls stained by substances other than water or emitting foul odors
- stockpiling, storage of material
- surface dumping of trash, garbage, refuse, rubbish, debris half exposed/buried, etc.
- stained, discolored, barren, exposed or foreign (fill) soil
- oil sheen or film on surface water, seeps, lagoons, ponds, or drainage basins
- changes in drainage patterns from possible fill areas
- Dead animals (fish, birds, etc.)
- vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground
- electrical and transformer equipment storage or evidence of release
- groundwater monitoring wells and groundwater treatment systems
- vats, 55-gallon drums (labeled/unlabeled), canisters, barrels, bottles, etc.
- evidence of liquid spills
- damaged or discarded automotive or industrial batteries
- dead, damaged, or stressed vegetation
- pits, ponds, or lagoons associated with waste treatment or waste disposal
- security fencing, protected areas, placards, warning signs

Site Survey Date(s): January 18, 2018 and November 21, 2018

6.1 Describe Concerns Observed During the Site Survey. **Do not** include concerns previously identified during the regulatory list search, the current and past land use review or both. Indicate if the concern is associated with existing ROW, proposed ROW, adjacent property, or easements. Provide address location (or relative location) and any additional information about the evidence identified; include photographs as an attachment to the ISA.

Comments or Concerns Identified: Only those properties for which ROE was granted were investigated on-foot. Properties for which ROE was not granted were examined by aerial photographs and pictures taken at propoerty boundaries. It was determined that no hazardous material risks requiring further investigation existed within those properties where ROE was not granted and further investigation is not required. ROE status at the time of field investigations, as well as property numbers, is displayed in Exhibit 4 in Attachment A. Photographs taken during field investigations are provided in Attachment H.

Property 4 (as identified in Exhibit 4) is the location of a motorcycle shop. This property had a large number of tires, brush piles, old barrels, and debris scattered throughout the project area.

A shed connected to a yard was located within an area of proposed ROW acquisitions (Property 5). ROE to the shed was not granted at the time of field investigations, and the contents of the structure are unknown. The shed would need to be removed prior to the start of construction.

Property 12 was being utilized as a dirt bike facility. Multiple tires, 55-gallon fuel barrels, unknown fill material, abandoned cars, and a boat in disrepair were present on the property within the project area.

An unidentified utility line was identified near Property 14 near the west side of the project area. A picture of the exposed pipes is included in Attachment H, Photograph 16.

Electrical transmission lines cross the project area towards the southern end and pole mounted electrical transformers were observed. The electrical transformers within the project area appeared to be in good condition with no evidence of release from interior transformer oils onto the ground. It is unknown whether the transformers contain PCBs.

An underground pipeline and easement runs throughout the project area on state-owned ROW. Scattered debris, including a container for unknown liquid, was observed throughout the project area.

Section 7: Interviews		
Section 7.1 Were interviews conducted? ☐Yes ☒No Possible interviewees include local residents, TxDOT staff, fire department personnel, city or county department of health/environmental staff, city or county planning staff, TCEQ staff, TRRC staff, and current and former property owners or operators. If one or more Phase I ESAs were prepared for this project, please use applicable interview information from the Phase I ESAs to help complete this section of the ISA.		
Section 7.2 Interview Summary: Complete this section if interviews were conducted. Add additional rows as needed. Attach record of communications to the ISA.		
Name:	Title:	Date:
Describe any potential concerns:		
Name:	Title:	Date:
Describe any potential concerns:		
Name:	Title:	Date:
Describe any potential concerns:		

Section 8: Hazardous Material Concerns	
On the list below, indicate if a concern is resolved or unresolved. "Unresolved" indicates additional investigation or research is required. "Resolved" indicates the concern has been resolved during the preparation of this ISA. If a concern is "Unresolved" or "Resolved", include a statement explaining the planned next steps to resolve the issue. If no concerns were identified, select "No Issue". For additional information regarding scheduling considerations, internal/external coordination and recommended practices for resolving hazmat issues please refer to TxDOT's *Environmental Tool Kit* web site. Contact TxDOT ENV Hazardous Material Management (HMM) for additional assistance.	
8.1 Identify Type of Hazardous Material Concerns	
Resolution	**Type of Concern**
☐**Unresolved** ☐**Resolved** ☒**No Issue**	**Current or Past Land Use Concerns:** These concerns are associated with hazardous material issues identified in Section 4 that were not discovered during the database search in Section 5.1 or during the Site Survey in Section 6.1. Note: *For ECOS IIR development, the Available Contaminated Media would be "Other".*
Explain Unresolved or Resolved Issues:	
☐**Unresolved** ☒**Resolved** ☐**No Issue**	**Site Visit Concerns:** These concerns are associated with hazardous material issues discovered following the completion of Section 6 that were not previously discovered during the database search in Section 5.1 or during the current and past land use review in Section 4. Note: *For ECOS IIR development, the Available Contaminated Media would be "Other".*
Explain Unresolved or Resolved Issues:Resolved: Debris was identified on Properties 4 and 12 during the site investigations. This debris included tires, old barrels, abandoned vehicles, brush piles, and other debris. These materials are not anticipated to impact the project area, but it recommended that the debris be removed prior to the start of construction. A shed with unidentified contents was identified within the project area limits. The shed is not	

anticipated to provide a hazardous materials concern barring further investigation, but will need to be relocated prior to the start of construction. No signs of contamination or leaks were observed around the pole-mounted transformers observed across the project area and are therefore not anticipated to impact the project. Property 12 is currently a dirt-bike park with several mounds formed of unknown fill material. Recommend sampling the fill material or inquiring with the property owners as to the contents of the fill material in order to avoid or mitigate any possible contaminants.	
☐**Unresolved** ☐**Resolved** ☐**No Issue** ☒**N/A**	**Interview Concerns:** These concerns are associated with any hazardous material issues discovered during an interview listed in Section 7, that were not previously discovered during the database search in Section 5.1, during the current and past land use review in Section 4, or during the Site Survey in Section 6.1. Note: *For ECOS IIR development, the Available Contaminated Media would be "Other".*
Explain Unresolved or Resolved Issues:	

☐**Unresolved** ☐**Resolved** ☒**No Issue**	**Petroleum Storage Tanks (PSTs) Concerns discovered during the database search:** PSTs are underground or aboveground storage tanks used to store fuel or other petroleum substances. Typically, these are found at gasoline and diesel refueling facilities. Select below all that apply.	
	☐Yes ☒No	ROW acquisition or partial acquisition of a parcel with one or more PSTs.
	☐Yes ☒No	Other- Describe:
Explain Unresolved or Resolved Issues:		
☐**Unresolved** ☐**Resolved** ☒**No Issue**	**Leaking Petroleum Storage Tanks (LPSTs) Concerns discovered during the database search:** LPSTs are PSTs that have caused or are suspected to have caused a release of fuel or other petroleum substances to the environment.	
	☐Yes ☒No	Additional Research is needed or uncertain of impacts from one or more LPSTs. Request assistance from ENV.
	☐Yes ☒No	ROW acquisition or partial acquisition of a parcel with one or more LPSTs.
	☐Yes ☒No	One or more LPSTs are located within 0.25 miles of the project.
	☐Yes ☒No	Other- Describe:
Explain Unresolved or Resolved Issues:		
☐**Unresolved** ☒**Resolved** ☐**No Issue**	**Oil and Gas Activity Concerns**: TxDOT is concerned with the acquisition of oil and gas wells (and ancillary equipment) such as process, piping, production equipment, pipelines, etc. Select below all that apply.	
	☐Yes ☒No	Additional Research needed or uncertain of impacts. Request assistance from ENV.
	☐Yes ☒No	Database search identified TRRC VCP Site within 0.5 miles of project.
	☐Yes ☒No	Oil/ Gas Wells within future ROW.
	☐Yes ☒No	Spills or other Contamination Issues associated with ancillary equipment or pipelines.
	☒Yes ☐No	Other- Describe: Possible natural gas line near Property 14.
Explain Unresolved or Resolved Issues:Resolved: A potential natural gas ulitity line was observed near Property 14 during site investigations. While no natural gas lines were documented on the TXRRC website, caution should be exercised near the exposed pipes and a local utility map should be consulted prior to the start of construction.		
☐**Unresolved** ☐**Resolved** ☒**No Issue**	**Non-LPST Source Contamination Concerns discovered during the database search**: These are sites or locations that have a potential for soil and groundwater contamination and are not associated with LPST sites. Select below all that apply.	
	☐Yes ☒No	Additional Research is needed or uncertain of impacts from a Non-LPST site. Request assistance from ENV.
	☐Yes ☒No	Database search identified SEMS Active NPL or Not NPL site(s) within 1 mile of the project. This may be identified on a database search as a CERCLIS or NPL site.
	☐Yes ☒No	Database search identified SEMS Archived NPL or Not NPL site(s) within 0.5 miles of the project. This may be identified on a database search as a CERCLIS NFRAP.
	☐Yes ☒No	Database search identified RCRA Corrective Action(s) site within 1 mile of project.
	☐Yes ☒No	Database search identified RCRA TSD facilities within 0.5 miles of project.
	☐Yes ☒No	Database search identified TCEQ IHW Corrective Action sites within 1 mile of project.
	☐Yes ☒No	Database search identified TCEQ Superfund sites within 1 mile of project.
	☐Yes ☒No	Database search identified TCEQ VCP sites within 0.5 miles of project.
	☐Yes ☒No	Database search identified TCEQ IOP sites within 0.5 miles of project.

	☐Yes ☒No	Other- Describe:
Explain Unresolved or Resolved Issues:		
☐**Unresolved** ☐**Resolved** ☒**No Issue**	**Landfills/Waste Pits/Dump Site Concerns:** These concerns are associated with any known or suspected (based on visual observations) landfills, dump sites, or waste pits. These concerns may appear on a database search as CALF or MSWLF site. Additionally, the local Council of Governments (COG) maintains a list of closed and open landfills in your project area. Select below all that apply.	
	☐Yes ☒No	Additional research is needed or uncertain of impacts. Request assistance from ENV.
	☐Yes ☒No	Database search identified active/closed/abandoned CALF or MSWLF landfill sites within .5 miles of the project.
	☐Yes ☒No	Other- Describe:
Explain Unresolved or Resolved Issues:Not applicable.		

8.3 Did the ISA identify any Unresolved Hazardous Material concerns?

☒ No, unresolved hazardous materials concerns were identified and/or all potential concerns were resolved within the ISA. No further hazardous materials action is required. The ISA is complete for this project. Any unanticipated hazardous materials impacts encountered during the project construction phase shall be addressed in accordance with regulatory requirements and TxDOT standard specifications. Complete Sections 9 and 10 and maintain a copy of the ISA and all applicable attachments in the project file.

☐ Yes, the ISA identified one or more unresolved hazardous materials concerns requiring additional investigations or assessments. An Issues, Identification, and Resolution (IIR) form shalll be completed in ECOS to track the additional investigations and assessments. Complete Sections 9 and 10 and maintain a copy of the ISA and all applicable attachments in the project file.

Section 9: Reference Materials Utilized (Identify any referenced materials and attach them to the ISA or in the project file.			
Referenced Materials Used	☒ Project Map	☒ USGS Topo Maps	☒ Aerial Photographs
	☒ ROW Maps/Files	☐ Sanborn Fire Insurance Maps	☐ Temporary Use Agreements
	☐ TxDOT As-Built Plans	☐ Notifications	☒ Photographs
	☒ Project Schematics/Profiles	☒ Regulatory Database	☐ Record of Interviews
	☒ Other:TX RRC Public GIS Viewer & Legend		

Section 10: Contact/Completed by		
Name:	Chelsea Miller	**Tel: 210-798-2301**
Title:	Environmental Specialist	
Firm (District Section):	CP&Y, Inc.	
Address:	12500 San Pedro Ave, Suite 450, San Antonio, TX 78216	
Signature:		**Date:10/17/2019**

Appendix A

The following table shows the revision history for this guidance document.

Revision History	
Effective Date	**Reason for and Description of the Change**
April 2017	Version 5 The cover page has additional fields related to specific project information. This is added to personalize the ISA to a project. Section 2 was modified to acknowledge that asbestos or lead-in-paint issues might exist on our construction projects, but the identification and resolution to these issues are outside of the ISA process and are handled programmatically by TxDOT (usually in CST or the ROW processes). Section 3 was modified by adding an additional screening option. You are now able to screen out of performing a full ISA if your project meets the parameters described. Section 6 was reformatted to remove the numerous selections related to the Possible Site Survey Concerns. Additionally, redundant questions were removed to make the section easier to use. Under the new format, the preparer is required to insert the survey dates and a description of what was identified during the survey. Minor changes were made to terminology throughout the ISA, this was performed to clarify and streamline the process. Section 8.1 has been modified to provide resolution to potential hazardous materials issues that can be resolved easily during the ISA process. Additionally, a comment field was added to provide direction related to issues requiring further action to resolve. This will streamline the process in reducing the amount of IIR entries requires in ECOS and will reduce the time required to review a project.
June 2016	Version 4 Modifications to Section 5: Web links and database names were modified based on changes made by regulatory agency websites.
October 2014	Version 3 Modifications to Section 2: Clarified this section to better define what are asbestos and lead-in-paint concerns. Changes were made due to numerous comments from the end-user. An additional note was added to this section. This note directs end-users to ENV-HMM for further assistance related to lead-in-paint issues. Modifications to Section 3: The question concerning Project Excavations in Section 3.1 was modified to match the definition used in Scoping Procedure for Categorically Excluded TxDOT Projects for Hazardous Materials found in the NEPA and Project Development Toolkit. Modifications to Section 5: Web links were modified based on changes made by regulatory agency websites. Modifications to 8.2: Clarified the “Yes” answer in 8.2 to remove the need for additional assessments for all identified hazardous materials concerns. The question was modified due to comments by the end-user.

August 2014	Version 2 Removed introductory note describing ISA threshold criteria. Note was removed because the ISA threshold criteria are located in other TxDOT guidance.
April 2014	Version 1 Released

Attachment A

Project Exhibits

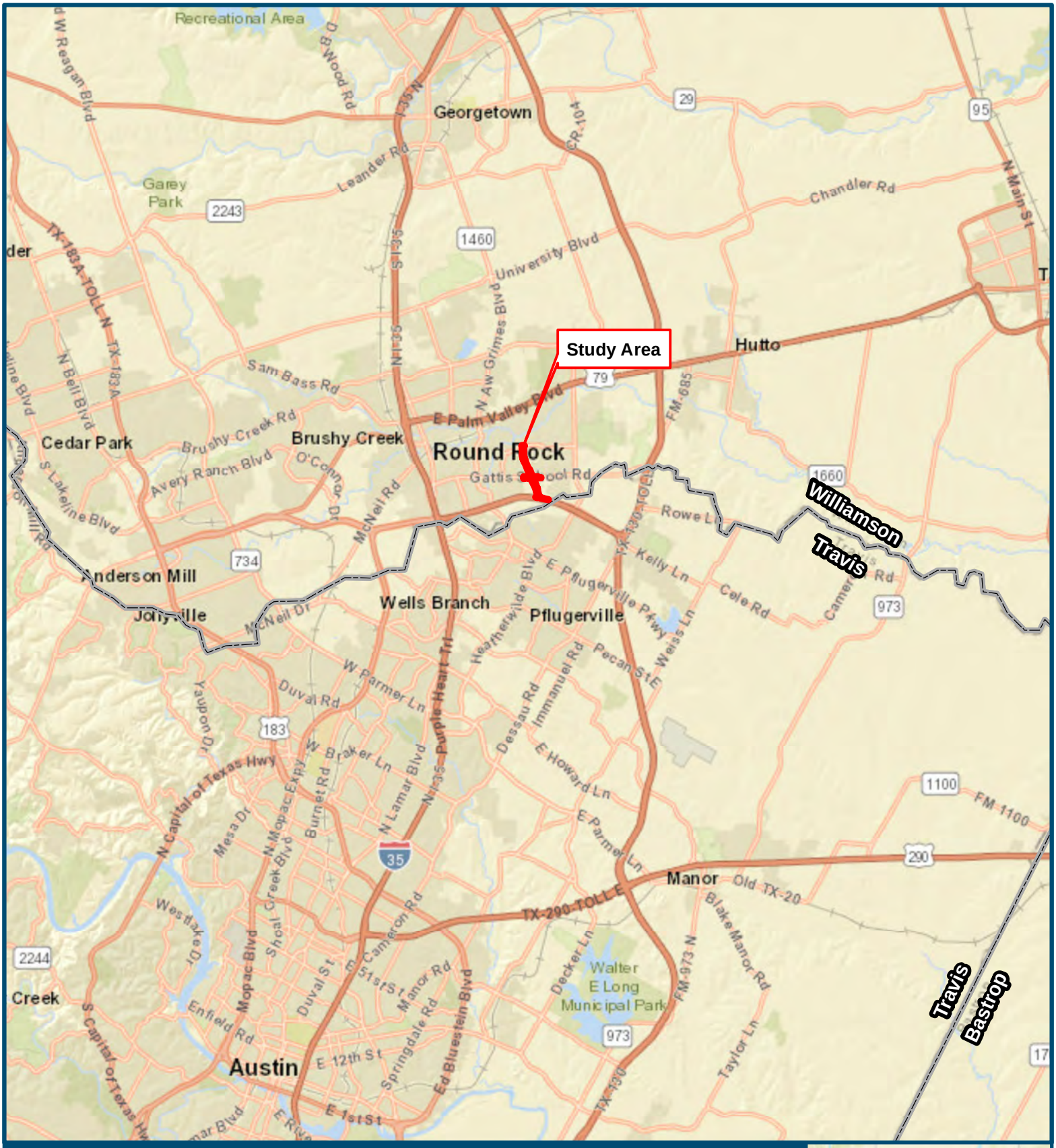


Exhibit 1: Project Location

Proposed Kenney Fort Blvd Extension
From Forest Creek Dr
To SH 45
Williamson County, TX
CSJ: 0914-05-195

Study Area

NORTH

0 1 2 4
Miles

Basemap: ESRI Streets 2016

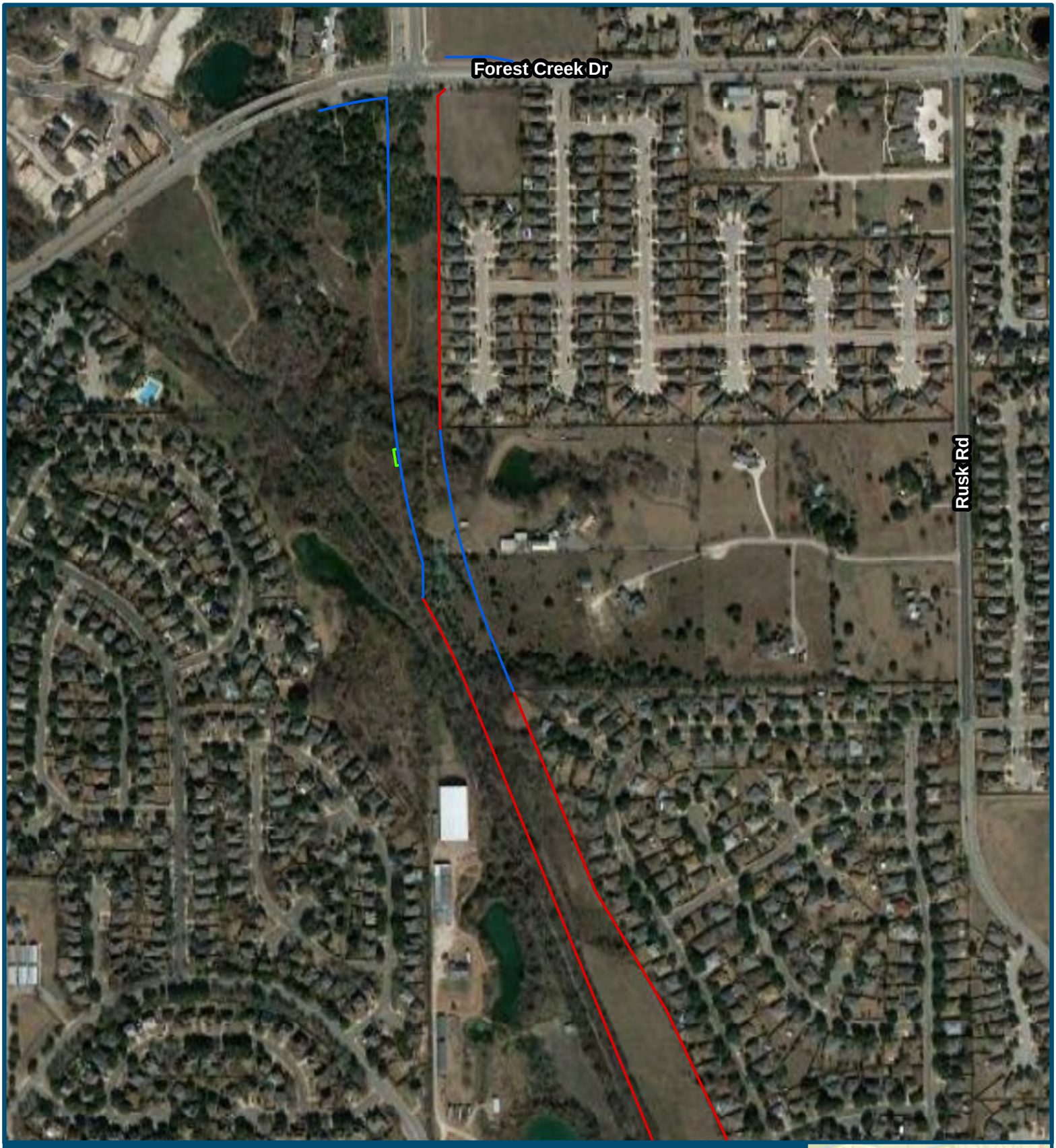


Exhibit 2: Aerial Map, Page 1 of 2

Proposed Kenney Fort Blvd Extension
From Forest Creek Dr
To SH 45
Williamson County, TX
CSJ: 0914-05-195

NORTH

0 500 1,000
Feet

Proposed ROW
Existing ROW
Easement

Basemap: ESRI Streets 2016, Texas Google Imagery

Exhibit 2: Aerial Map, Page 2 of 2

Proposed Kenney Fort Blvd Extension
From Forest Creek Dr
To SH 45
Williamson County, TX
CSJ: 0914-05-195

NORTH

0 500 1,000
Feet

Proposed ROW
Existing ROW
Easement

Basemap: ESRI Streets 2016, Texas Google Imagery

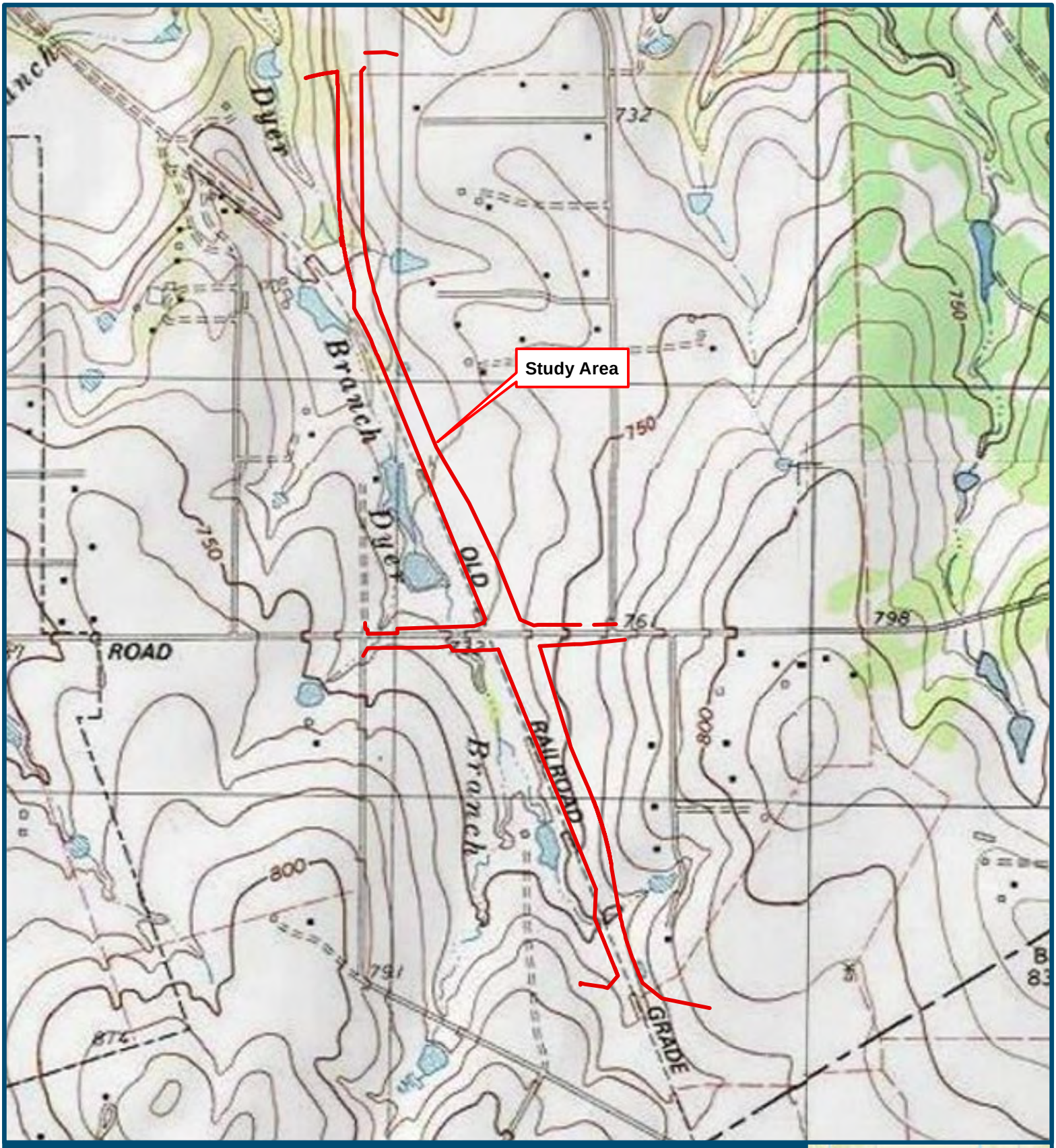


Exhibit 3: USGS Topographic Map

Proposed Kenney Fort Blvd Extension
From Forest Creek Dr
To SH 45
Williamson County, TX
CSJ: 0914-05-195

Study Area

NORTH

0 500 1,000 2,000
Feet

Basemap: USGS Topographic Maps

Exhibit 4: Right-of-Entry Map

Proposed Kenney Fort Blvd Extension

From Forest Creek Dr
To SH 45
Williamson County, TX
CSJ: 0914-05-195

Proposed ROW
Existing ROW
Easement

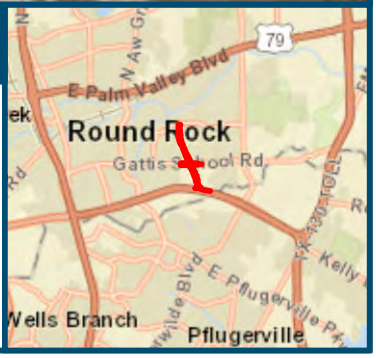
Right-of-Entry Status

Granted
Granted w/ Provisions
No Response

NORTH

0 500 1,000
Feet

Basemap: ESRI Streets 2016, Texas Google Imagery



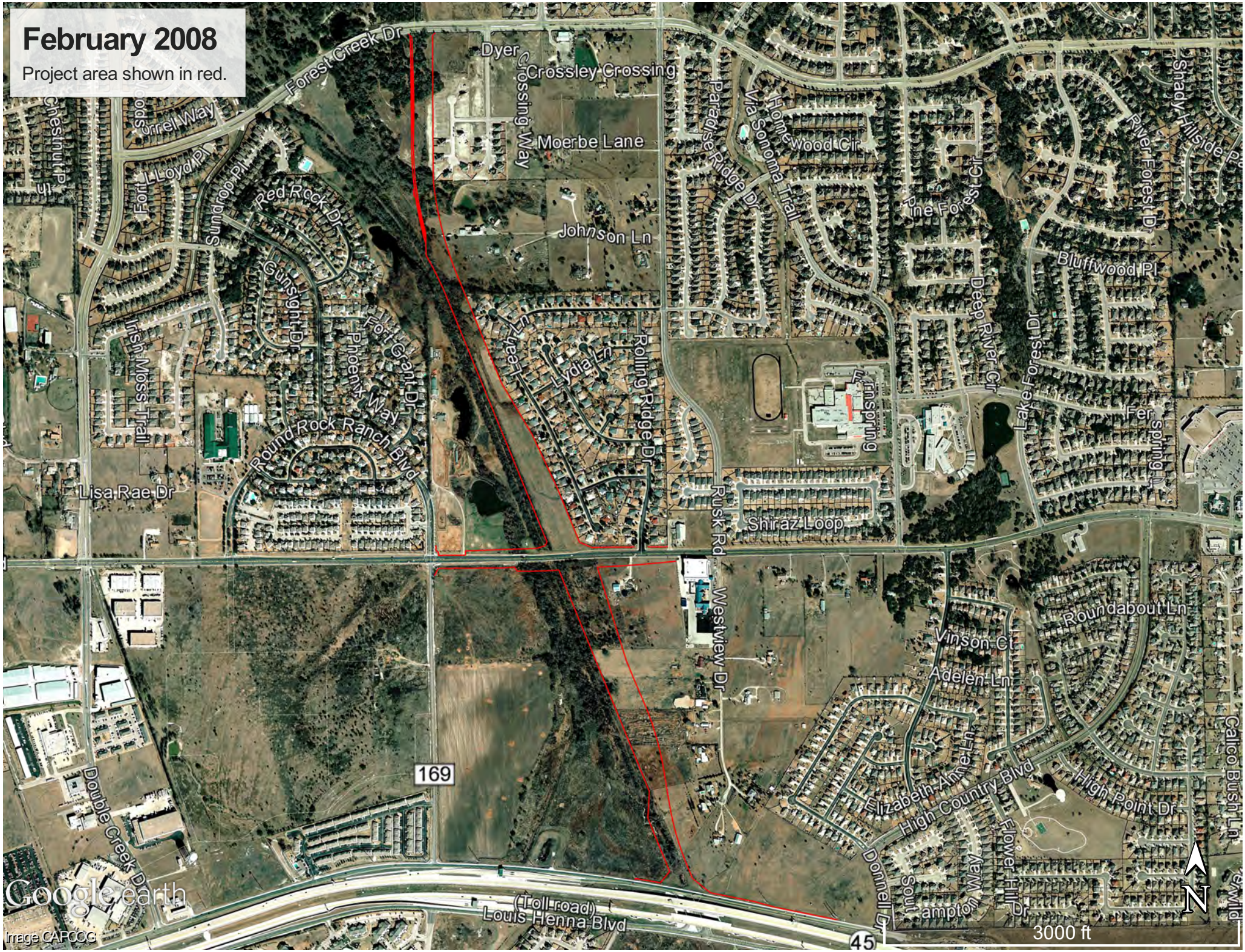
Attachment B

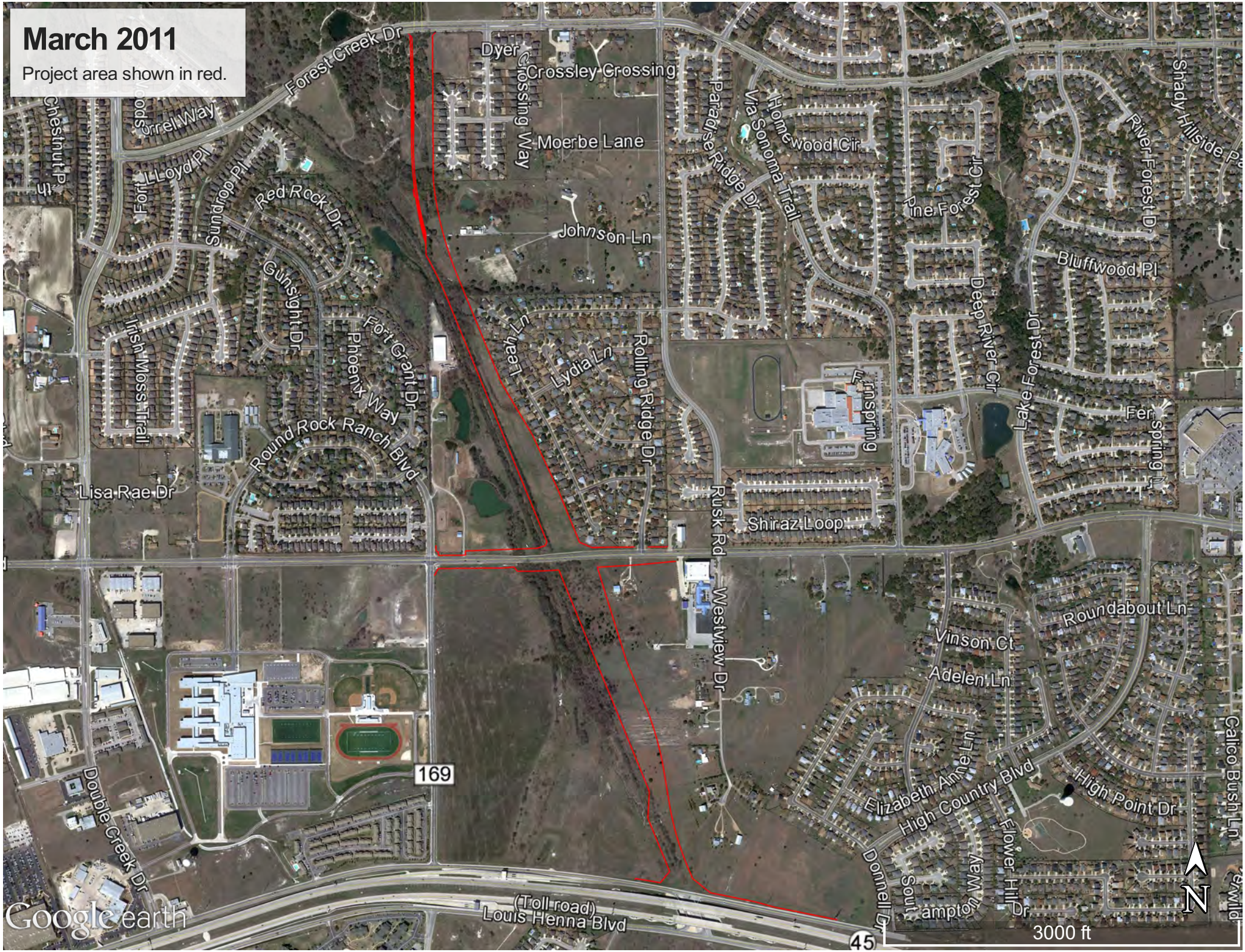
Historic Aerial Imagery

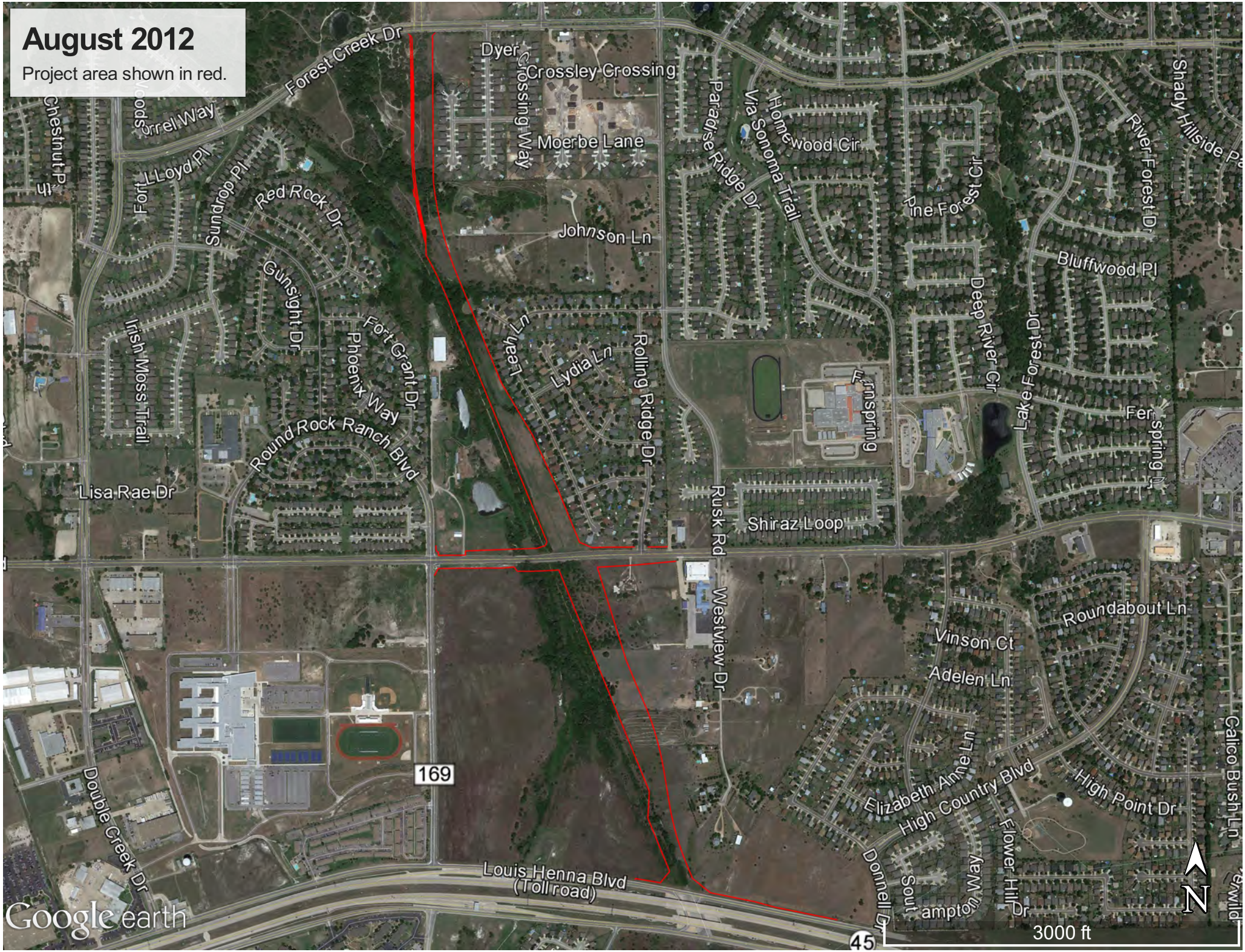

February 1995
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside Pl
Chestnut Pl
Woods
Squirrel Way
Fort Lloyd Pl
Sundrop Pl
Red Rock Dr
Johnson Ln
Gunsight Dr
Bluffwood Pl
Deep River Cir
Lake Forest Dr
Irish Moss Trail
Fort Grant Dr
Phoenix Way
Leah Ln
Lydia Ln
Rolling Ridge Dr
Fernspring
Fernspring Dr
Round Rock Ranch Blvd
Lisa Rae Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Double Creek Dr
169
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Calico Bush Ln
Donnell Dr
Southampton Way
Flower Hill Dr
(Toll road)
Louis Henna Blvd
45
N
3000 ft
Google earth
Image U.S. Geological Survey

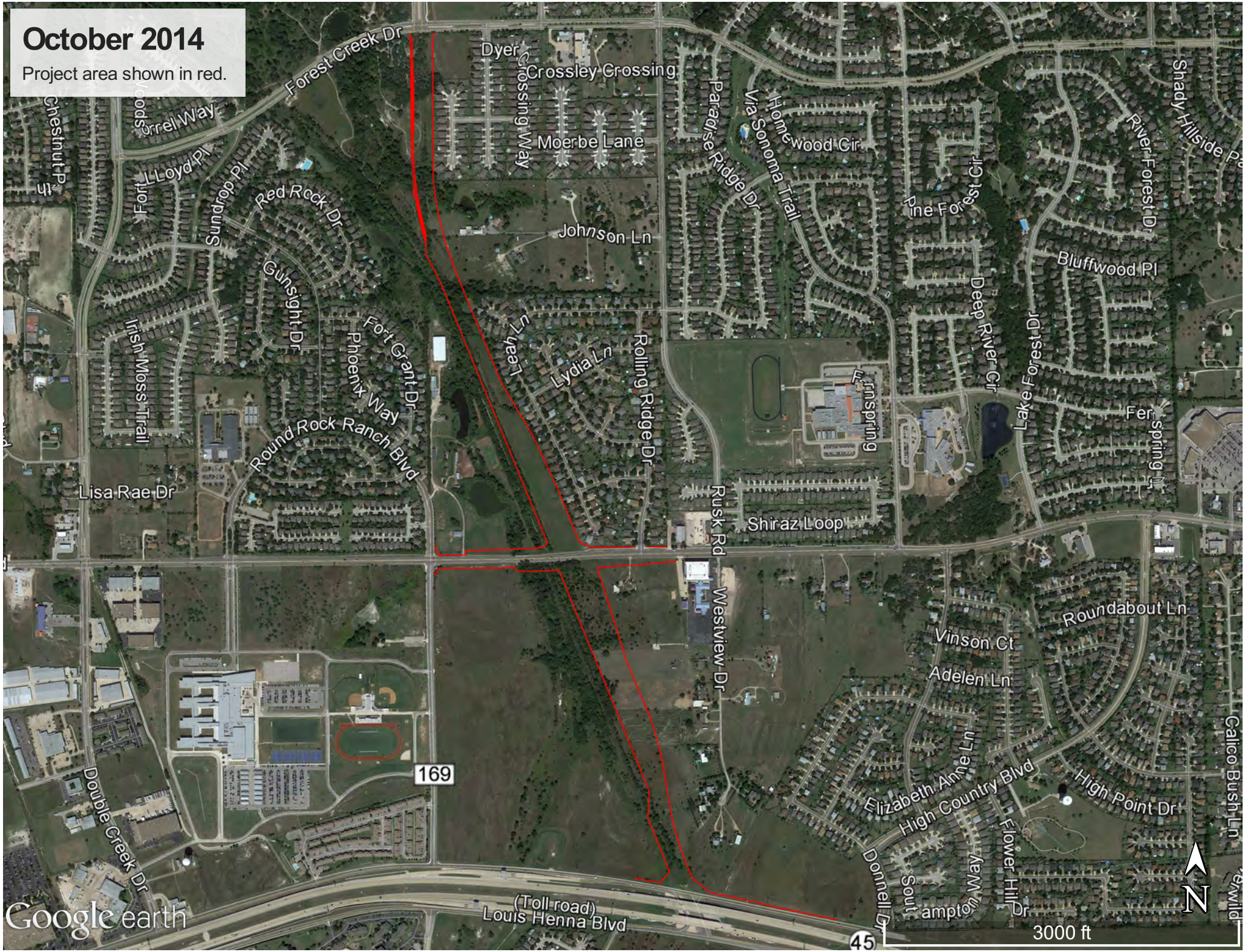

December 2002
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside
Chestnut Pl
Squirrel Way
Fort Lloyd Pl
Sundrop Pl
Red Rock Dr
Johnson Ln
Bluffwood Pl
Deep River Cir
Forest Lake Dr
Gunsight Dr
Irish Moss Trail
Phoenix Way
Fort Grant Dr
Leah Ln
Lydia Ln
Rolling Ridge Dr
Inspiring
Fern Spring
Round Rock Ranch Blvd
Lisa Rae Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Calico Bush Ln
169
Double Creek Dr
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Flower Hill Dr
Donnell Dr
(Toll road)
Louis Henna Blvd
45
Google earth
Image USDA Farm Service Agency
N
3000 ft

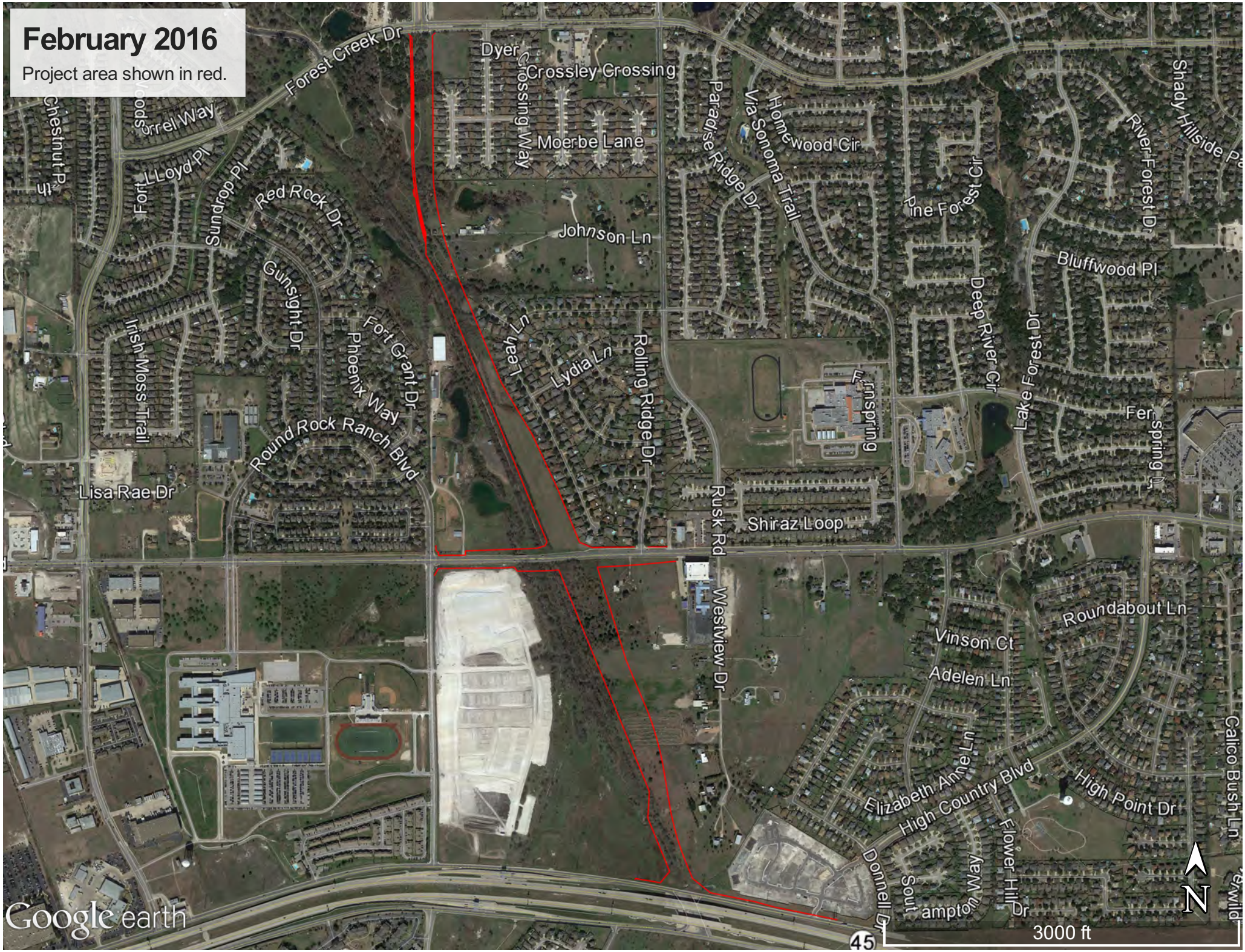

October 2005
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside Pl
Chestnut Pl
Woodsure Way
Lloyd Pl
Fort
Sundrop Pl
Red Rock Dr
Johnson Ln
Gunsight Dr
Bluffwood Pl
Deep River Cir
Lake Forest Dr
Irish Moss Trail
Fort Grant Dr
Phoenix Way
Leah Ln
Lydia Ln
Rolling Ridge Dr
Fernspring
Fernspring Ln
Round Rock Ranch Blvd
Lisa Rae Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Calico Bush Ln
Flower Hill Dr
Donnell Dr
Southampton Way
169
Double Creek Dr
(Toll road)
Louis Henna Blvd
45
Google earth
Image USDA Farm Service Agency
N
3000 ft


February 2008
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside
Bluffwood Pl
Deep River Cir
Forest Creek Dr
Fer Spring
Fer Spring
Johnson Ln
Red Rock Dr
Sundrop Pl
Lloyd Pl
Squirrel Way
Chestnut Pl
Gunsight Dr
Fort Grant Dr
Phoenix Way
Round Rock Ranch Blvd
Irish Moss Trail
Lisa Rae Dr
Leah Ln
Lydia Ln
Rolling Ridge Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Flower Hill Dr
Donnell Dr
Calico Bush Ln
Double Creek Dr
169
(Toll road)
Louis Henna Blvd
45
Google earth
Image CAPCOG
N
3000 ft


March 2011
Project area shown in red.
Forest Creek Dr
Dyer Crossing Way
Crossley Crossing
Moerbe Lane
Johnson Ln
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside
Bluffwood Pl
Deep River Cir
Lake Forest Dr
Fernspring
Fernspring
Chestnut Pl
Squirrel Way
LLoyd Pl
Sundrop Pl
Red Rock Dr
Gunsight Dr
Irish Moss Trail
Phoenix Way
Fort Grant Dr
Round Rock Ranch Blvd
Lisa Rae Dr
Leah Ln
Lydia Ln
Rolling Ridge Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Calico Bush Ln
Flower Hill Dr
Donnell Dr
Double Creek Dr
169
(Toll road)
Louis Henna Blvd
45
Google earth
N
3000 ft


August 2012
Project area shown in red.
Forest Creek Dr
Dyer Crossley Crossing
Crossley Crossing Way
Moerbe Lane
Johnson Ln
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside Pl
Bluffwood Pl
Deep River Cir
Lake Forest Dr
Fernspring
Fer Spring
Chestnut Pl
Squirrel Way
Lloyd Pl
Fort
Sundrop Pl
Red Rock Dr
Gunsight Dr
Irish Moss Trail
Phoenix Way
Fort Grant Dr
Round Rock Ranch Blvd
Lisa Rae Dr
Leah Ln
Lydia Ln
Rolling Ridge Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Flower Hill Dr
Donnell Dr
Calico Bush Ln
Double Creek Dr
169
Louis Henna Blvd
(Toll road)
45
N
3000 ft
Google earth


October 2014
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Shady Hillside
River Forest Dr
Chestnut Pl
Squirrel Way
Lloyd Pl
Sundrop Pl
Red Rock Dr
Johnson Ln
Pine Forest Cir
Bluffwood Pl
Deep River Cir
Lake Forest Dr
Gunsight Dr
Irish Moss Trail
Fort Grant Dr
Phoenix Way
Round Rock Ranch Blvd
Leah Ln
Lydia Ln
Rolling Ridge Dr
Fernspring
Fer Spring
Lisa Rae Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Flower Hill Dr
Calico Bush Ln
Donnell Dr
Double Creek Dr
169
(Toll road)
Louis Henna Blvd
45
Google earth
N
3000 ft


February 2016
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
River Forest Dr
Shady Hillside
Chestnut Pl
Squirrel Way
Lloyd Pl
Sundrop Pl
Red Rock Dr
Johnson Ln
Pine Forest Cir
Bluffwood Pl
Deep River Cir
Lake Forest Dr
Gunsight Dr
Irish Moss Trail
Fort Grant Dr
Phoenix Way
Round Rock Ranch Blvd
Leah Ln
Lydia Ln
Rolling Ridge Dr
Fernspring
Fernspring Ln
Lisa Rae Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Calico Bush Ln
Donnell Dr
Southampton Way
Flower Hill Dr
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Google earth
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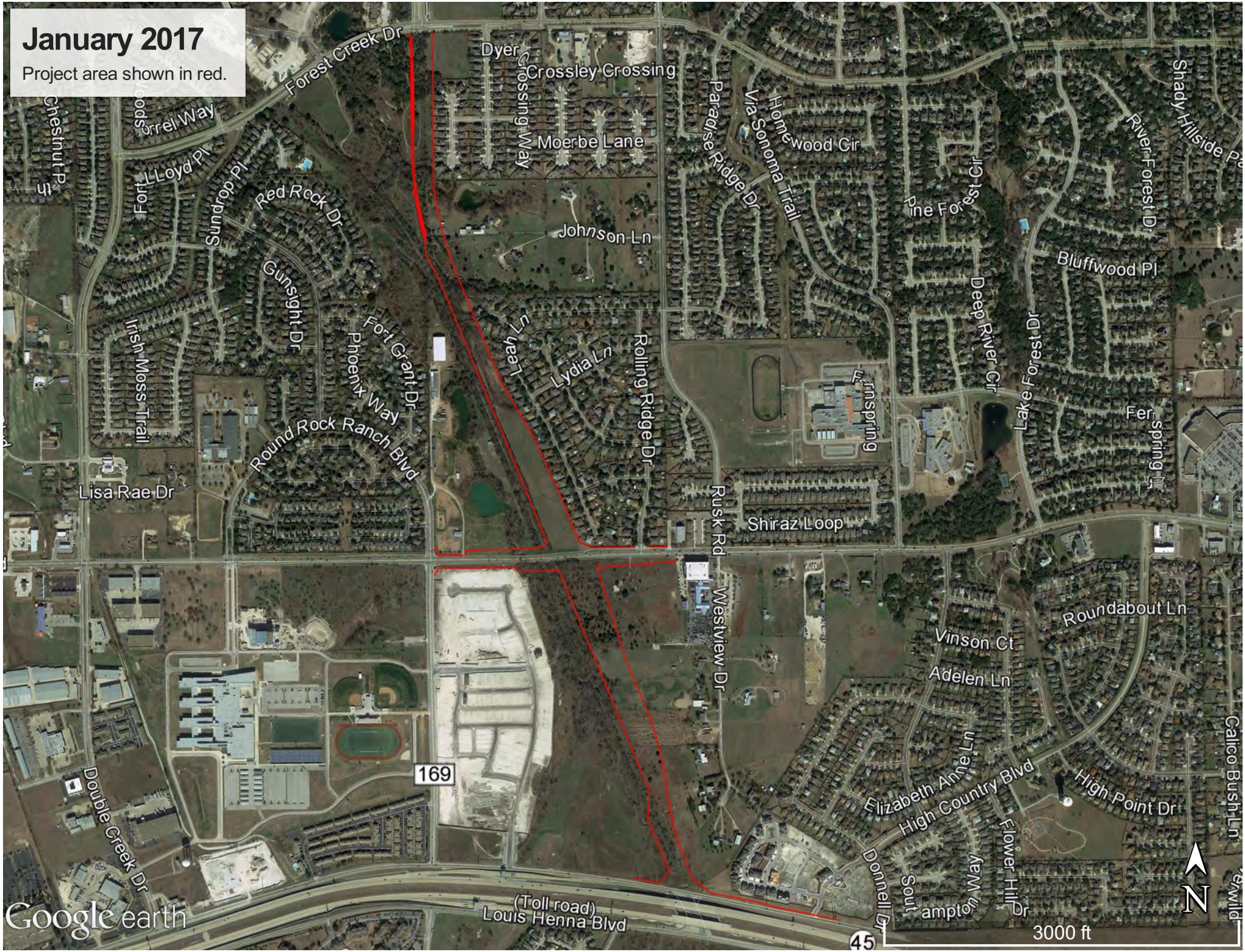
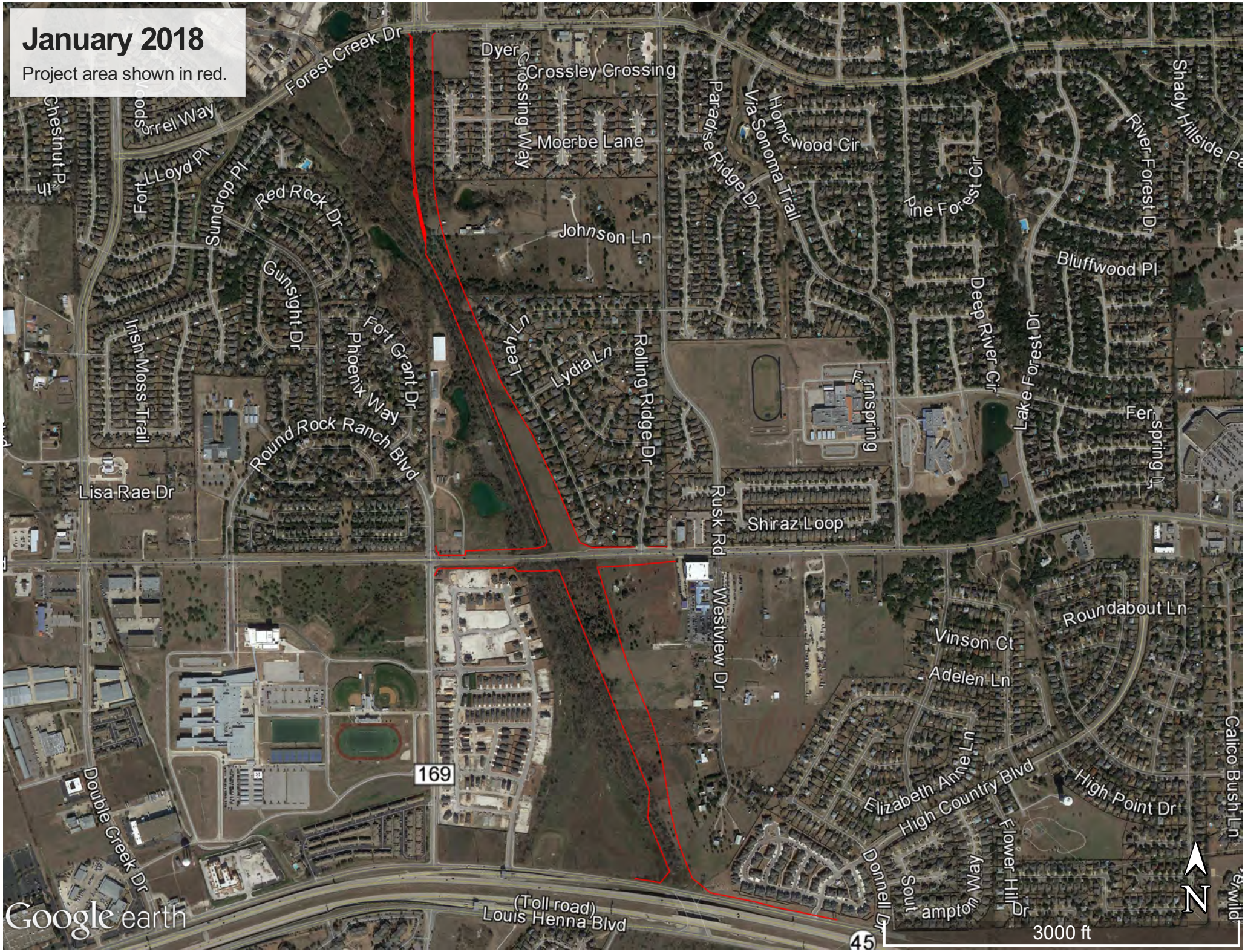

January 2017
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside Pl
Chestnut Pl
Squirrel Way
Lloyd Pl
Sundrop Pl
Red Rock Dr
Johnson Ln
Bluffwood Pl
Deep River Cir
Lake Forest Dr
Gunsight Dr
Irish Moss Trail
Fort Grant Dr
Phoenix Way
Round Rock Ranch Blvd
Leah Ln
Lydia Ln
Rolling Ridge Dr
Fernspring
Fer Spring Ln
Lisa Rae Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Calico Bush Ln
Flower Hill Dr
Donnell Dr
Southampton Way
Double Creek Dr
169
(Toll road)
Louis Henna Blvd
45
Google earth
N
3000 ft


January 2018
Project area shown in red.
Forest Creek Dr
Dyer
Crossley Crossing
Crossing Way
Moerbe Lane
Paradise Ridge Dr
Via Sonoma Trail
Homewood Cir
Pine Forest Cir
River Forest Dr
Shady Hillside Pl
Chestnut Pl
Squirrel Way
Lloyd Pl
Sundrop Pl
Red Rock Dr
Johnson Ln
Bluffwood Pl
Gunsight Dr
Irish Moss Trail
Fort Grant Dr
Phoenix Way
Leah Ln
Lydia Ln
Rolling Ridge Dr
Deep River Cir
Lake Forest Dr
Fernspring
Fern Spring Ln
Round Rock Ranch Blvd
Lisa Rae Dr
Rusk Rd
Shiraz Loop
Westview Dr
Roundabout Ln
Vinson Ct
Adelen Ln
Elizabeth Anne Ln
High Country Blvd
High Point Dr
Flower Hill Dr
Calico Bush Ln
Donnell Dr
Southampton Way
Double Creek Dr
169
(Toll road)
Louis Henna Blvd
45
Google earth
N
3000 ft

Attachment C

Project ROW File

CITY OF ROUND ROCK

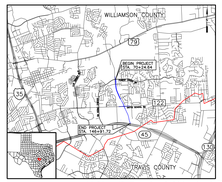
RIGHT OF WAY MAP

ROADWAY: KENNEY FORT BLVD SEGMENT 2 & 3

1/23/2018

FROM FOREST CREEK DR TO SH 45

NET LENGTH OF PROJECT:
9,680.20 FEET = 1.834 MILES



LOCATION MAP

BEARING BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD 83, CENTRAL ZONE AND ADJUSTED TO SURFACE USING THE TXDOT COMBINED SURFACE ADJUSTMENT FACTOR OF 1.00012 (INVERSE)

LEGEND:

- METES AND BOUNDS SUBMITTED
- METES AND BOUNDS IN PROGRESS
- TEMPORARY CONSTRUCTION EASEMENT SUBMITTED
- TEMPORARY CONSTRUCTION EASEMENT IN PROGRESS
- PRELIMINARY AREA PENDING CITY COORDINATION
- STATE OF TEXAS MOU
- EASEMENT PENDING
- EXISTING ROW
- PROPOSED ROW
- EASEMENT
- EXISTING PROPERTY LINE
- PROPOSED CENTERLINE/BASELINE

ID #	WCAD PROPERTY ID	PUBLIC ROW ACQUISITION (AC)	PRIVATE ROW ACQUISITION (AC)	TEMP. CONST. ACQUISITION (AC)
1	R451327		3.386	0.598
2	R487630		1.871	
3	R487576			
4	R392243	0.138		
5	R055774		1.076	
6	R055768		1.926	
7	R055902		0.636	
8	R339723	10.688		
9	R330980	N/A	0.035	
10	R066467		5.152	
11	R066468		0.422	
12	R066469		0.284	
13	R392244	0.141		
14	R066486		1.409	
15	R066485		1.573	
16	R329639	0.264		
17	R066484		1.743	
18	R066483		1.655	
19	R066482		1.267	
20	R066481		0.118	

FUNCTIONAL CLASS:
KENNEY FORT BLVD: ARTERIAL

DESIGN SPEED:
KENNEY FORT BLVD: 45 MPH
CROSS STREET: 40 MPH

EQUATIONS: NONE
EXCEPTIONS: NONE
RAILROADS: NONE

PRELIMINARY

EXHIBIT
FOR INTERIM REVIEW ONLY
NOT FOR CONSTRUCTION, BIDDING, OR PERMIT PURPOSES

C&W

ENGINEER: ANTHONY J. SOSKA
P.E. No. 108300 DATE: 1/23/2018

100 50 0 100 200
SCALE: HORZ. FEET

DGN ID	STATE	DIST.	COUNTY
DW: AJS	TEXAS	AUS	WILLIAMSON
CK: CRY	CONT.	SECT.	JOB: HIGHWAY NO.
DW: AJS			

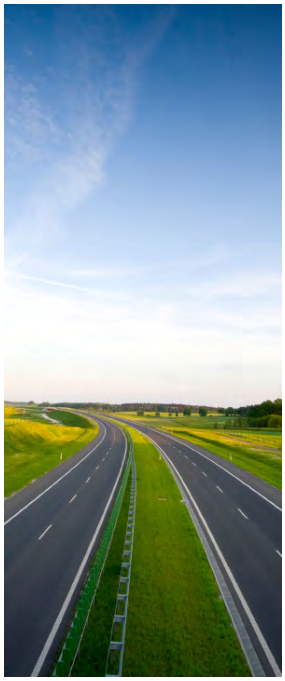
PRELIMINARY
NOT FOR CONSTRUCTION

ID #	WCAD PROPERTY ID	PROPERTY OWNERS	DESCRIPTION	PUBLIC ROW ACQUISITION (AC)	PRIVATE ROW ACQUISITION (AC)	USUAL DIMENSION	TEMP. CONST. ACQUISITION (AC)	USUAL DIMENSION	STATUS
1	R451327	ROUND ROCK RANCH LTD	VACANT LAND – PRIVATE		3.386	95' x 1720'	0.598	15 x 1720'	PENDING
2	R487630	PRESERVE AT DYER CREK HOA	VACANT LAND – PRIVATE		1.871	65' x 1250'			IN PROGRESS
3	R487576	CROSSLEY & CROSSLEY	VACANT LAND – PRIVATE						PENDING
4	R392243	STATE OF TEXAS	VACANT LAND – PUBLIC	0.138		54' x 100'			MOU
5	R055774	GRAVER, BRIAN JAMES & SHE	RESIDENCE		1.076	98' x 460'			IN PROGRESS
6	R055768	PAUL, JOHN N	RESIDENCE		1.926	150' x 498'			IN PROGRESS
7	R055902	UHL, DAVID M & SANDRA M	RESIDENCE		0.636	35' x 625'			IN PROGRESS
8	R339723	STATE OF TEXAS	VACANT LAND – PUBLIC	10.688		150' x 2340'			MOU
9	R330980	CITY OF ROUND ROCK	OLD FIRE STATION		0.035	10' x 150'			PENDING
10	R066467	AGAH, FARID	VACANT LAND – PRIVATE		5.152	244' x 793'			IN PROGRESS
11	R066468	RODENBECK, LLOYD R JR & ANGELA M	RESIDENCE		0.422	50' x 338'			IN PROGRESS
12	R066469	FELLOWSHIP AT FOREST CREEK	VACANT LAND – PRIVATE		0.284	22' x 340'			IN PROGRESS
13	R392244	STATE OF TEXAS	VACANT LAND – PUBLIC	0.141		98' x 661'			MOU
14	R066486	NORD, RICHARD	RESIDENCE		1.409	78' x 261'			IN PROGRESS
15	R066485	RUCKER, MICHAEL G & DENISE B	RESIDENCE		1.573	77' x 288'			IN PROGRESS
16	R329639	STATE OF TEXAS FOR PERMANENT SCH FUND	VACANT LAND – PUBLIC	0.264		38' x 249'			MOU
17	R066484	JOHNSON, BRIAN & JESSICA	RESIDENCE		1.743	217' x 325'			IN PROGRESS
18	R066483	JOHNSON, STEVE M	RESIDENCE		1.655	147' x 409'			IN PROGRESS
19	R066482	ROBINSON, GARY BRIAN	RESIDENCE		1.267	59' x 611'			IN PROGRESS
20	R066481	ROBINSON, BRIAN & BELINDA	RESIDENCE		0.118	58' x 227'			IN PROGRESS

RIGHT OF WAY MAP
KENNEY FORT BLVD SEGMENT 2 AND 3

Attachment D

Geotechnical Engineering Report


PRELIMINARY
GEOTECHNICAL ENGINEERING REPORT

KENNEY FORT BOULEVARD SEGMENTS 2 AND 3

ROUND ROCK, WILLIAMSON COUNTY, TEXAS
FEBRUARY 9, 2018

CORSAIR CONSULTING LLC

16800 JOE BARBEE DRIVE | ROUND ROCK, TEXAS 78664 | (512) 342-8877 | WWW.CORSAIRUS.COM

February 9, 2018

Mr. Anthony Serda, P.E.
CP&Y, Inc.
13809 Research Boulevard, Suite 300
Austin, TX 78750

Reference: **Preliminary Geotechnical Engineering Report**
Kenney Fort Boulevard Segments 2 and 3
Round Rock, Williamson County, Texas
Corsair Project No. 1500546

Dear Mr. Serda:

Corsair Consulting LLC has partially completed the subsurface exploration and has finished preliminary geotechnical engineering associated with the Kenney Fort Boulevard extension between Forest Creek Drive and Louis Henna Boulevard in Round Rock, Williamson County, Texas. The scope of this study was to:

- Explore and evaluate the subsurface conditions at the site;
- Evaluate pavement subgrade for the proposed project;
- Provide pavement section designs for the new roadways; and
- Develop subgrade and material specifications for the project.

The attached report contains results of our field exploration program, laboratory analyses and our preliminary engineering recommendations for this project.

We appreciate the opportunity to be of service to CP&Y, Inc. and look forward to working with you on future projects. Please call us if you have any questions concerning this report or any of our services.

Respectfully submitted,

CORSAIR CONSULTING LLC
TBPE Registration No. F-14217

Min Ho "Mike" Rhee, P.E.
Geotechnical Engineer
TBPE No. 128342
MikeRhee@CorsairUS.com

Hun Soo Ha, P.E.
Geotechnical Manager
TBPE No. 109091
HunSooHa@CorsairUS.com

Content

Page

APPENDIX A

BORING LOCATION MAP
LOGS OF BORING

APPENDIX B

SUMMARY OF LABORATORY TEST RESULTS
PARTICLE SIZE DISTRIBUTION CURVES
COMPACTION TEST RESULTS

APPENDIX C

POTENTIAL VERTICAL RISE (PVR) CALCULATIONS
EFFECTIVE PLASTICITY INDEX (EPI) CALCULATIONS

APPENDIX D

DESIGN 1, SECTION 1 CITY OF ROUND ROCK DACS REQUIREMENTS
DESIGN 2, SECTION 3 CITY OF ROUND ROCK DACS REQUIREMENTS
DESIGN 3, SECTION 4 CITY OF ROUND ROCK DACS REQUIREMENTS

1.0 Introduction

Corsair Consulting LLC (Corsair) has partially completed the authorized subsurface exploration, laboratory testing and has performed preliminary geotechnical engineering analyses for the planned Kenney Fort Boulevard Segments 2 and 3. This project extends approximately 1½ miles from Forest Creek Drive to Louis Henna Boulevard along the proposed Kenney Fort Boulevard alignment in Round Rock, Williamson County, Texas.

The City of Round Rock authorized this work through their primary design engineer, CP&Y, Inc. (CP&Y).

The purpose of this investigation and report was to:

- Explore subsurface materials and groundwater conditions in areas where the new roadway segments and existing roadway improvements are planned;
- Conduct field and laboratory testing to characterize the subsurface soil and rock properties;
- Evaluate pavement subgrade for the project;
- Perform pavement thickness designs for the proposed roadways; and
- Develop subgrade preparation and material specifications for the project.

The preliminary recommendations contained in this report are based upon the up-to-date results of the field and laboratory testing, engineering analyses, experience with similar soil and rock conditions, and our understanding of the proposed project.

We note that due to the presence of dense vegetation and existing ditches, some boring locations were not accessible to the drill rig. Therefore, remaining borings and associated laboratory testing will be performed at a later date when the site access issues are to be resolved, and updated engineering analyses and recommendations will be provided in the final report.

2.0 Project Information

This project is comprised of construction of the new 4- to 6-lane, undivided Kenney Fort Boulevard Segments 2 and 3 from Forest Creek Drive to Louis Henna Boulevard as well as improvements to its intersection with Gattis School Road in Round Rock, Texas. Kenney Fort Boulevard will be a major arterial roadway servicing nearby residential and commercial developments. The location of this project is shown in the Site Vicinity Map below.

Site Vicinity Map

Google Earth

3.0 Site Exploration and Laboratory Analyses

This study is a culmination of field exploration, consisting of drilling, sampling and in-situ testing, and a laboratory testing program to identify and classify soil/rock types and to estimate physical and engineering properties of the subsurface materials.

3.1 Subsurface Exploration

The subsurface exploration phase of this project consists of completing 17 borings. A total of eight (8) borings were drilled on January 22, 2018. Drilling was performed in accordance to TxDOT specifications outlined in the TxDOT Geotechnical Manual, dated December 2012. Borings were drilled at an approximate spacing of 450 to 750 feet, and the locations were pre-approved by CP&Y prior to drilling. Approximate boring locations are shown on the Boring Location Map in Appendix A. Corsair obtained the boring coordinates in the field by using a handheld GPS unit. The accuracy of the boring locations should only be considered to the level implied by the method used. Boreholes were backfilled with bentonite chips and/or cuttings and, when necessary, asphalt cold patch was placed in the top portion of the holes at least as thick as the surrounding asphalt thickness upon completion of field activities.

Air rotary drilling methods or continuous flight augers were used to advance the borings to the full depths of exploration. Standard Penetration Test (SPT) samplers and hydraulically advanced 3-inch diameter (OD) steel, thin-walled tube samplers were used for soil and rock sampling, and bulk samples were collected from auger cuttings or using hand shovels in the upper 1 to 3 feet at three (3) boring locations. Field sampling and testing were conducted in general accordance with the following standard methods:

- Standard Penetration Test: ASTM D 1586; and
- Thin-Walled Tube Sampling: ASTM D 1587.

In general, geotechnical sampling and testing were performed at continuous intervals for all borings. All samples of the subsurface materials were extruded from SPT and tube samplers in the field. Then the samples were visually classified, labeled as to location and depth, and placed in plastic bags to minimize

moisture changes. The samples were arranged in core boxes and transported to the laboratory for further analyses.

Field logs were prepared for each boring at the time of drilling by the geotechnical engineer. The field logs contain visual classifications of the materials encountered during drilling as well as interpolation of the subsurface conditions between samples. During the field operations, the borings were observed for groundwater while advancing the boring. These observations are noted at the top of the boring logs and are discussed in subsequent sections of this report.

Soils were classified in general accordance with the Unified Soil Classification System (USCS). Preliminary boring logs represent our interpretation of the field logs and may include modifications based on laboratory observations and tests of the field samples. The logs of borings describe the materials encountered, strata thickness, sampling depths, groundwater information, and in-situ and laboratory test results. The preliminary logs can be found in Appendix A.

3.2 Laboratory Analyses

The soil samples were transported to the laboratory and appropriate laboratory tests were assigned on selected soil and rock samples. The following laboratory methods of analyses were utilized:

- Manual Procedure for Description Identification of Soils: TEX-141-E;
- Laboratory Classification of Soils for Engineering Purposes: TEX-142-E;
- Determining Moisture Content in Soil Materials: TEX-103-E;
- Atterberg Limits Test: TEX 104-E, 105-E and 106-E;
- Particle Size Analysis of Soils: TEX-110-E;
- Soluble Sulfate Content: TEX-145-E;
- Chloride Content: TEX-620-J;
- pH Test: TEX-128-E;
- Soil Box Resistivity Test: TEX-129-E;
- Soil Moisture-Density Relationship: TEX-114-E; and
- California Bearing Ratio (CBR) Test: ASTM D 1883.

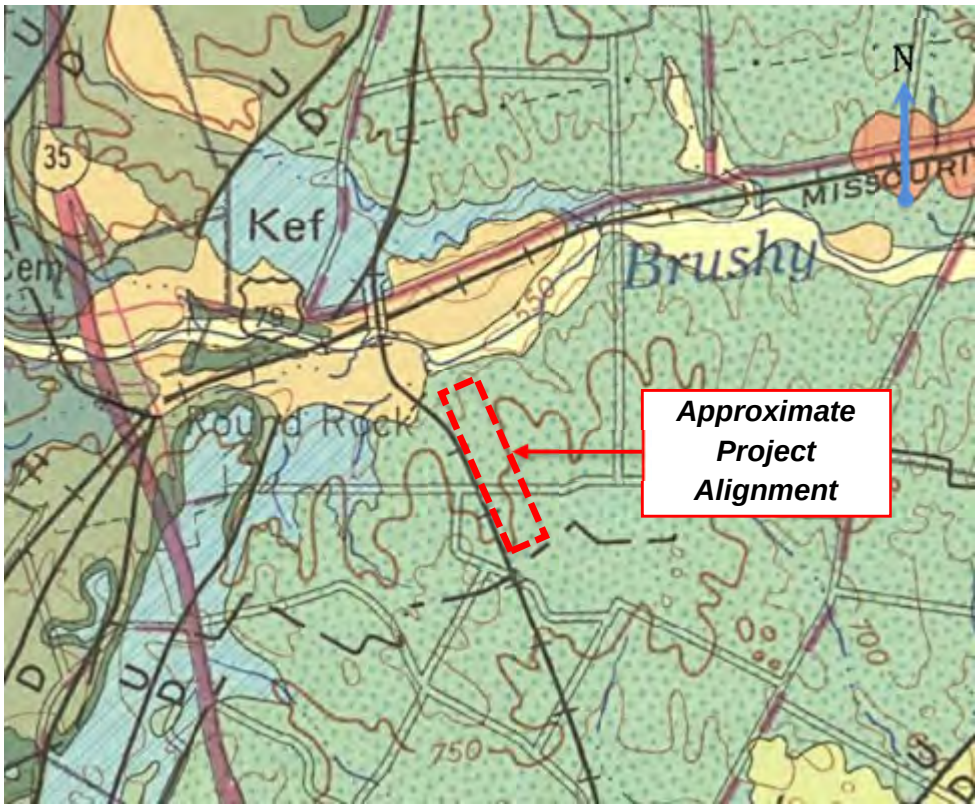
Laboratory test results are summarized in the Summary of Laboratory Test Results table located in Appendix B. Particle size distribution curves and compaction test results are also presented in Appendix B.

4.0 Subsurface Conditions

4.1 Site Geology

Based on the USGS Geologic Atlas of Texas and *Geologic Atlas of Texas, Austin Sheet, 1974*, the surface geology consists of Austin Chalk (Kau). The Austin Chalk is considered a relatively soft limestone based on universal rock classification systems, but is a commonly used stratum for structural load support in the Austin area. Although the Austin Chalk is usually described as limestone, it is comprised of chalk, chalky limestone and marl (hard calcareous clay). The relatively unweathered Austin Chalk is generally gray to light gray in color. Weathering produces a tan to white color. More severe weathering near the ground surface creates a soil profile varying from dark fat clays to lighter lean clays. The geologic map of the area is shown below.

Geologic Map



Geologic Atlas of Texas, Austin Sheet, 1974

4.2 SUBSURFACE STRATIGRAPHY

Based on the borings drilled as part of this study, our generalized subsurface stratigraphy consists of the following:

Table 4.2.1 Generalized Subsurface Stratigraphy, Section 1 (P-01)

Stratum Number	Depth Range (Approx., ft.)	Soil/Rock Classification and Consistency/Relative Density/Hardness
I	0.0 – 2.5	Fat/Lean CLAY (CH/CL) Very Stiff
II	2.5 – 8.6	LIMESTONE Very Hard

Table 4.2.2 Generalized Subsurface Stratigraphy, Section 3 (P-08)

Stratum Number	Depth Range (Approx., ft.)	Soil/Rock Classification and Consistency/Relative Density/Hardness
I	0.0 – 9.5	Fat CLAY (CH) Stiff to Very Stiff
II	9.5 – 10.0	Clayey GRAVEL (GC)

Table 4.2.3 Generalized Subsurface Stratigraphy, Section 4 (P-09 to P-12, P-16 and P-17)

Stratum Number	Depth Range (Approx., ft.)	Soil/Rock Classification and Consistency/Relative Density/Hardness
	0.0 – 1.8	Asphaltic Concrete and Flex Base (P-16 and P-17 only)
I	0.0 – 4.0	Fat/Lean CLAY (CH/CL) Stiff to Hard
II	2.0 – 7.0	Clayey GRAVEL (GC) Very Dense
II	1.8 – 9.2	LIMESTONE Very Hard Thin Layer of Clay Infill (P-17 only)

Subsurface profiles for Section 2 (P-02 to P-07) and Section 5 (P-13 to P-15) will be defined when the remaining borings are to be completed.

The above descriptions are general and depth ranges are approximate because boundaries between different strata are seldom clear and abrupt in the field. In addition, the lines separating major strata types on the logs of boring do not necessarily represent distinct lines of demarcation for the various strata. Detailed logs of boring, showing the strata descriptions, sampling depths, types of sampling used, in-situ and laboratory test results, groundwater data and other relevant information are presented in the Appendix.

4.3 GEOTECHNICAL ENGINEERING PROPERTIES

4.3.1 Soil Index Properties

In general, index property testing was performed on samples collected from the ground surface to a depth of about 9½ feet. The primary index properties, tested in the laboratory, include the water content, the Atterberg (plasticity) limits and sieve analysis, which are shown on the boring logs and in the Summary of Laboratory Test Results table both located in the Appendix section of this report.

The high plasticity cohesive soils (CH) have Plasticity Index (PI) values ranging from 34 to 73 percent, with a statistical average of 51 percent. PI values for lean clays (CL) and clayey gravel (GC) range from 16 to 21 percent, with a statistical average of 19 percent.

Gravel layers encountered in the borings are fine grained, with variable contents of sand and fines.

4.3.2 Electro-Chemical Test Results

Samples were tested for soluble sulfate content using the procedures outlined in TEX-145-E, chloride content in accordance to TEX-620-J, pH by TEX-128-E, and minimum resistivity based on TEX-129-E. All of sulfate content test results indicated soluble sulfate concentrations less than detectable level by the colorimeter (i.e. less than 100 parts per million (ppm)). The results of the electro-chemical tests are summarized in Table 4.3.2.1 below.

Table 4.3.2.1 Electro-Chemical Test Results

Boring No. and Depth Range	Sulfate (ppm)	Chloride (ppm)	pH	Resistivity (ohm-cm)
P-01, 0.0-1.0 ft.[1)]	<100	293	7.7	890
P-08, 0.0-3.0 ft.[1)]	<100	352	7.8	620
P-13, 0.0-2.0 ft.[1)]	<100	235	7.7	530

1) Bulk Sample

4.3.3 Soil Moisture Density Relationship

A moisture-density relationship test was performed on a bulk sample collected at the P-08 location. Test results indicated that the subgrade soils at P-08 had a maximum dry density of 82.9 pounds per cubic foot (pcf) and an optimum moisture content on the order of 29.5 percent. More compaction tests will be performed when the remaining borings are to be completed.

4.3.4 California Bearing Ratio

California Bearing Ratio (CBR) tests are in progress and the results will be presented in the final report.

4.4 Groundwater Conditions

Groundwater was not encountered at any of the boring locations at the time of our field operations.

It is imperative to note that the short-term field observations performed as part of this study, generally, do not permit for an accurate evaluation of groundwater levels at this and other sites and should not be interpreted as a comprehensive groundwater study. The observations made during this investigation may not also represent conditions at the time of construction and it should be understood that the presence of groundwater might have an effect on certain construction activities and long-term performance of foundations and pavements. Groundwater levels are highly dependent on climatic and hydrologic conditions before and after construction, hydrogeology, and site development including irrigation demands and drainage. If a detailed groundwater study is desired, a groundwater hydrogeologist should be retained to perform these services.

5.0 Recommendations for Design and Construction

The following preliminary recommendations are based upon the up-to-date data obtained from our field exploration and laboratory testing programs, project information provided to us and our experience with similar subsurface and site conditions.

5.1 Geotechnical Considerations

Typical soil stratigraphy of near surface soils along the project alignment consists of medium to very high plasticity lean and fat clays overlying either gravel or limestone bedrock. The clay soils have a potential to expand and contract under varying moisture conditions and will exhibit poor subgrade performance for pavements when subjected to high moisture contents.

Due to the presence of shallow hard limestone, additional effort and heavy-duty equipment may be required to excavate shallow limestone bedrock at some locations depending on the final grading plan.

5.2 Pavement Subgrade

5.2.1 Expansive Soil Considerations

Corsair has performed Potential Vertical Rise (PVR) calculations based on the TEX-124-E method. The resulting PVR values indicate low risk for volume changes with estimated PVRs of about 1 inch or less except Boring P-08 where PVR may be approximately 3⅔ inches under native subgrade condition. In addition, we have analyzed the Effective Plasticity Indices (EPI) of subgrade soils to a depth of 10 feet assuming top 2 feet of the pavement. These calculations are included in Appendix C. Based on our evaluation, we recommend subgrade mitigation depths summarized in Table 5.2.1.1.

Table 5.2.1.1 Summary of Subgrade Mitigation Depths by Removal and Replacement (or by Lime Stabilization)

Section Number (Boring Number)	Min. Mitigation Depth below Top of Existing Ground Surface (ft.)
Section 1 (P-01)	0
Section 2 (P-02 to P-07)	To Be Determined
Section 3 (P-08)	3
Section 4 (P-09 to P-12, P-16, P-17)	0
Section 5 (P-13 to P-15)	To Be Determined

Imported Select Borrow material should meet requirements per Section 5.4.2

5.2.2 Potential for Sulfate Induced Heave

The results of the soluble sulfate testing indicate sulfate concentrations less than 3,000 ppm, which would allow for conventional lime treatment. The risk for sulfate-induced heave is determined to be relatively low. We note that soils with significant soluble sulfates are common in central Texas. We recommend, therefore, that any imported soils be evaluated for soluble sulfates prior to delivery to the project site.

5.2.3 Elastic Modulus

California Bearing Ratio (CBR) tests are in progress and the results will be used to better estimate elastic moduli for the final report.

Based on our previous experience with similar soils, we have estimated elastic moduli of subgrade soils. Elastic moduli of 6,000 psi for Sections 1 and 4, and 4,500 psi for Section 3 were used in the preliminary pavement design. These values will be verified when CBR test results become available to us.

5.3 Pavement Section Design

5.3.1 Design Procedure

The City of Round Rock flexible pavement sections were checked for serviceability using FPS 21, a computer program developed by the Texas Department of Transportation.

Pavement section design for Kenney Fort Boulevard Segments 2 and 3 was split into five Sections based on plasticity of subgrade: Section 1, P-01; Section 2, P-02 to P-07; Section 3, P-08; Section 4, P-09 to P-12, P-16 and P-17; and Section 5, P-13 to P-15. Based on the City of Round Rock, Transportation Criteria Manual, Section 3.6.4 (New Version), design traffic conditions for major arterial streets with a PI between 20 and 35 were used for Section 1, and conditions with a PI between 36 and 49 were used for Section 4. For Section 3, due to very high swell potential, subgrade mitigation is recommended as shown in Table 5.2.1.1. A design average daily traffic (ADT) of 5,776 vehicles per day, 11% truck traffic, a growth rate of 11.2% and a 20-year design 18-kip ESAL value of 9 million were used in our analyses. Our design parameters are summarized in Table 5.3.1.1 below.

Table 5.3.1.1 Summary of Design Parameters

Parameter	Value
Pavement Type	HMAC
Initial Serviceability Index	4.5
Terminal Serviceability Index	3.0
Design Confidence Level (Reliability)	C (95%)
Design Period	20 years
Elastic Modulus of Thick HMAC	650.0 ksi
Elastic Modulus of Flexible Base	40.0 ksi
Elastic Modulus of Lime Stabilized Subgrade	20.0 ksi
Elastic Modulus of Imported Select Borrow	25.0 ksi
Elastic Modulus of Subgrade (Section 1)	6.0 ksi
Elastic Modulus of Subgrade (Section 3)	4.5 ksi
Elastic Modulus of Subgrade (Section 4)	6.0 ksi

5.3.2 Pavement Thickness Design

The TxDOT FPS 21 program produced the following pavement thicknesses for a new conventional HMAC over aggregate base.

Table 5.3.2.1 Flexible Pavement Thickness Design

Material Type	Minimum Thickness (inches)		
	Section 1	Section 3	Section 4
HMAC	8.5	8.5	8.5
Flexible Base	23	22	24
Geogrid	TX5	TX5	TX5
Lime Stabilized Subgrade[1)]	10	-	12
Select Borrow[2)]	-	36[3)]	-
Compacted Native Subgrade[2)]	10	10	10

1) Stabilized subgrade soils should be prepared and compacted per Section 5.4.1.
2) Native subgrade soils (or imported fill) should be compacted per Section 5.4.1.
3) Lime stabilized subgrade (36 inches) may be used in lieu of Select Borrow.

FPS 21 analysis results indicated that the City of Round Rock minimum pavement thicknesses above should be able to support the 20-year design 18-kip ESAL value of 9 million.

The TxDOT FPS 21 method checks for triaxial shear failure based on a 11.5 kip average ten heaviest wheel loads daily (ATHWLD) and support characteristics of the subgrade soils. All pavement structures satisfy triaxial minimum thickness requirements for corresponding PI values. Further, at some areas, final grading may require additional fill materials to be imported beneath the roadway section to bring the planned roadway up to grade. If these materials are of better quality than the onsite subgrade soils, the possibility of triaxial failure could also be reduced or eliminated.

Detailed results of FPS 21 pavement designs are included in Appendix D.

5.3.3 Longitudinal Cracking

The pavement can be subject to longitudinal shrinkage cracks along the shoulder edge due to deep drying of the clay soils. Trees and brushes adjacent to the roadway can also cause differential subgrade movements that can cause pavement cracking. Pavement sections at the top of slopes are particularly susceptible to longitudinal cracking.

Longitudinal cracking can be reduced by reinforcing the tensile strength of the flexible base course. We recommend that a geogrid layer, TX 5 or better, be used at the interface between flexible base and stabilized subgrade in order to increase

the flexible base tensile capacity as discussed in TxDOT Pavement Design Guide, Chapter 7, Section 3.

5.4 CONSTRUCTION SPECIFICATIONS

5.4.1 Subgrade Preparation

Subgrade soils should be prepared in accordance to the City of Round Rock, Standard Specifications Item 201. All subgrade soils should be scarified to a minimum depth of 10 inches, moisture conditioned, recompacted, proofrolled, and density tested in conformance to Item 201.

Various lime series tests should be performed based on the City of Round Rock, Transportation Criteria Manual Item 3.7.3 (New Version) to determine the optimum amount of lime content that would produce a reasonable strength for roadway support. Subgrade soils will need to be stabilized to a minimum compacted thickness of 10 to 12 inches as stated in the City of Round Rock, Transportation Criteria Manual. Lime stabilized subgrade should be compacted in accordance to the City of Round Rock, Standard Specifications Item 203.

Select Borrow should be constructed in conformance to Item 130.

5.4.2 Materials Specifications

HMAC final surface course should be Type "C" as defined by the City of Round Rock, Standard Specifications Item 340. Flexible base should conform to Item 210. Lime should be Type "B" Lime Slurry meeting the requirements of the City of Round Rock, Standard Specifications Item 202. Prime Coat should conform to Item 301. Imported fill should conform to Item 130, Class B or better. Select Borrow should be in accordance to Item 130, Class A.

6.0 Limitations

Recommendations contained in this report are based on our field observations and subsurface explorations, laboratory analyses, and our present knowledge of the proposed construction. It is possible that soil conditions may vary between or beyond the points explored. If soil conditions are encountered during construction that differs from those described herein, we should be notified immediately so that a review may be made. If the scope of the proposed construction changes from that described in this report, our data should also be reviewed for its applicability.

Corsair has prepared this report in substantial compliance with the generally accepted geotechnical engineering practice, as it exists in the area at the time of our study. No warranty is expressed or implied.

This report may be used only by the client that is intended for and only for the purposes stated, within three years from its issuance; since land use, site conditions (both on site and off site) or other factors may change over time, and additional work may be required with the passage of time. Any party other than the client, or the client's design team members of this particular project, who wishes to use this report, shall notify Corsair of such intended use. Based on the intended use of the report, Corsair may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements by the client or anyone else will release Corsair from any liability resulting from the use of this report.

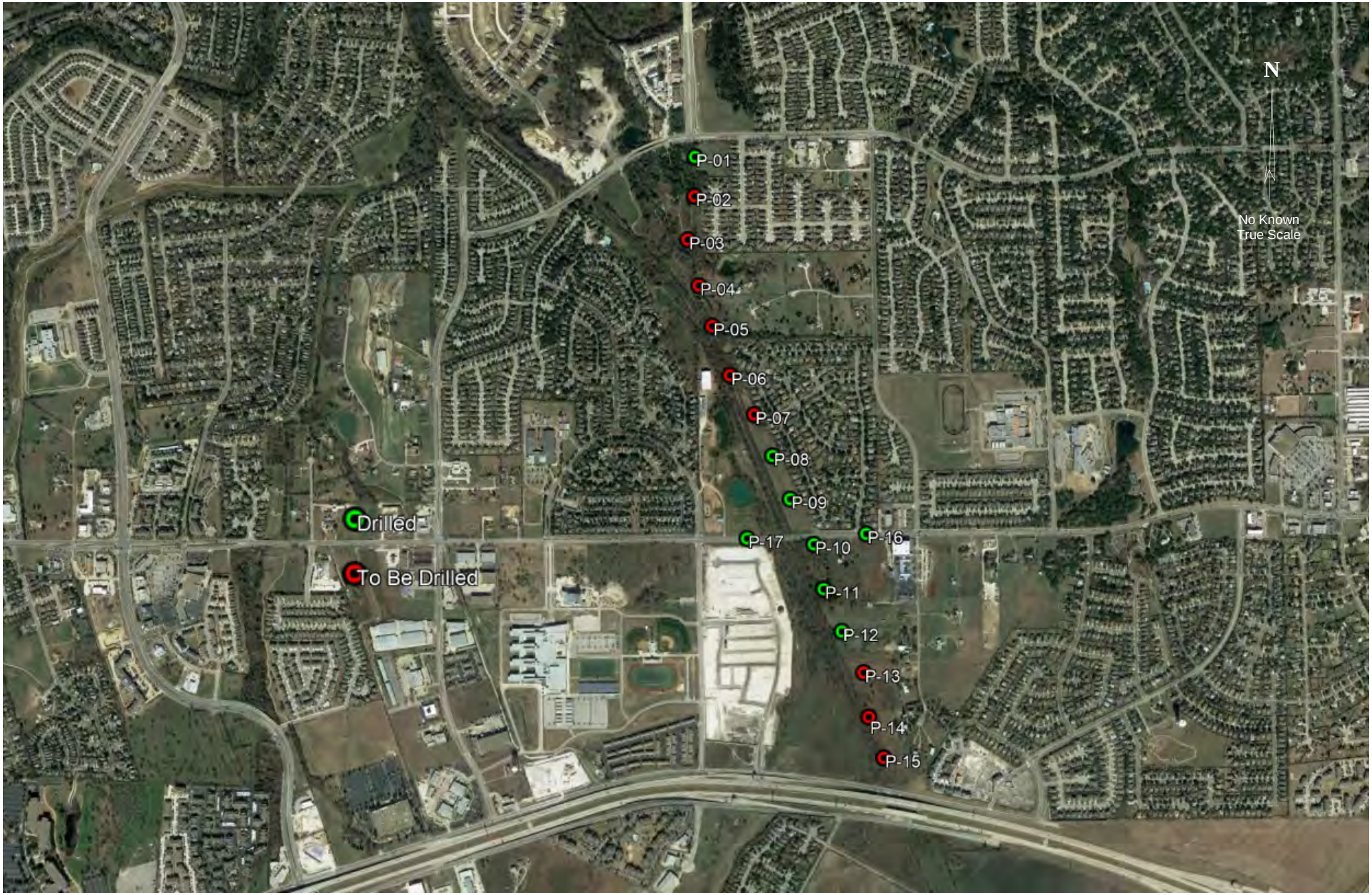
Other standards or documents referenced in any given standard cited in this report, or otherwise relied upon by the authors of this report, are only mentioned in the given standard; they are not incorporated into it or "included by reference," as that latter term is used relative to contracts or other matters of law.

APPENDIX A

BORING LOCATION MAP
LOGS OF BORING

CORSAIR CONSULTING LLC

Kenney Fort Boulevard Segments 2 and 3
Round Rock, Williamson County, Texas
Corsair Project No. 1500546
BORING LOCATION MAP



Google Earth

DRILLING LOG

	County	Williamson	Hole	P-01	District	Austin
WinCore	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
Version 3.1	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	Properties: LL	Properties: PI	Properties: Wet Den. (pcf)	Additional Remarks
			CLAY, Fat, very stiff, moist, brown (CH)			26	53	34		PTS @ 0', PP=2.5, -#200=85.5%* *Index Test Results from Bulk Sample from 0' to 1'
-1.			CLAY, Sandy Lean, very stiff, dry, brown and light brown, trace organics (CL)							SPT @ 2', N=11, 50/5
-2.5			LIMESTONE, light brown to light gray							SPT @ 4', N=50/5.5
5										SPT @ 6', N=50/4
										SPT @ 8.5', N=50/1.5
-8.6										Boring terminated at 8.6'
10										

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; PTS: Push Tube Sample; PP: Pocket Penetrometer reading (tsf); Drilling Method: Air Rotary; Lat: 30.508143, Long: -97.636205; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger:** M. Rhee **Organization:** Corsair Consulting LLC

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DRILLING LOG

WinCore Version 3.1	County	Williamson	Hole	P-08	District	Austin
	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test Lateral Press. (psi)	Triaxial Test Deviator Stress (psi)	Properties MC	Properties LL	Properties PI	Properties Wet Den. (pcf)	Additional Remarks
			CLAY, Fat, stiff to very stiff, moist, dark brown to 6', thereafter brown, trace Gravel below 6' (CH)			35	97	73		PTS @ 0', PP=2.0, -#200=94.2%* *Index Test Results from Bulk Sample from 0' to 3'
						40	85	61		PTS @ 2', PP=1.5, -#200=95.7%
						38	89	63		PTS @ 4', PP=2.0, -#200=95.9%
5						35	89	63		PTS @ 6', PP=2.5, -#200=90.0%
						27	65	43		SPT @ 8', N=4, 5, 5, 15 -#200=89.6%
-9.5			GRAVEL, Clayey, dry, light brown, fine grained (GC)							
-10. 10										Boring terminated at 10'

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; PTS: Push Tube Sample; PP: Pocket Penetrometer reading (tsf); Drilling Method: CFA; Lat: 30.498981, Long: -97.633449; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger: M. Rhee** **Organization: Corsair Consulting LLC**

DRILLING LOG

	County	Williamson	Hole	P-09	District	Austin
WinCore	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
Version 3.1	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	Properties: LL	Properties: PI	Properties: Wet Den. (pcf)	Additional Remarks
			CLAY, Fat, very stiff, moist, brown (CH)			26	61	39		PTS @ 0', PP=3.5, -#200=94.2%
						22	56	37		PTS @ 2', PP=3.5, -#200=90.4%
-3.						18				
			GRAVEL, Clayey with Sand, very dense, dry to moist, light brown, fine grained (GC)			12				SPT @ 4', N=30, 31, 50/5
5						12				SPT @ 6', N=40, 50/4
-7.			LIMESTONE, light brown			10				SPT @ 8', N=50/4
-8.3										Boring terminated at 8.3'
10										

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; PTS: Push Tube Sample; PP: Pocket Penetrometer reading (tsf); Drilling Method: Air Rotary; Lat: 30.497658, Long: -97.632821; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger:** M. Rhee **Organization:** Corsair Consulting LLC

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DRILLING LOG

	County	Williamson	Hole	P-10	District	Austin
WinCore	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
Version 3.1	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	LL	PI	Wet Den. (pcf)	Additional Remarks
			CLAY, Fat, very stiff to hard, moist, brown (CH)			27	63	42		PTS @ 0', PP=4.5, -#200=90.7%
						23	61	41		PTS @ 2', PP=4.5+, -#200=89.9%
-4.						12	33	16		SPT @ 4', N=18, 40, 50/5
			GRAVEL, Clayey with Sand, very dense, light brown, fine grained (GC)							
-6.						10				SPT @ 6', N=50/3
			LIMESTONE, light brown							
-8.1										SPT @ 8', N=50/1 Boring terminated at 8.1'

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; PTS: Push Tube Sample; PP: Pocket Penetrometer reading (tsf); Drilling Method: Air Rotary; Lat: 30.496278, Long: -97.631981; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger:** M. Rhee **Organization:** Corsair Consulting LLC

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DRILLING LOG

	County	Williamson	Hole	P-11	District	Austin
WinCore	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
Version 3.1	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	Properties: LL	Properties: PI	Properties: Wet Den. (pcf)	Additional Remarks
			CLAY, Fat, stiff, moist, dark brown (CH)			33	68	44		PTS @ 0', PP=1.5, -#200=96.1%
-1.			CLAY, Sandy Fat with Gravel, moist, dark brown and light brown (CH)							
						26				SPT @ 2', N=20, 50/3
-2.5			LIMESTONE, light brown							
										SPT @ 4', N=50/4
5										
										SPT @ 6', N=50/3
										SPT @ 8.5', N=50/2
-8.7										Boring terminated at 8.7'
10										

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; PTS: Push Tube Sample; PP: Pocket Penetrometer reading (tsf); Drilling Method: Air Rotary; Lat: 30.494907, Long: -97.631634; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger:** M. Rhee **Organization:** Corsair Consulting LLC

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DRILLING LOG

WinCore Version 3.1	County	Williamson	Hole	P-12	District	Austin
	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	Properties: LL	Properties: PI	Properties: Wet Den. (pcf)	Additional Remarks
			CLAY, Fat, very stiff, moist, dark brown (CH)			37	89	64		PTS @ 0', PP=2.5, -#200=94.6%
-2.						15				PTS @ 2', PP=NA
			GRAVEL, Clayey with Sand, moist, dark brown and light gray (GC)							fine grained
-2.4			LIMESTONE, light gray							SPT @ 2.4', N=50/4
										SPT @ 4', N=50/3
5										
										SPT @ 6', N=50/2
										SPT @ 8.5', N=50/1.5
-8.6										Boring terminated at 8.6'
10										

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; PTS: Push Tube Sample; PP: Pocket Penetrometer reading (tsf); Drilling Method: Air Rotary; Lat: 30.493613, Long: -97.630990; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger:** M. Rhee **Organization:** Corsair Consulting LLC

DRILLING LOG

WinCore Version 3.1	County	Williamson	Hole	P-16	District	Austin
	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	Properties: LL	Properties: PI	Properties: Wet Den. (pcf)	Additional Remarks
			ASPHALT, (6")							
-.5			BASE, (16")							
-1.8			LIMESTONE, light brown			13				SPT @ 1.8', N=50/4
										SPT @ 4', N=50/1.5
5										
										SPT @ 6', N=50/1
										SPT @ 8.5', N=50/1
-8.6										Boring terminated at 8.6'
10										

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; Drilling Method: Air Rotary; Lat: 30.496599, Long: -97.630127; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger: M. Rhee** **Organization: Corsair Consulting LLC**

DRILLING LOG

WinCore Version 3.1	County	Williamson	Hole	P-17	District	Austin
	Highway	Kenney Fort Boulevard	Structure	Pavement	Date	1/22/2018
	CSJ		Station		Grnd. Elev.	0.00 ft
			Offset		GW Elev.	N/A

Elev. (ft)	LOG	Texas Cone Penetrometer	Strata Description	Triaxial Test: Lateral Press. (psi)	Triaxial Test: Deviator Stress (psi)	Properties: MC	Properties: LL	Properties: PI	Properties: Wet Den. (pcf)	Additional Remarks
-.4			ASPHALT, (5")							
			BASE, (16")							SPT @ 0.5', N=34
-1.8						22				
			CLAY, Lean with Sand, hard, moist, dark brown and light brown (CL)			18	40	21		SPT @ 2', N=11, 34, 50/5 -#200=83.5%
-3.			GRAVEL, Clayey with Sand, very dense, dry, light gray, fine grained (GC)							
-4.			LIMESTONE, light gray							SPT @ 4', N=50/2
5										SPT @ 6', N=50/2.5
-8.			CLAY, Lean, hard, moist, brown, Clay Infill (CL)			19				SPT @ 8.5', N=41, 50/2
-9.										
-9.2			LIMESTONE, light gray							Boring terminated at 9.2'
10										

Remarks: Drill Rig: CME 75 with Standard 140-pound Automatic Hammer; SPT: Standard Penetration Test; Drilling Method: Air Rotary; Lat: 30.496455, Long: -97.634353; Boring coordinates were obtained using a handheld GPS device and should be considered approximate.

The ground water elevation was not determined during the course of this boring.

Driller: Austin Geo-Logic **Logger: M. Rhee** **Organization: Corsair Consulting LLC**

APPENDIX B

SUMMARY OF LABORATORY TEST RESULTS
PARTICLE SIZE DISTRIBUTION CURVES
COMPACTION TEST RESULTS

SUMMARY OF LABORATORY TEST RESULTS
Kenney Fort Boulevard Segments 2 and 3
Round Rock, Williamson County, Texas
Corsair Project No. 1500546

Boring Number	Depth Range (ft)	USCS Soil Symbol/Rock Classification	Moisture Content (%)	Atterberg Limits (%)			Dry Density (pcf)	Total Density (pcf)	% Passing				Maximum Dry Density (pcf)	Optimum Moisture Content (%)	Sulfates (ppm)	Chlorides (ppm)	pH	Minimum Resistivity (ohm-cm)
				LL	PL	PI			#4	#10	#40	#200						
P-01	0.0-1.0*	CH	26	53	19	34			99.2	98.2	94.6	85.5			<100	293	7.7	890
P-08	0.0-3.0*	CH	35	97	24	73			99.3	98.6	96.9	94.2	82.9	29.5	<100	352	7.8	620
P-08	2.0-4.0	CH	40	85	24	61			99.9	99.6	98.2	95.7						
P-08	4.0-6.0	CH	38	89	26	63			100.0	99.7	98.4	95.9						
P-08	6.0-8.0	CH	35	89	26	63			95.2	93.5	91.9	90.0						
P-08	8.0-9.5	CH	27	65	22	43			98.3	97.3	95.3	89.6						
P-09	0.0-2.0	CH	26	61	22	39			100.0	99.7	97.6	94.2						
P-09	2.0-3.0	CH	22	56	19	37			99.8	97.3	94.8	90.4						
P-09	3.0-4.0	GC	18															
P-09	4.0-5.4	GC	12															
P-09	6.0-6.8	GC	12															
P-09	8.0-8.3	LIMESTONE	10															
P-10	0.0-2.0	CH	27	63	21	42			100.0	99.7	96.7	90.7						
P-10	2.0-4.0	CH	23	61	20	41			99.3	97.7	94.7	89.9						
P-10	4.0-5.4	GC	12	33	17	16												
P-10	6.0-6.3	LIMESTONE	10															
P-11	0.0-1.0	CH	33	68	24	44			99.8	99.5	98.4	96.1						
P-11	2.0-2.5	CH	26															
P-12	0.0-2.0	CH	37	89	25	64			100.0	99.4	97.8	94.6						
P-12	2.0-2.4	GC	15															
P-13	0.0-2.0*	CH	32	79	22	57			99.8	98.6	97.0	94.0			<100	235	7.7	530
P-16	1.8-2.2	LIMESTONE	13															
P-17	1.8-2.0	CL	22															
P-17	2.0-3.0	CL	18	40	19	21			98.2	94.9	90.9	83.5						
P-17	8.5-9.0	CL	19															

ND: Not Detected or Below Reporting Limit, NP: Nonplastic, LL: Liquid Limit (%), PL: Plastic Limit (%), PI: Plasticity Index (%), *Bulk Sample

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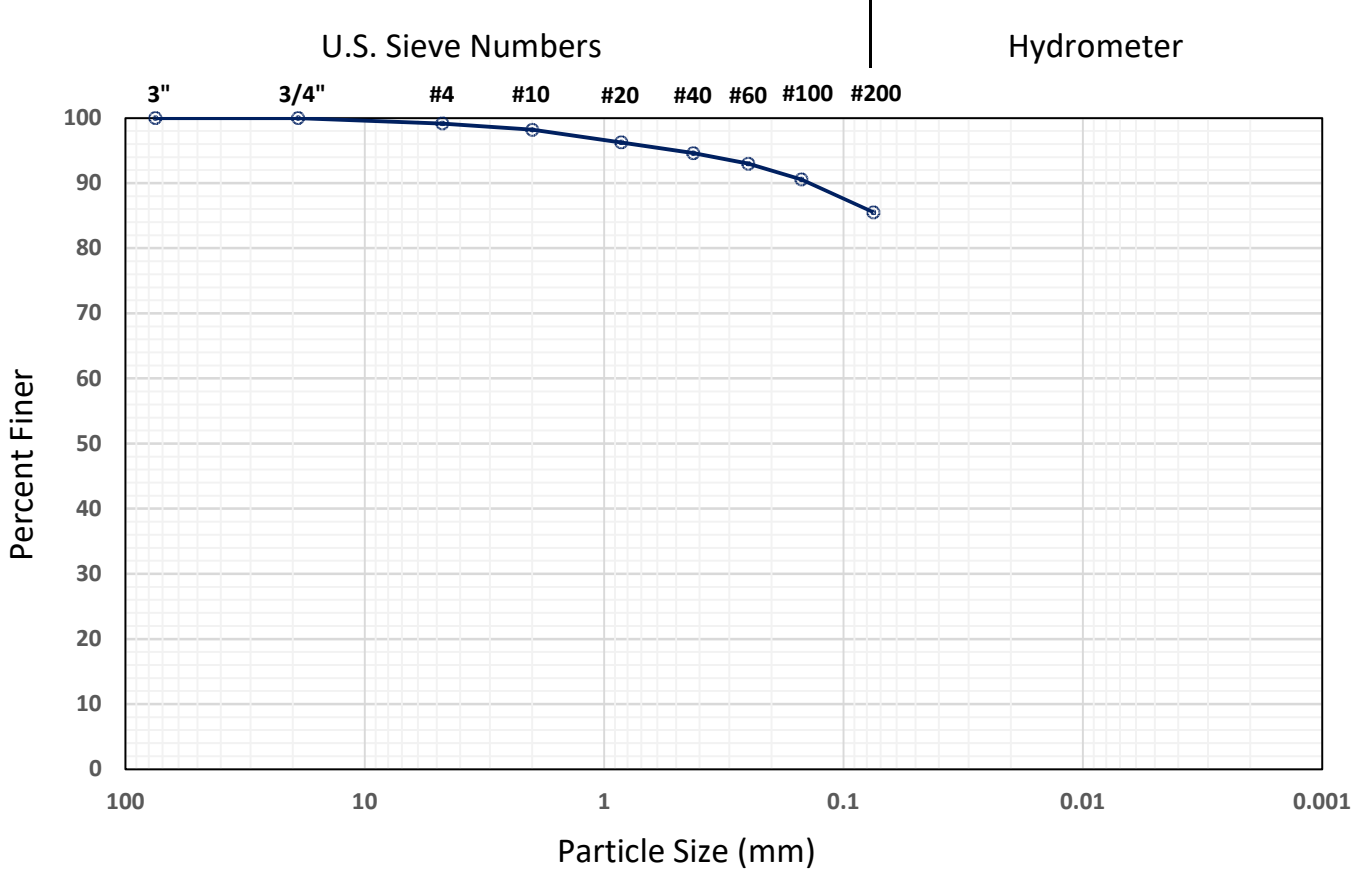
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	99.2
No. 10	2.00	98.2
No. 20	0.850	96.3
No. 40	0.425	94.6
No. 60	0.250	93.0
No. 100	0.150	90.6
No. 200	0.075	85.5

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.8
% Sand	13.6
% Silt & Clay	85.5
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-01
Project No.	1500546	**Sample Depth (ft.)**	0.0-1.0*

* Bulk Sample

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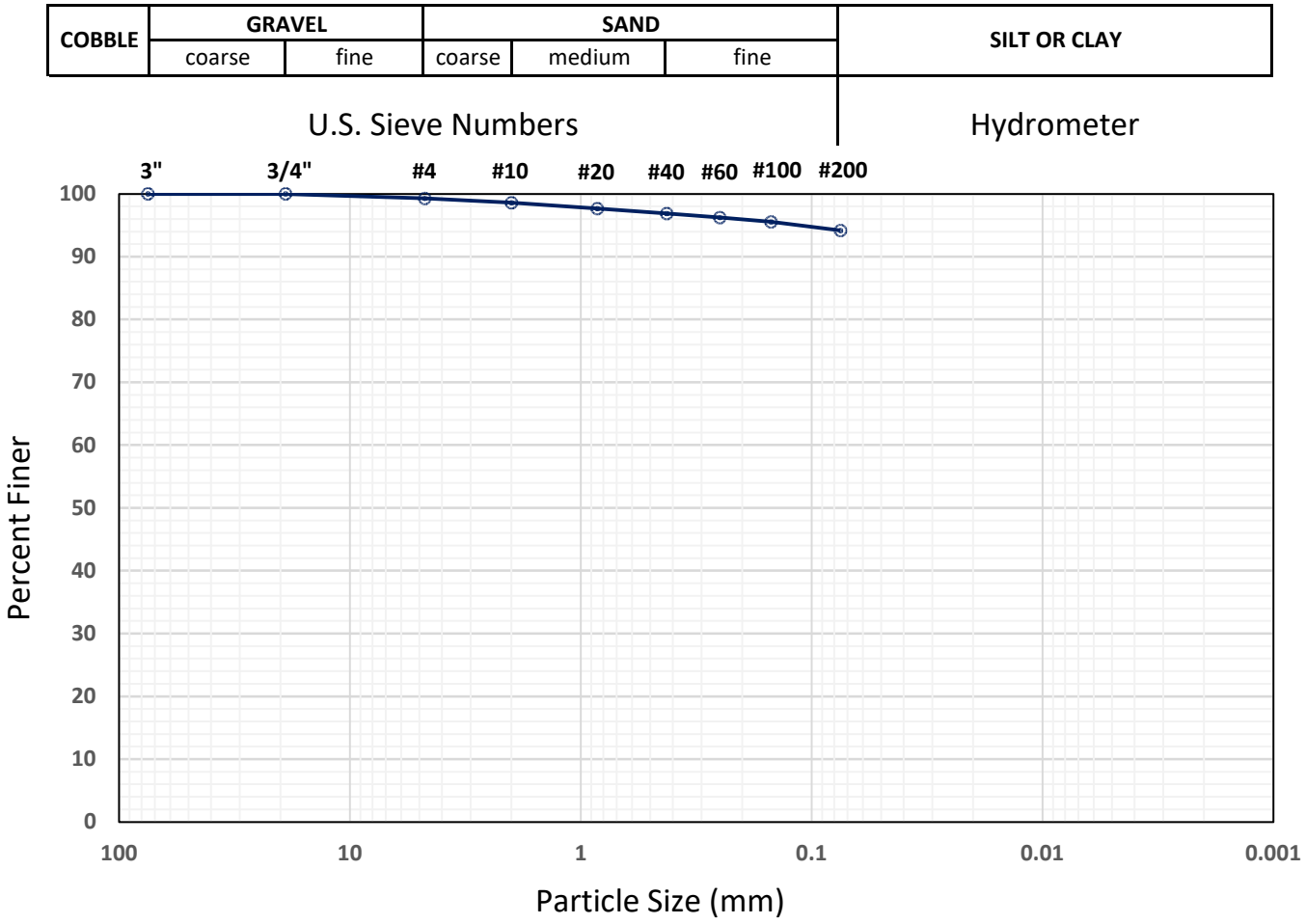
PARTICLE SIZE DISTRIBUTION



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	99.3
No. 10	2.00	98.6
No. 20	0.850	97.7
No. 40	0.425	96.9
No. 60	0.250	96.2
No. 100	0.150	95.5
No. 200	0.075	94.2

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.7
% Sand	5.1
% Silt & Clay	94.2
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-08
Project No.	1500546	**Sample Depth (ft.)**	0.0-3.0*

* Bulk Sample

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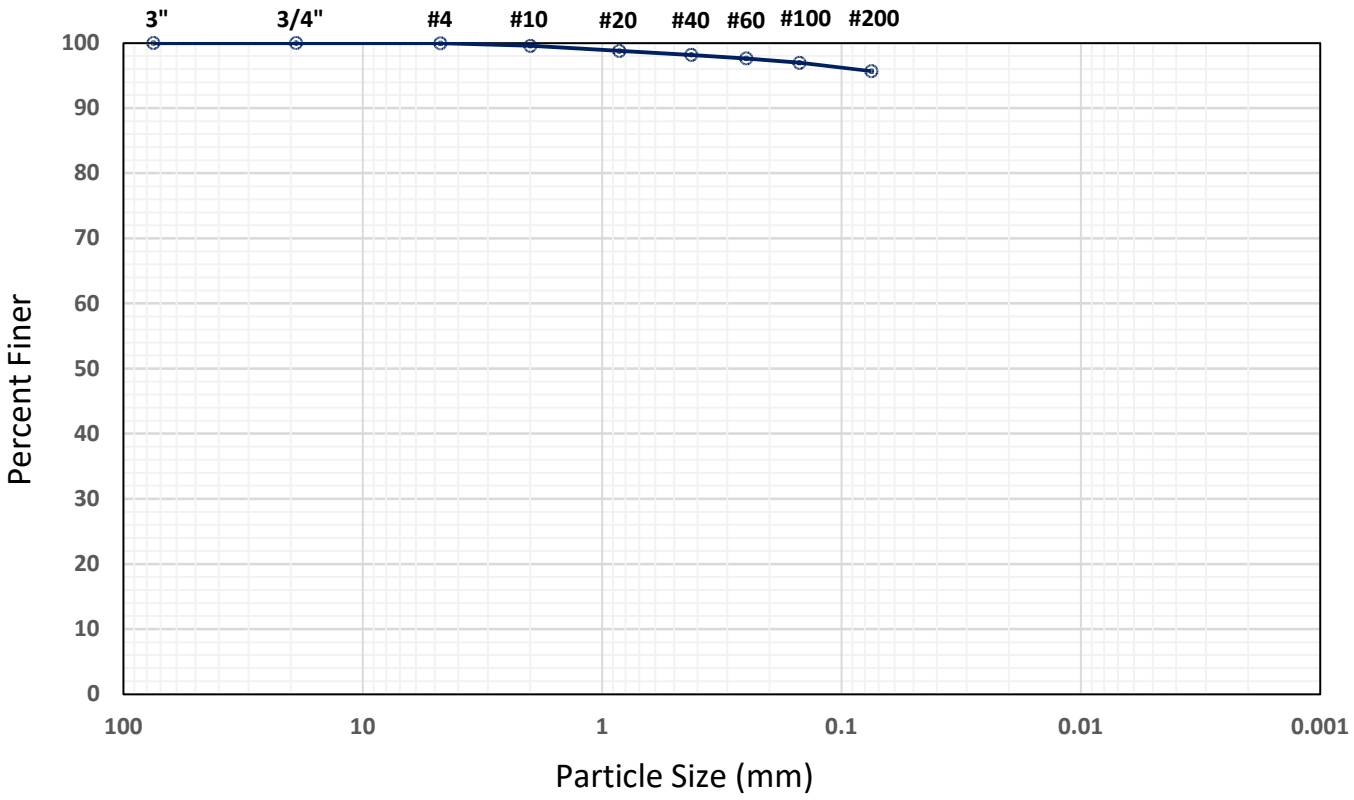
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

U.S. Sieve Numbers | Hydrometer



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	99.9
No. 10	2.00	99.6
No. 20	0.850	98.8
No. 40	0.425	98.2
No. 60	0.250	97.6
No. 100	0.150	97.0
No. 200	0.075	95.7

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.1
% Sand	4.3
% Silt & Clay	95.7
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-08
Project No.	1500546	**Sample Depth (ft.)**	2.0-4.0

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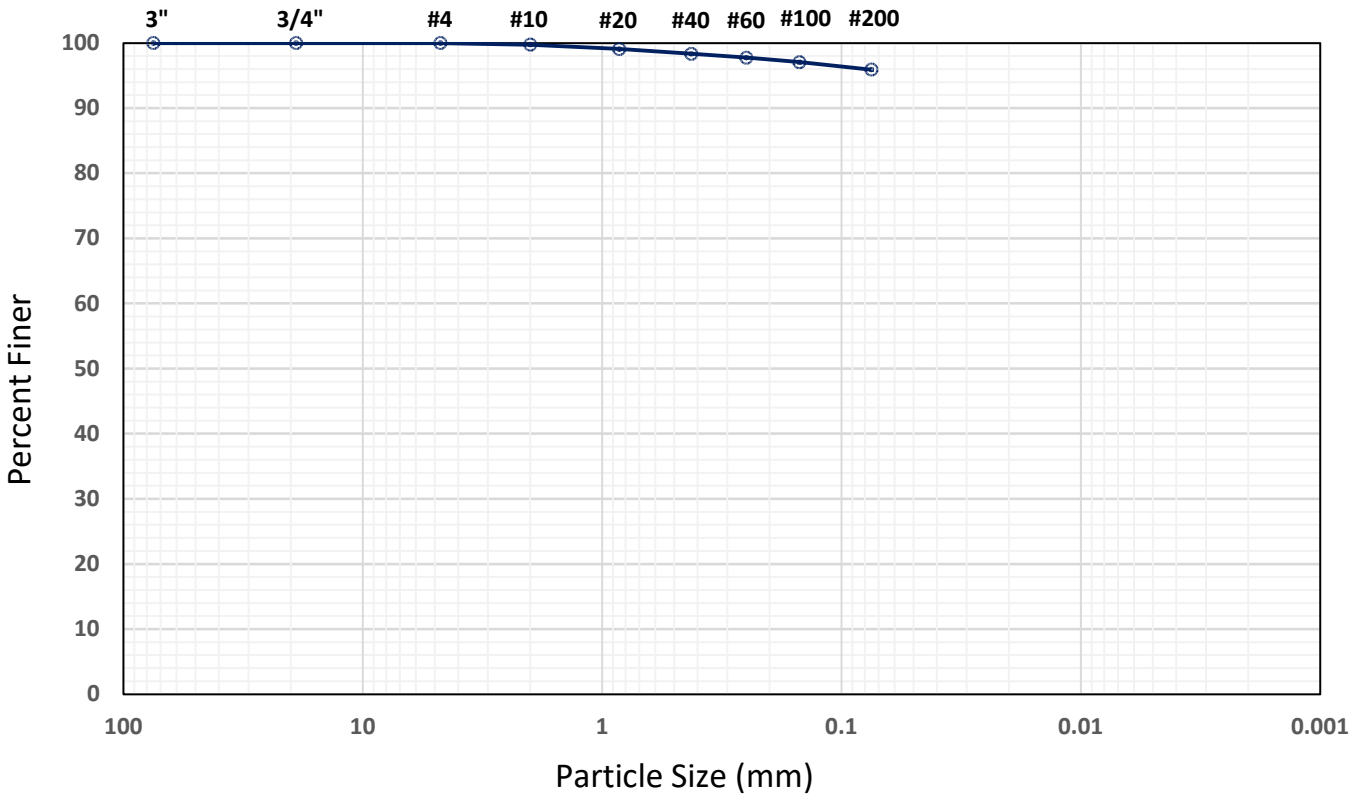
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

U.S. Sieve Numbers | Hydrometer



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	100.0
No. 10	2.00	99.7
No. 20	0.850	99.1
No. 40	0.425	98.4
No. 60	0.250	97.8
No. 100	0.150	97.1
No. 200	0.075	95.9

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.0
% Sand	4.1
% Silt & Clay	95.9
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-08
Project No.	1500546	**Sample Depth (ft.)**	4.0-6.0

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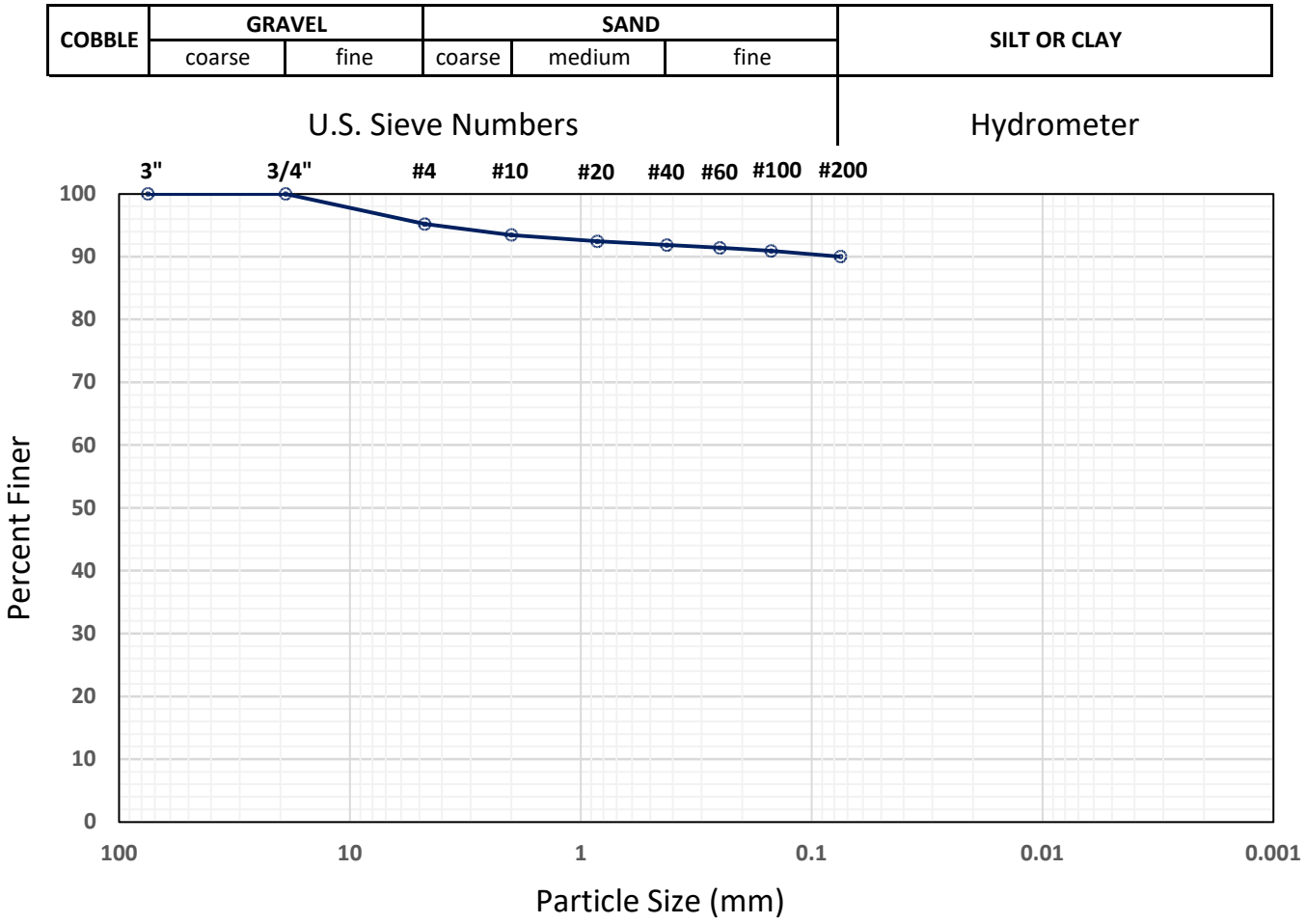
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	95.2
No. 10	2.00	93.5
No. 20	0.850	92.5
No. 40	0.425	91.9
No. 60	0.250	91.4
No. 100	0.150	90.9
No. 200	0.075	90.0

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	4.8
% Sand	5.2
% Silt & Clay	90.0
D_{60} (mm)	0.17
D_{50} (mm)	0.15
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-08
Project No.	1500546	**Sample Depth (ft.)**	6.0-8.0

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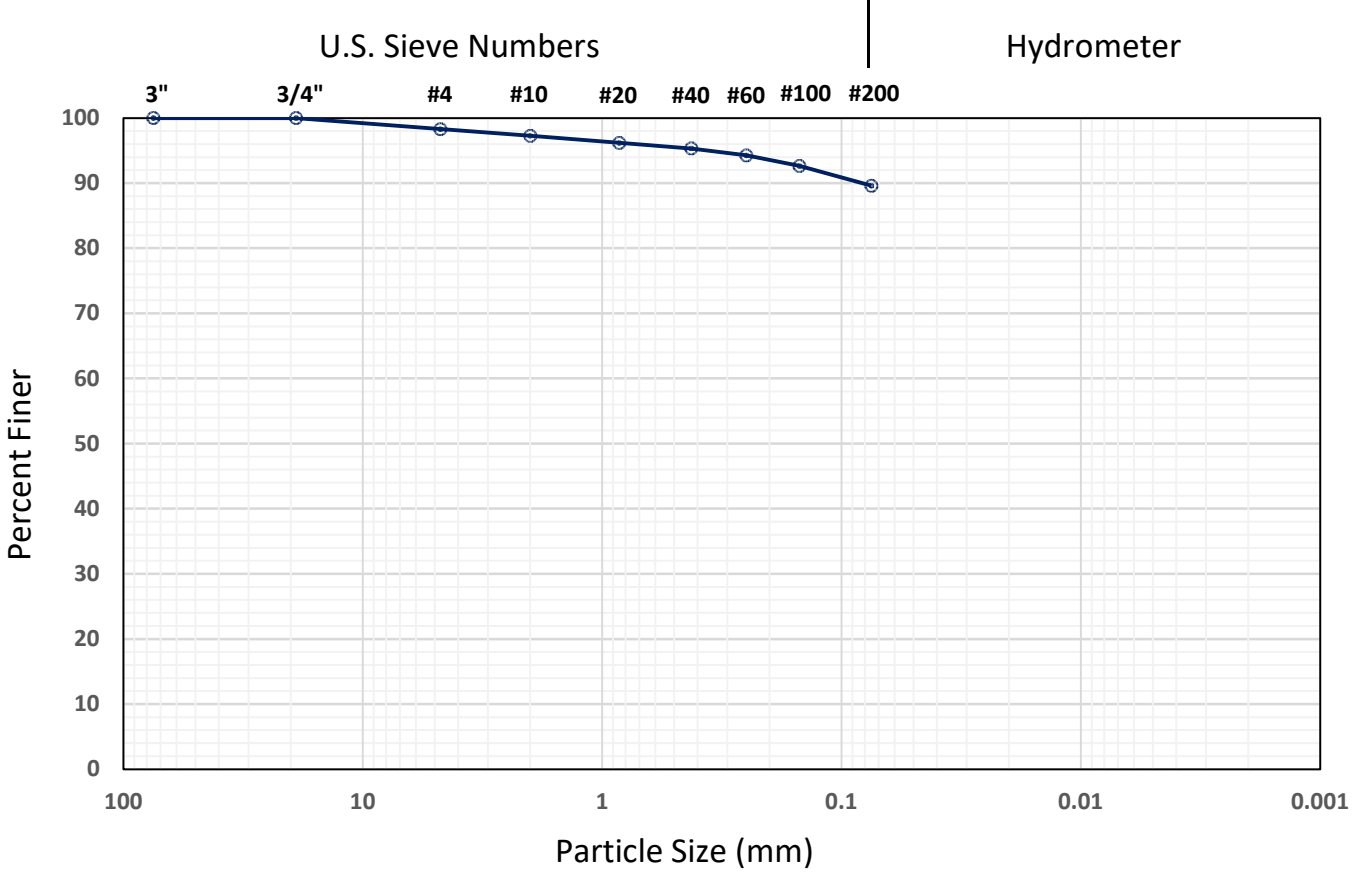
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	98.3
No. 10	2.00	97.3
No. 20	0.850	96.2
No. 40	0.425	95.3
No. 60	0.250	94.3
No. 100	0.150	92.6
No. 200	0.075	89.6

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	1.7
% Sand	8.7
% Silt & Clay	89.6
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-08
Project No.	1500546	**Sample Depth (ft.)**	8.0-9.5

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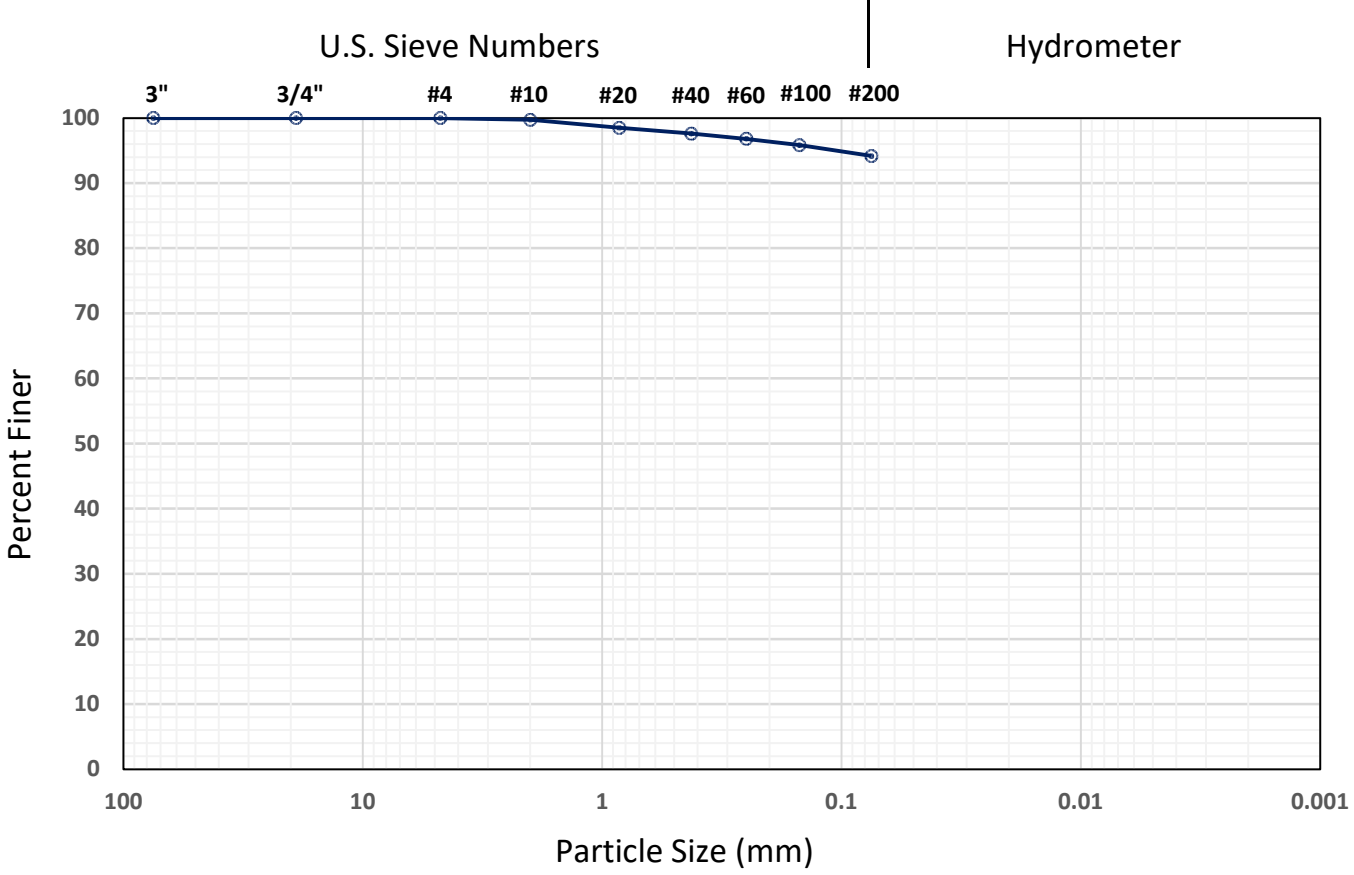
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	100.0
No. 10	2.00	99.7
No. 20	0.850	98.5
No. 40	0.425	97.6
No. 60	0.250	96.8
No. 100	0.150	95.8
No. 200	0.075	94.2

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.0
% Sand	5.8
% Silt & Clay	94.2
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-09
Project No.	1500546	**Sample Depth (ft.)**	0.0-2.0

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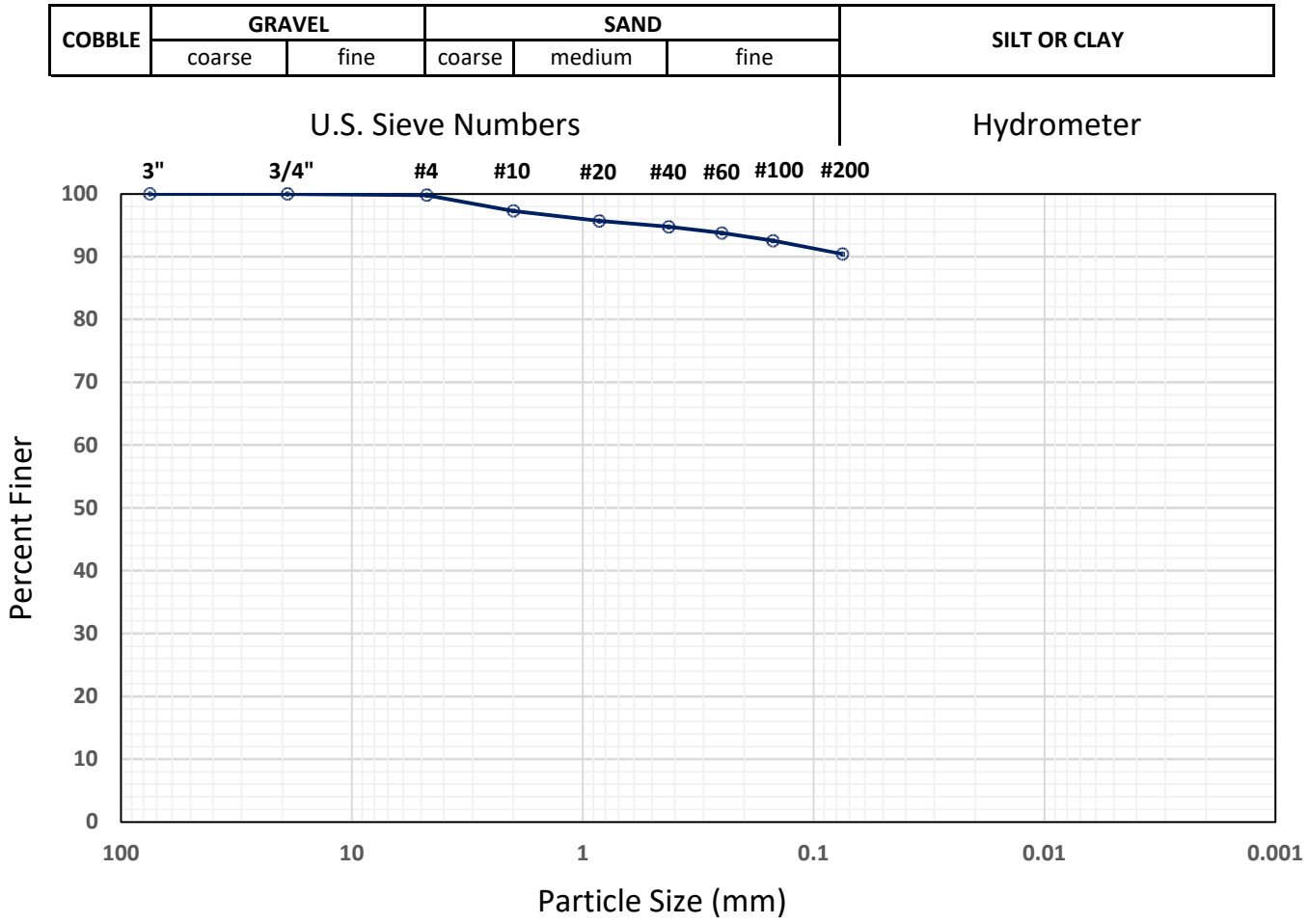
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	99.8
No. 10	2.00	97.3
No. 20	0.850	95.7
No. 40	0.425	94.8
No. 60	0.250	93.8
No. 100	0.150	92.6
No. 200	0.075	90.4

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.2
% Sand	9.4
% Silt & Clay	90.4
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-09
Project No.	1500546	**Sample Depth (ft.)**	2.0-3.0

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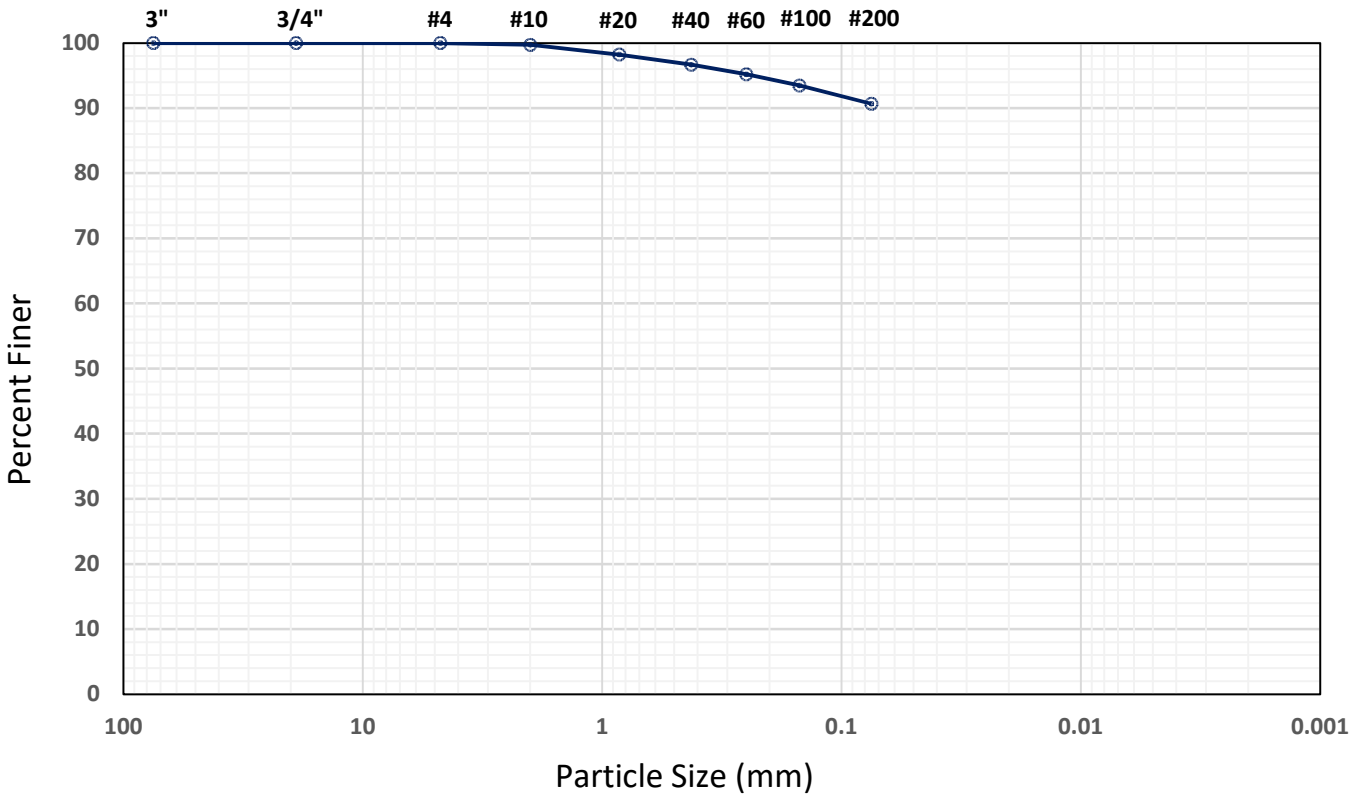
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

U.S. Sieve Numbers | Hydrometer



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	100.0
No. 10	2.00	99.7
No. 20	0.850	98.2
No. 40	0.425	96.7
No. 60	0.250	95.2
No. 100	0.150	93.5
No. 200	0.075	90.7

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.0
% Sand	9.3
% Silt & Clay	90.7
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-10
Project No.	1500546	**Sample Depth (ft.)**	0.0-2.0

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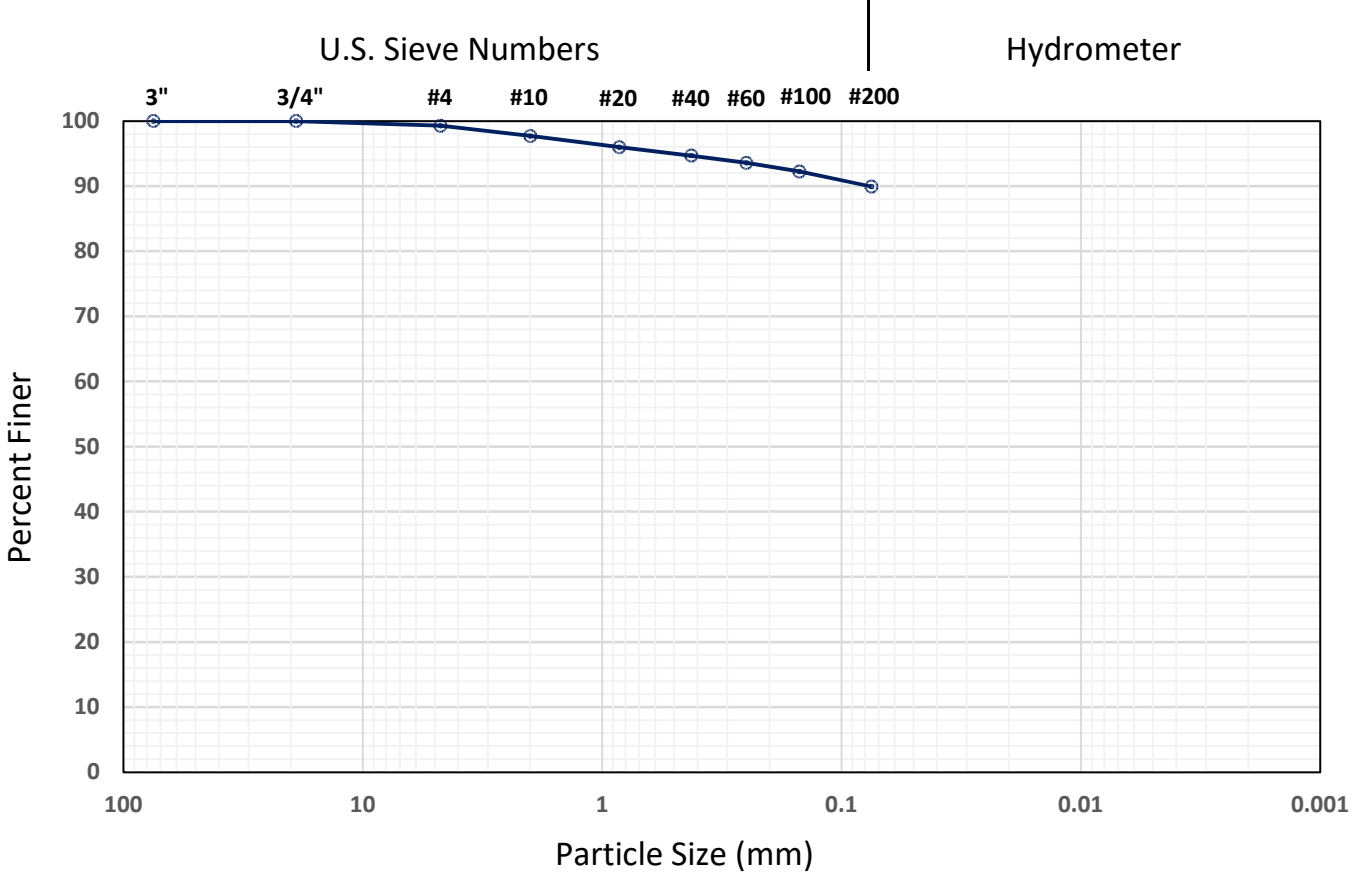
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	99.3
No. 10	2.00	97.7
No. 20	0.850	96.0
No. 40	0.425	94.7
No. 60	0.250	93.6
No. 100	0.150	92.3
No. 200	0.075	89.9

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.7
% Sand	9.3
% Silt & Clay	89.9
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-10
Project No.	1500546	**Sample Depth (ft.)**	2.0-4.0

16800 Joe Barbee Drive, Round Rock, TX 78664 TEL: (512) 342-8877
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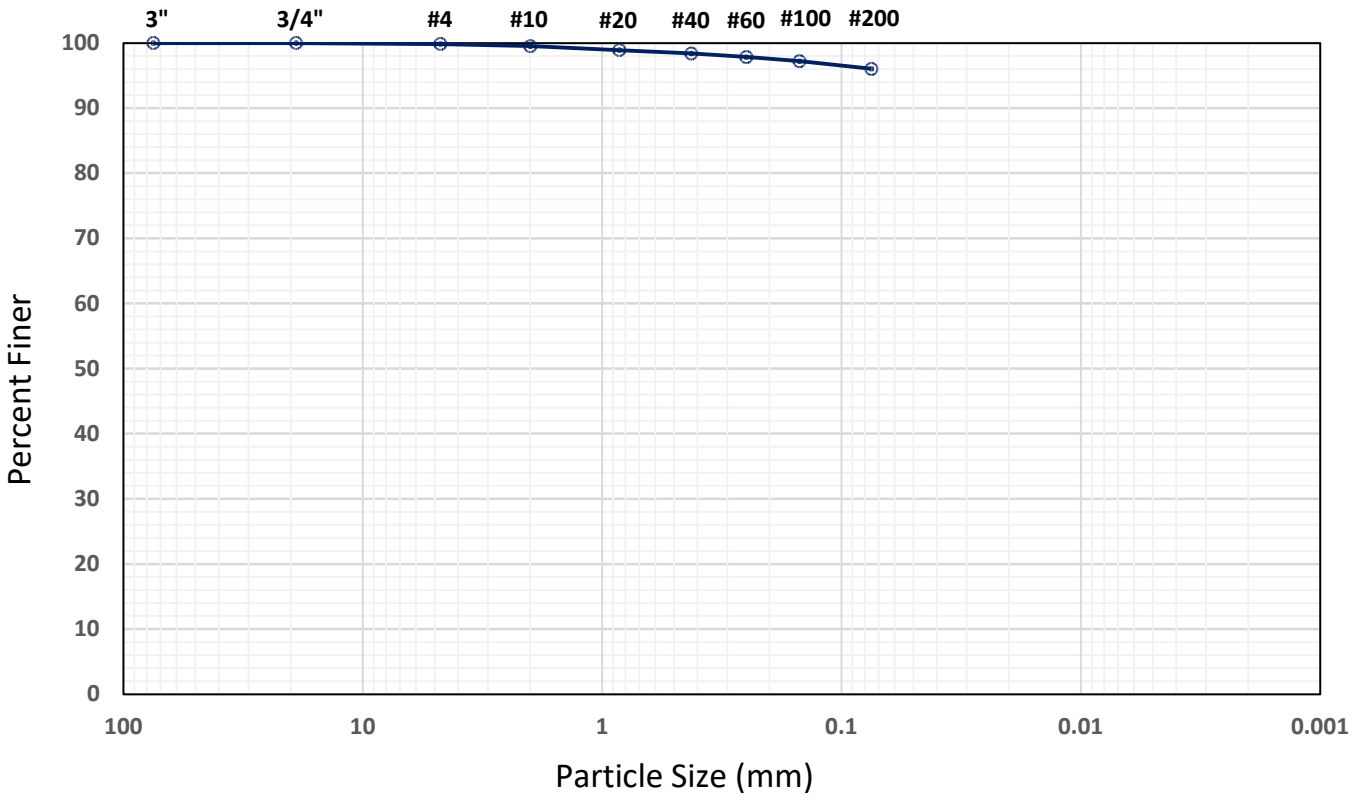
CORSAIR CONSULTING LLC

PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

U.S. Sieve Numbers | Hydrometer



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	99.8
No. 10	2.00	99.5
No. 20	0.850	98.9
No. 40	0.425	98.4
No. 60	0.250	97.9
No. 100	0.150	97.2
No. 200	0.075	96.1

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.2
% Sand	3.8
% Silt & Clay	96.1
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-11
Project No.	1500546	**Sample Depth (ft.)**	0.0-1.0

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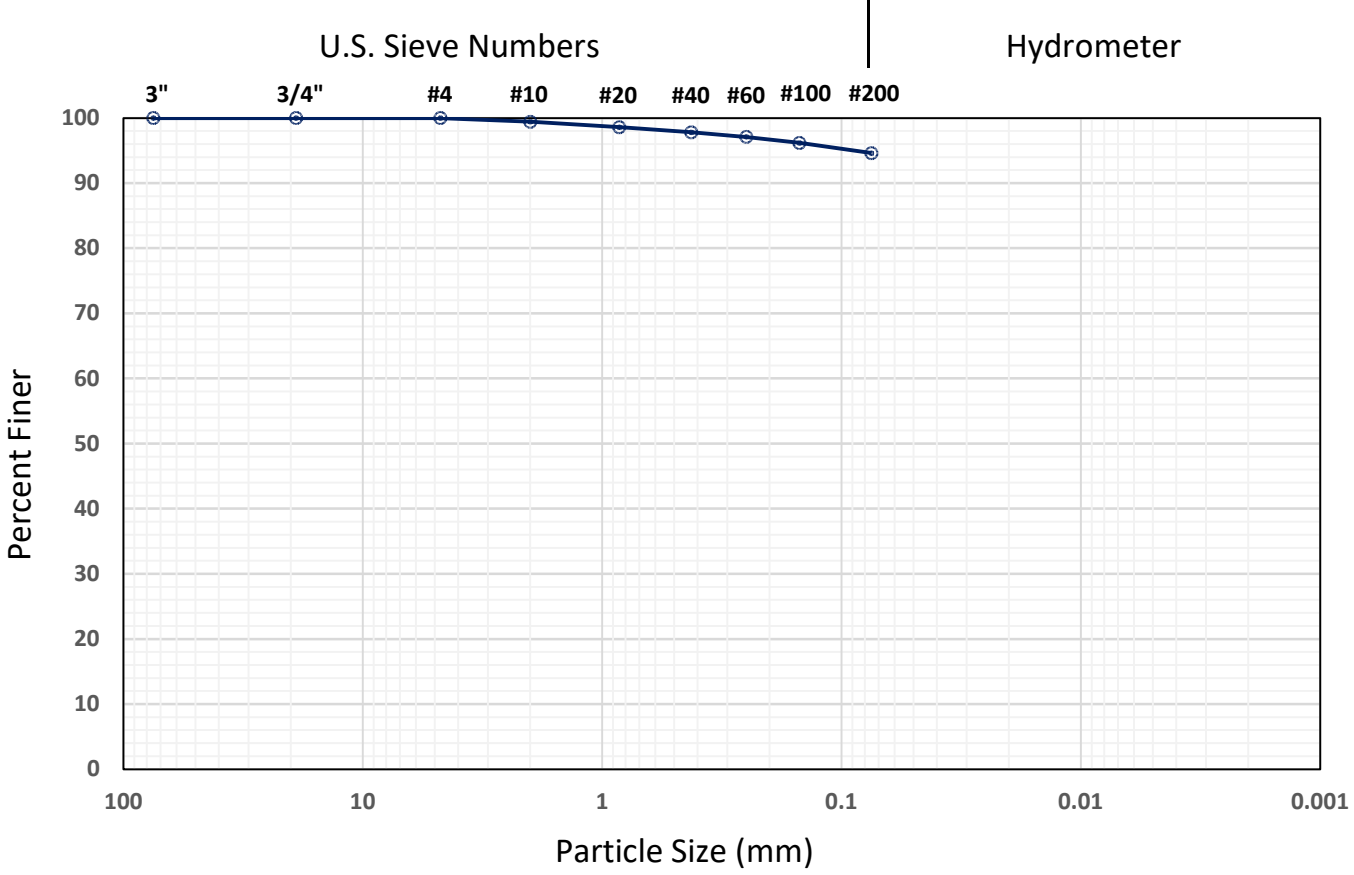
CORSAIR CONSULTING LLC

PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	100.0
No. 10	2.00	99.4
No. 20	0.850	98.6
No. 40	0.425	97.8
No. 60	0.250	97.1
No. 100	0.150	96.2
No. 200	0.075	94.6
Hydrometer Analysis		
Particle Size (mm)	**Passing (%)**	
0.005	N/A	
0.002	N/A	
% Gravel	0.0	
% Sand	5.4	
% Silt & Clay	94.6	
D_{60} (mm)	N/A	
D_{50} (mm)	N/A	
D_{30} (mm)	N/A	
D_{10} (mm)	N/A	
C_u	N/A	
C_c	N/A	

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-12
Project No.	1500546	**Sample Depth (ft.)**	0.0-2.0

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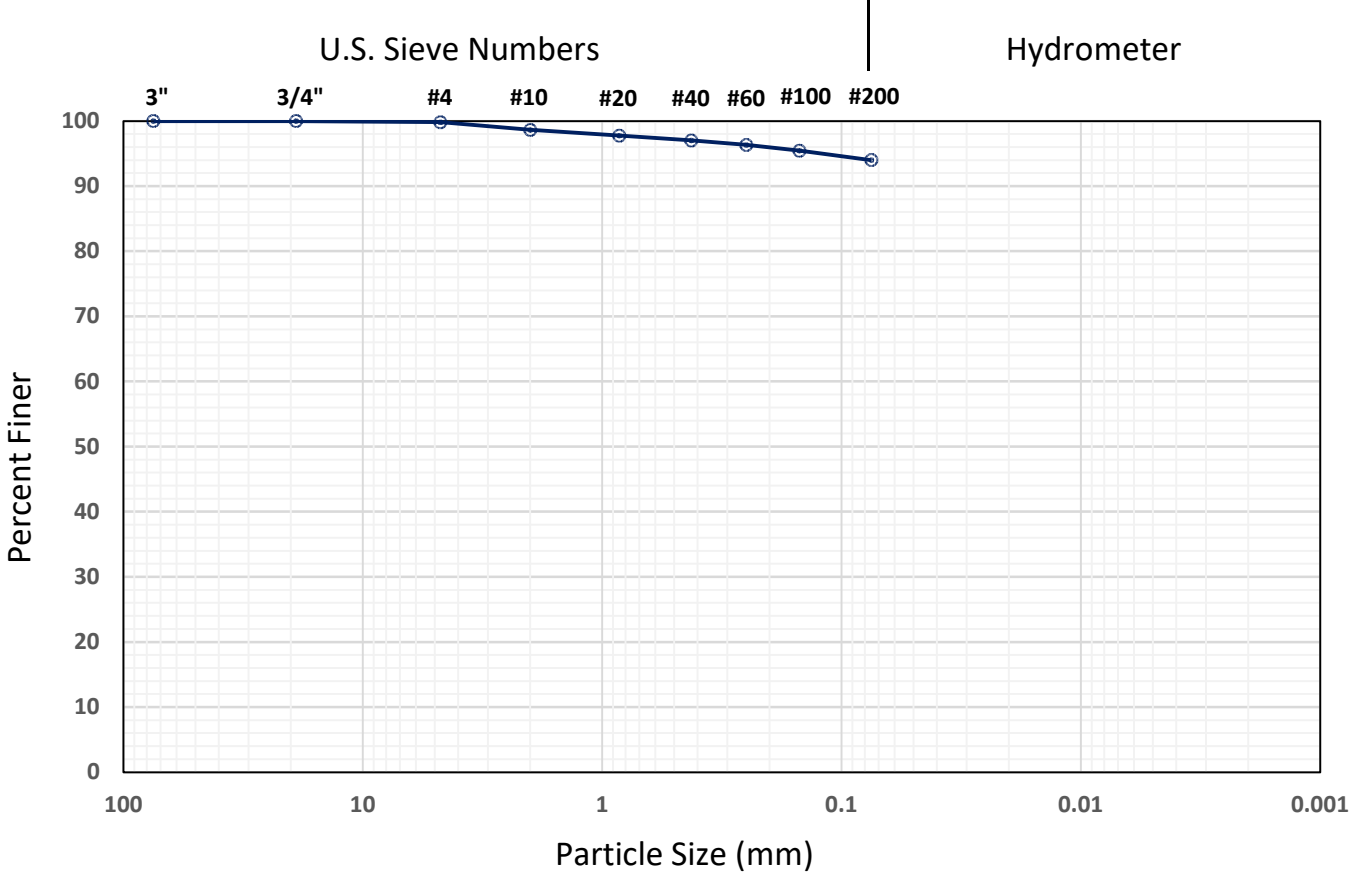
PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	99.8
No. 10	2.00	98.6
No. 20	0.850	97.8
No. 40	0.425	97.0
No. 60	0.250	96.3
No. 100	0.150	95.4
No. 200	0.075	94.0

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	0.2
% Sand	5.8
% Silt & Clay	94.0
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-13
Project No.	1500546	**Sample Depth (ft.)**	0.0-2.0*

* Bulk Sample

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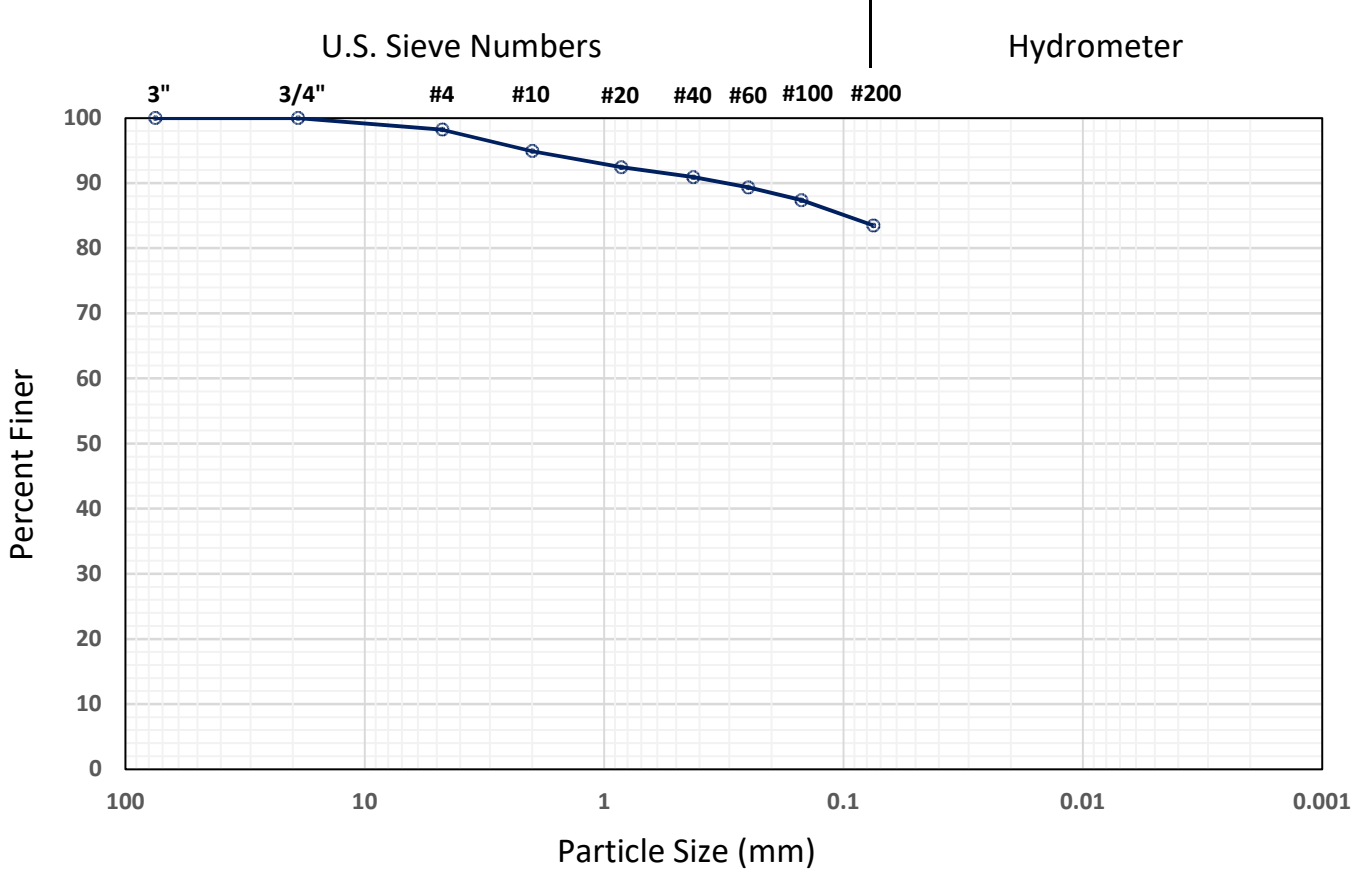
CORSAIR CONSULTING LLC

PARTICLE SIZE DISTRIBUTION

COBBLE	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	



Sieve Analysis		
Sieve No.	**Dia. (mm)**	**Passing (%)**
3"	75.0	100.0
3/4"	19.0	100.0
No. 4	4.75	98.2
No. 10	2.00	94.9
No. 20	0.850	92.5
No. 40	0.425	90.9
No. 60	0.250	89.4
No. 100	0.150	87.4
No. 200	0.075	83.5

Hydrometer Analysis	
Particle Size (mm)	**Passing (%)**
0.005	N/A
0.002	N/A
% Gravel	1.8
% Sand	14.7
% Silt & Clay	83.5
D_{60} (mm)	N/A
D_{50} (mm)	N/A
D_{30} (mm)	N/A
D_{10} (mm)	N/A
C_u	N/A
C_c	N/A

Project Name	Kenney Fort Boulevard Segments 2 and 3	**Boring No.**	P-17
Project No.	1500546	**Sample Depth (ft.)**	2.0-3.0

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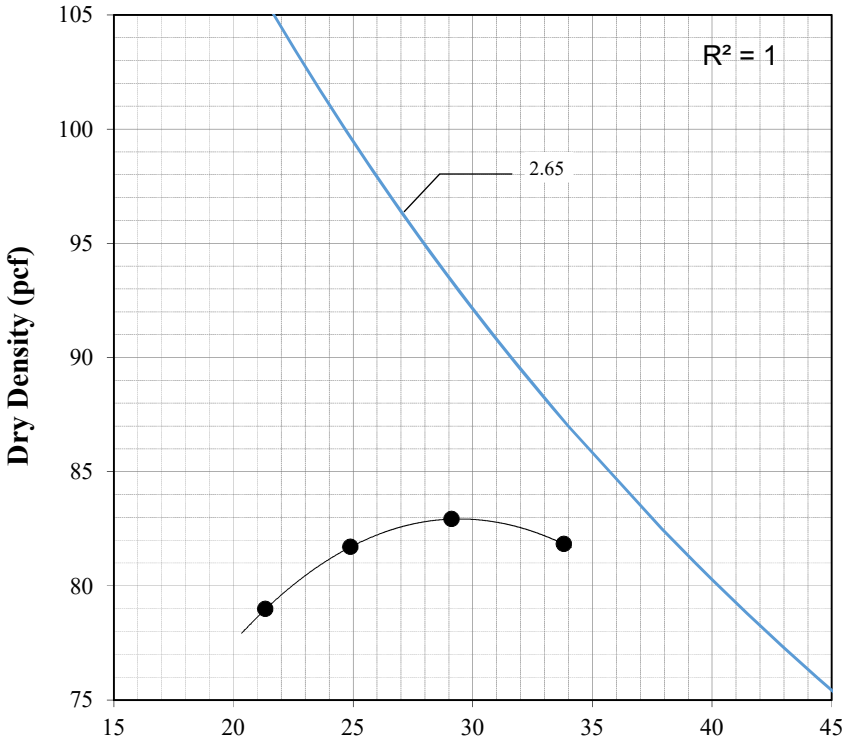
3801 Doris Lane
Round Rock, TX 78664
Phone: (512) 992-2087
www.RRCcompanies.com

Laboratory Compaction Characteristics and Moisture-Density Relationship

Client: Corsair Consulting, LLC
Project Name: Kenny Fort Boulevard
Specimen I.D.: P-08 at 0 to 3 ft

RRC Project No.: LT1801005
Test Method: Tex-114-E, Part II
Test Date: 01/31/18
RRC Sample No.: R-2640

Moisture-Density Relationship



	Water Content (%)	Dry Density (pcf)
	21.3	79.0
	24.9	81.7
	33.8	81.8
**	29.1	82.9

** Material was reused to complete Proctor points

Rammer: Auto Hammer
I.D. No.: Series 662
Calibrated Date: 10/5/2017

Material Description:

Dark brown fat clay

Laboratory Compacted Samples	
Maximum Dry Density (pcf):	**82.9**
Optimum Water Content (%):	**29.5**

Olga Vasquez, 02/02/2018
Quality Review/Date
Technician: Tamika Vasquez
Tech Cert #: #252

TEXAS DEPARTMENT OF TRANSPORTATION

Moisture-Density Relations of Base Material & Sand or Subgrade & Embankment Soils
Tex-113-E *or* Tex-114-E

Refresh Workbook

File Version: 07/06/15 14:42:05

SAMPLE ID:	P-08 at 0 to 3 ft	SAMPLED DATE:	
TEST NUMBER:	**LT1801005**	LETTING DATE:	
SAMPLE STATUS:		CONTROLLING CSJ:	
COUNTY:		SPEC YEAR:	2014
SAMPLED BY:	Corsair Consultants, LLC	SPEC ITEM:	
SAMPLE LOCATION:		SPECIAL PROVISION:	
MATERIAL CODE:		GRADE:	
MATERIAL NAME:			
PRODUCER:			
AREA ENGINEER:		PROJECT MANAGER:	

COURSE\LIFT:		STATION:		DIST. FROM CL:	

Moisture-Density Work Sheet

Oven Dry Weight, (g):	
Weight of Pycnometer & Water, (g):	
Weight of Aggr., Pycn.& Water, (g):	
Specific Gravity (Apparent)(Override):	
Specific Gravity (Apparent)(Calc):	2.65
Hygroscopic Moisture, (%):	

Sample Number :	1	2	3	4
Percent Water Content, (%):	20	24	28	26
Mass Material, (lb):				
Mass Water Added, (lb):				
Wet Mass Specimen & Mold, (lb):	24.22245489	25.04188786	26.15852184	25.50463853
Mass of Mold, (lb):	11.53601	11.53601	11.53601	11.53601
	11.53601	11.53601	11.53601	11.53601
Wet Mass Specimen, (lb):	12.68644489	13.50587786	14.62251184	13.96862853
Height of Specimen, (in.):	8.123	8.120	8.190	8.004
Volume per Linear mm., (in.):	0.0163	0.0163	0.0163	0.0163
	0.0163	0.0163	0.0163	0.0163
Volume of Specimen, (ft^3):	0.1324049	0.132356	0.133497	0.1304652
Wet Density of Specimen, (lb):	95.82	102.04	109.53	107.07
Wet Mass of Pan & Specimen, (lb):	2.251340412	2.044767103	2.582937971	2.582937971
Dry Mass Pan & Specimen, (lb):	1.968002081	1.763082241	2.09051306	2.143424046
Tare Mass Pan, (lb):	0.640002469	0.631360341	0.633961798	0.633961798
Dry Mass Material , (lb):	1.327999612	1.1317219	1.456551262	1.509462248
Mass Water, (lb):	0.28333833	0.281684862	0.49242491	0.439513924
Percent Water on Total , (%):	21.34	24.89	33.81	29.12
Dry Density, (pcf):	78.97	81.70	81.85	82.92
Estimated Dry Density, (pcf):	79.85	82.29	85.57	84.98

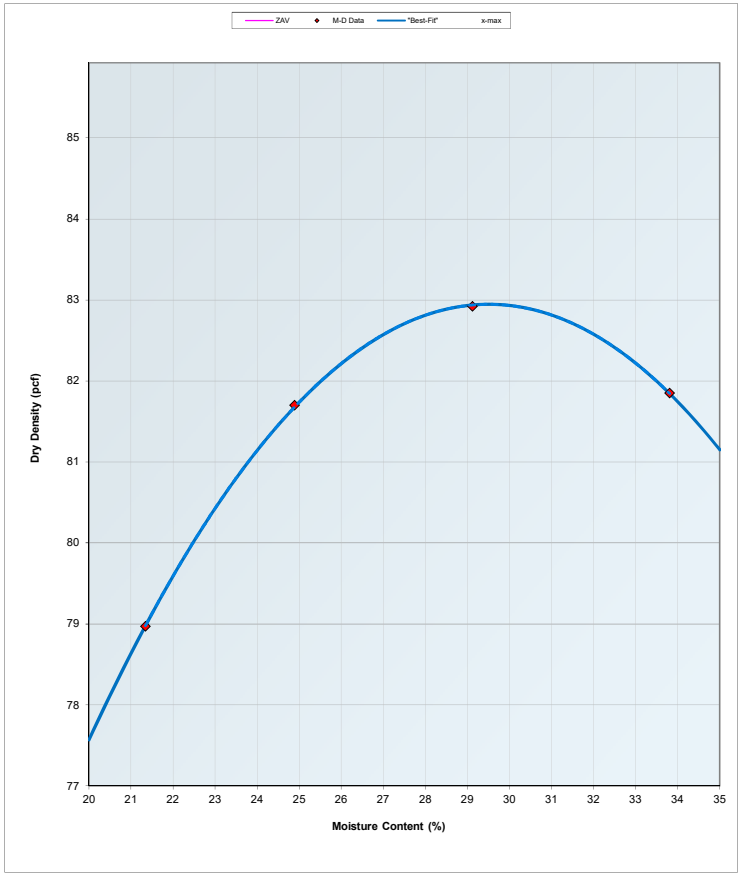
Import Data

SCA Energy Data	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)	Total Energy (lb-ft)	Avg Energy/ Blow (lb-ft)
Lift 1:								
Lift 2:								
Lift 3:								
Lift 4:								

SCA Drop Data	Avg. Drop Ht. (in)	Blows	Avg. Drop Ht.(in)	Blows	Avg. Drop Ht.(in)	Blows	Avg. Drop Ht.(in)	Blows
Lift 1:								
Lift 2:								
Lift 3:								
Lift 4:								

Unconfined Strength Data (psi):					
Percent Strain (%):					

Max Dry Density, (pcf):	82.9
Optimum Moisture Content, (%):	29.5
M-D Graph R^2 Value:	1.00



Remarks:

Test Method:	Tested By:	Tech Cert No:	Tested Date:
TX113			
TX114	Tamika Vasquez	#252	02/01/18

Test Stamp Code:	Omit Test:	Completed Date:	Reviewed By:

Locked By:	TxDOT:	District:	Area:

Authorized By:	Authorized Date:	
		4

APPENDIX C

POTENTIAL VERTICAL RISE (PVR) CALCULATIONS
EFEECTIVE PLASTICITY INDEX (EPI) CALCULATIONS

SUMMARY OF POTENTIAL VERTICAL RISE (PVR)
Kenney Fort Boulevard Segments 2 and 3
Round Rock, Williamson County, Texas
Corsair Project No. 1500546

Boring Number	Potential Vertical Rise (in.)		Modification Depth below Pavement	Remarks
	Native Condition*	Modified Condition		
P-01	0.35		Not Required	
P-08	3.68	1.89	3 Feet	
P-09	0.78		Not Required	
P-10	1.08		Not Required	
P-11	0.61		Not Required	
P-12	1.06		Not Required	
P-16	0.00		Not Required	
P-17	0.13		Not Required	

* The proposed roadway was assumed to be 2 feet above existing ground surface or at existing roadway elevations in the analysis.

- Total depth of analyzed soil/rock layers is 15 feet including 2 foot pavement sections.

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-01

Assumption: Top 2 Feet of Pavement Sections

Depth ft.	Bottom Load psi	Top Load psi	Wet Density pcf	LL %	"Dry" %	"Wet" %	"Ave" %	Moisture %	% Finer No. 40	Moisture State	PI %	Volume Swell %	Free Swell %	PVR, In. Top Layer	PVR, In. Bottom Layer	Diff. In.	Mod. No. 40 Factor	Mod. Density Factor	Layer PVR In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	130	53	19.6	26.9	23.3	19	95	Dry	34	9.8	13.1	1.712	2.003	0.291	0.945	0.9615385	0.26
3-4	5.1	6.1	130	40	17.0	20.8	18.9	17	90	Dry	23	5.9	8.9	1.24	1.325	0.085	0.9	0.9615385	0.07
4-5	6.1	7.1	140	28	14.6	15.2	14.9	14	60	Dry	16	3.3	6.1	0.644	0.666	0.022	0.6	0.8928571	0.01
5-6	7.1	8.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
6-7	8.1	9.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
7-8	9.1	10.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
8-9	10.1	11.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
9-10	11.1	12.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
10-11	12.1	13.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
11-12	13.1	14.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
12-13	14.1	15.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
13-14	15.1	16.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
14-15	16.1	17.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
																			0.35

	PVR
No Overexcavation	0.35
Pavement (0-1 Foot)	0.35
Pavement (1-2 Feet)	0.35
1 Foot Overex.	0.09
2 Foot Overex.	0.01
3 Foot Overex.	0.00
4 Foot Overex.	0.00
5 Foot Overex.	0.00
6 Foot Overex.	0.00

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-08

Assumption: Top 2 Feet of Pavement Sections

Depth ft.	Bottom Load psi	Top Load psi	Wet Density pcf	LL %	"Dry" %	"Wet" %	"Ave" %	Moisture %	% Finer No. 40	Moisture State	PI %	Volume Swell %	Free Swell %	PVR, In. Top Layer	PVR, In. Bottom Layer	Diff. In.	Mod. No. 40 Factor	Mod. Density Factor	Layer PVR In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	130	103	29.6	50.4	40.0	29	97	Dry	79	22.6	26.8	4.22	4.9512	0.7312	0.97	0.9615385	0.68
3-4	5.1	6.1	130	103	29.6	50.4	40.0	29	97	Dry	79	22.6	26.8	4.9512	5.668	0.7168	0.97	0.9615385	0.67
4-5	6.1	7.1	130	85	26.0	42.0	34.0	26	98	Dry	61	18.1	22	4.5	4.96	0.46	0.982	0.9615385	0.43
5-6	7.1	8.1	130	85	26.0	42.0	34.0	26	98	Dry	61	18.1	22	4.96	5.38	0.42	0.98	0.9615385	0.40
6-7	8.1	9.1	130	89	26.8	43.8	35.3	26	99	Dry	63	18.6	22.5	5.53	5.94	0.41	0.987	0.9615385	0.39
7-8	9.1	10.1	130	89	26.8	43.8	35.3	26	99	Dry	63	18.6	22.5	5.94	6.315	0.375	0.987	0.9615385	0.36
8-9	10.1	11.1	130	89	26.8	43.8	35.3	26	92	Dry	63	18.6	22.5	6.315	6.66	0.345	0.919	0.9615385	0.30
9-10	11.1	12.1	130	89	26.8	43.8	35.3	26	92	Dry	63	18.6	22.5	6.66	6.985	0.325	0.919	0.9615385	0.29
10-11	12.1	13.1	130	65	22.0	32.6	27.3	22	95	Dry	43	12.7	16.2	4.228	4.378	0.15	0.953	0.9615385	0.14
11-12	13.1	14.1	130	40	17.0	20.8	18.9	17	63	Dry	26	6.9	10	2.04	2.08	0.04	0.63	0.9615385	0.02
12-13	14.1	15.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
13-14	15.1	16.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
14-15	16.1	17.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
																			3.68

	PVR
No Overexcavation	3.68
Pavement (0-1 Foot)	3.68
Pavement (1-2 Feet)	3.68
1 Foot Overex.	3.00
2 Foot Overex.	2.33
3 Foot Overex.	1.89
4 Foot Overex.	1.50
5 Foot Overex.	1.11
6 Foot Overex.	0.75

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-09

Assumption: Top 2 Feet of Pavement Sections

Depth ft.	Bottom Load psi	Top Load psi	Wet Density pcf	LL %	"Dry" %	"Wet" %	"Ave" %	Moisture %	% Finer No. 40	Moisture State	PI %	Volume Swell %	Free Swell %	PVR, In. Top Layer	PVR, In. Bottom Layer	Diff. In.	Mod. No. 40 Factor	Mod. Density Factor	Layer PVR In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	130	61	21.2	30.7	25.9	21	98	Dry	39	11.4	14.8	1.948	2.264	0.316	0.976	0.9615385	0.30
3-4	5.1	6.1	130	61	21.2	30.7	25.9	21	98	Dry	39	11.4	14.8	2.264	2.536	0.272	0.98	0.9615385	0.26
4-5	6.1	7.1	130	56	20.2	28.3	24.3	20	95	Dry	37	10.8	14.2	2.404	2.63	0.226	0.948	0.9615385	0.21
5-6	7.1	8.1	130	33	15.6	17.5	16.6	15	50	Dry	16	3.3	6.1	0.666	0.686	0.02	0.5	0.9615385	0.01
6-7	8.1	9.1	130	33	15.6	17.5	16.6	15	50	Dry	16	3.3	6.1	0.686	0.698	0.012	0.5	0.9615385	0.01
7-8	9.1	10.1	130	33	15.6	17.5	16.6	15	50	Dry	16	3.3	6.1	0.698	0.708	0.01	0.5	0.9615385	0.00
8-9	10.1	11.1	130	33	15.6	17.5	16.6	15	50	Dry	16	3.3	6.1	0.708	0.718	0.01	0.5	0.9615385	0.00
9-10	11.1	12.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
10-11	12.1	13.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
11-12	13.1	14.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
12-13	14.1	15.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
13-14	15.1	16.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
14-15	16.1	17.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
																			0.78

	PVR
No Overexcavation	0.78
Pavement (0-1 Foot)	0.78
Pavement (1-2 Feet)	0.78
1 Foot Overex.	0.49
2 Foot Overex.	0.23
3 Foot Overex.	0.03
4 Foot Overex.	0.02
5 Foot Overex.	0.01
6 Foot Overex.	0.00

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-10

Assumption: Top 2 Feet of Pavement Sections

Depth ft.	Bottom Load psi	Top Load psi	Wet Density pcf	LL %	"Dry" %	"Wet" %	"Ave" %	Moisture %	% Finer No. 40	Moisture State	PI %	Volume Swell %	Free Swell %	PVR, In. Top Layer	PVR, In. Bottom Layer	Diff. In.	Mod. No. 40 Factor	Mod. Density Factor	Layer PVR In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	130	63	21.6	31.6	26.6	21	97	Dry	42	12.5	16	2.2	2.57	0.37	0.97	0.9615385	0.35
3-4	5.1	6.1	130	63	21.6	31.6	26.6	21	97	Dry	42	12.5	16	2.57	2.87	0.3	0.97	0.9615385	0.28
4-5	6.1	7.1	130	61	21.2	30.7	25.9	21	95	Dry	41	12.2	15.7	2.783	3.047	0.264	0.947	0.9615385	0.24
5-6	7.1	8.1	130	61	21.2	30.7	25.9	21	95	Dry	41	12.2	15.7	3.047	3.274	0.227	0.95	0.9615385	0.21
6-7	8.1	9.1	130	33	15.6	17.5	16.6	15	50	Dry	16	3.3	6.1	0.686	0.698	0.012	0.5	0.9615385	0.01
7-8	9.1	10.1	130	33	15.6	17.5	16.6	15	50	Dry	16	3.3	6.1	0.698	0.708	0.01	0.5	0.9615385	0.00
8-9	10.1	11.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
9-10	11.1	12.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
10-11	12.1	13.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
11-12	13.1	14.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
12-13	14.1	15.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
13-14	15.1	16.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
14-15	16.1	17.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
																			1.08

	PVR
No Overexcavation	1.08
Pavement (0-1 Foot)	1.08
Pavement (1-2 Feet)	1.08
1 Foot Overex.	0.74
2 Foot Overex.	0.46
3 Foot Overex.	0.22
4 Foot Overex.	0.01
5 Foot Overex.	0.00
6 Foot Overex.	0.00

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-11

Assumption: Top 2 Feet of Pavement Sections

Depth ft.	Bottom Load psi	Top Load psi	Wet Density pcf	LL %	"Dry" %	"Wet" %	"Ave" %	Moisture %	% Finer No. 40	Moisture State	PI %	Volume Swell %	Free Swell %	PVR, In. Top Layer	PVR, In. Bottom Layer	Diff. In.	Mod. No. 40 Factor	Mod. Density Factor	Layer PVR In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	130	68	22.6	34.0	28.3	22	98	Dry	44	13.1	16.6	2.332	2.708	0.376	0.984	0.9615385	0.36
3-4	5.1	6.1	130	68	22.6	34.0	28.3	22	70	Dry	44	13.1	16.6	2.708	3.02	0.312	0.7	0.9615385	0.21
4-5	6.1	7.1	140	42	17.4	21.7	19.6	17	50	Dry	26	6.9	10	1.58	1.69	0.11	0.5	0.8928571	0.05
5-6	7.1	8.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
6-7	8.1	9.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
7-8	9.1	10.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
8-9	10.1	11.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
9-10	11.1	12.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
10-11	12.1	13.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
11-12	13.1	14.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
12-13	14.1	15.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
13-14	15.1	16.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
14-15	16.1	17.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
																			0.61

	PVR
No Overexcavation	0.61
Pavement (0-1 Foot)	0.61
Pavement (1-2 Feet)	0.61
1 Foot Overex.	0.26
2 Foot Overex.	0.05
3 Foot Overex.	0.00
4 Foot Overex.	0.00
5 Foot Overex.	0.00
6 Foot Overex.	0.00

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-12

Assumption: Top 2 Feet of Pavement Sections

Depth ft.	Bottom Load psi	Top Load psi	Wet Density pcf	LL %	"Dry" %	"Wet" %	"Ave" %	Moisture %	% Finer No. 40	Moisture State	PI %	Volume Swell %	Free Swell %	PVR, In. Top Layer	PVR, In. Bottom Layer	Diff. In.	Mod. No. 40 Factor	Mod. Density Factor	Layer PVR In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	130	89	26.8	43.8	35.3	26	98	Dry	64	18.9	22.8	3.57	4.208	0.638	0.978	0.9615385	0.60
3-4	5.1	6.1	130	89	26.8	43.8	35.3	26	98	Dry	64	18.9	22.8	4.208	4.692	0.484	0.98	0.9615385	0.46
4-5	6.1	7.1	140	26	14.2	14.2	14.2	14	40	Dry	12	1.7	4.4	0.33	0.334	0.004	0.4	0.8928571	0.00
5-6	7.1	8.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
6-7	8.1	9.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
7-8	9.1	10.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
8-9	10.1	11.1	130	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
9-10	11.1	12.1	130	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
10-11	12.1	13.1	130	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
11-12	13.1	14.1	130	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
12-13	14.1	15.1	130	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
13-14	15.1	16.1	130	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
14-15	16.1	17.1	130	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
																			1.06

	PVR
No Overexcavation	1.06
Pavement (0-1 Foot)	1.06
Pavement (1-2 Feet)	1.06
1 Foot Overex.	0.46
2 Foot Overex.	0.00
3 Foot Overex.	0.00
4 Foot Overex.	0.00
5 Foot Overex.	0.00
6 Foot Overex.	0.00

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-16

Assumption: Top 2 Feet of Pavement Sections

Depth	Bottom Load	Top Load	Wet Density	LL	"Dry"	"Wet"	"Ave"	Moisture	% Finer	Moisture	PI	Volume Swell	Free Swell	PVR, In.		Diff.	Mod. No. 40	Mod. Density	Layer PVR
														Top Layer	Bottom Layer				
ft.	psi	psi	pcf	%	%	%	%	%	No. 40	State	%	%	%			In.	Factor	Factor	In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
3-4	5.1	6.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
4-5	6.1	7.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
5-6	7.1	8.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
6-7	8.1	9.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
7-8	9.1	10.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
8-9	10.1	11.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
9-10	11.1	12.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
10-11	12.1	13.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
11-12	13.1	14.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
12-13	14.1	15.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
13-14	15.1	16.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
14-15	16.1	17.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
																			0.00

	PVR
No Overexcavation	0.00
Pavement (0-1 Foot)	0.00
Pavement (1-2 Feet)	0.00
1 Foot Overex.	0.00
2 Foot Overex.	0.00
3 Foot Overex.	0.00
4 Foot Overex.	0.00
5 Foot Overex.	0.00
6 Foot Overex.	0.00

Determination of The Potential Vertical Rise, PVR

Test Method Tex-124-E

Project:	Kenney Fort Boulevard Segments 2 and 3
Project No.:	1500546
Date:	2/5/2018
Boring No.:	P-17

Assumption: Top 2 Feet of Pavement Sections

Depth ft.	Bottom Load psi	Top Load psi	Wet Density pcf	LL %	"Dry" %	"Wet" %	"Ave" %	Moisture %	% Finer No. 40	Moisture State	PI %	Volume Swell %	Free Swell %	PVR, In. Top Layer	PVR, In. Bottom Layer	Diff. In.	Mod. No. 40 Factor	Mod. Density Factor	Layer PVR In.
0-1	2.1	3.1	130	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	0.9615385	0.00
1-2	3.1	4.1	125	15	--	--	--	8	30	--	8	--	0	0	0	0	0.3	1	0.00
2-3	4.1	5.1	130	40	17.0	20.8	18.9	17	91	Dry	21	5.2	8.2	0.986	1.1	0.114	0.909	0.9615385	0.10
3-4	5.1	6.1	130	33	15.6	17.5	16.6	15	50	Dry	16	3.3	6.1	0.62	0.644	0.024	0.5	0.9615385	0.01
4-5	6.1	7.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
5-6	7.1	8.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
6-7	8.1	9.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
7-8	9.1	10.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
8-9	10.1	11.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
9-10	11.1	12.1	130	40	17.0	20.8	18.9	17	91	Dry	21	5.2	8.2	1.35	1.372	0.022	0.91	0.9615385	0.02
10-11	12.1	13.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
11-12	13.1	14.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
12-13	14.1	15.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
13-14	15.1	16.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
14-15	16.1	17.1	150	15	--	--	--	5	30	--	8	--	0	0	0	0	0.3	0.8333333	0.00
																			0.13

	PVR
No Overexcavation	0.13
Pavement (0-1 Foot)	0.13
Pavement (1-2 Feet)	0.13
1 Foot Overex.	0.03
2 Foot Overex.	0.02
3 Foot Overex.	0.02
4 Foot Overex.	0.02
5 Foot Overex.	0.02
6 Foot Overex.	0.02

SUMMARY OF EFFECTIVE PLASTICITY INDEX (EPI)
Kenney Fort Boulevard Segments 2 and 3
Round Rock, Williamson County, Texas
Corsair Project No. 1500546

Boring Number	Effective PI (%)		Modification Depth below Pavement	Remarks
	Native Condition*	Modified Condition		
P-01	10		Not Required	
P-08	50	29	2 Feet	
P-09	17		Not Required	
P-10	22		Not Required	
P-11	15		Not Required	
P-12	19		Not Required	
P-16	0		Not Required	
P-17	6		Not Required	

* The proposed roadway was assumed to be 2 feet above existing ground surface or at existing roadway elevations in the analysis.

EFFECTIVE PLASTICITY INDEX (EPI)
Kenney Fort Boulevard Segments 2 and 3
Round Rock, Williamson County, Texas
Corsair Project No. 1500546

Depth Range (ft.)	PI Values (%)											
	P-01	P-08	P-09	P-10	P-11	P-12	P-16	P-17				
0-2[1)]	0	0	0	0	0	0	0	0				
2-3	34	79	39	42	44	64	0	21				
3-4	23	79	39	42	44	64	0	16				
4-5	16	61	37	41	26	12	0	0				
5-6	0	61	16	41	0	0	0	0				
6-7	0	63	16	16	0	0	0	0				
7-8	0	63	0	16	0	0	0	0				
8-9	0	63	0	0	0	0	0	0				
9-10	0	63	0	0	0	0	0	21				

Over-Excavation	Effective PI (%)											
	P-01	P-08	P-09	P-10	P-11	P-12	P-16	P-17				
None	10	50	17	22	15	19	0	6				
1 Foot		40										
2 Feet		29										
3 Feet												
4 Feet												

1) Top 2 foot layer was assumed to be pavement sections in the analysis.

APPENDIX D

DESIGN 1, SECTION 1 CITY OF ROUND ROCK DACS REQUIREMENTS
DESIGN 2, SECTION 3 CITY OF ROUND ROCK DACS REQUIREMENTS
DESIGN 3, SECTION 4 CITY OF ROUND ROCK DACS REQUIREMENTS

Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

F P S21-1.3 *FLEXIBLE PAVEMENT SYSTEM* *Release:7-1-2015*

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/8/2018**	**1**

COMMENTS ABOUT THIS PROBLEM

Kenney Fort Boulevard Segments 2 and 3
Flexible Pavement
Section 1 (P-01)

BASIC DESIGN CRITERIA

LENGTH OF THE ANALYSIS PERIOD (YEARS)	20.0
MINIMUM TIME TO FIRST OVERLAY (YEARS)	15.0
MINIMUM TIME BETWEEN OVERLAYS (YEARS)	10.0
DESIGN CONFIDENCE LEVEL (95.0%)	C
SERVICEABILITY INDEX OF THE INITIAL STRUCTURE	4.5
FINAL SERVICEABILITY INDEX P2	3.0
SERVICEABILITY INDEX P1 AFTER AN OVERLAY	4.2
DISTRICT TEMPERATURE CONSTANT	31.0
SUBGRADE ELASTIC MODULUS by COUNTY (ksi)	6.00
INTEREST RATE OR TIME VALUE OF MONEY (PERCENT)	7.0

PROGRAM CONTROLS AND CONSTRAINTS

NUMBER OF SUMMARY OUTPUT PAGES DESIRED (8 DESIGNS/PAGE)	3
MAX FUNDS AVAILABLE PER SQ.YD. FOR INITIAL DESIGN (DOLLARS)	99.00
MAXIMUM ALLOWED THICKNESS OF INITIAL CONSTRUCTION (INCHES)	99.0
ACCUMULATED MAX DEPTH OF ALL OVERLAYS (INCHES) (EXCLUDING LEVEL-UP)	6.0

TRAFFIC DATA

ADT AT BEGINNING OF ANALYSIS PERIOD (VEHICLES/DAY)	5779.
ADT AT END OF TWENTY YEARS (VEHICLES/DAY)	48124.
ONE-DIRECTION 20YEAR 18 kip ESAL (millions)	9.000
AVERAGE APPROACH SPEED TO THE OVERLAY ZONE(MPH)	45.0
AVERAGE SPEED THROUGH OVERLAY ZONE (OVERLAY DIRECTION)(MPH)	45.0
AVERAGE SPEED THROUGH OVERLAY ZONE (NON-OVERLAY DIRECTION) (MPH)	45.0
PROPORTION OF ADT ARRIVING EACH HOUR OF CONSTRUCTION (PERCENT)	4.0
PERCENT TRUCKS IN ADT	11.0

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/8/2018**	**2**

INPUT DATA CONTINUED

CONSTRUCTION AND MAINTENANCE DATA

MINIMUM OVERLAY THICKNESS (INCHES)	2.0
OVERLAY CONSTRUCTION TIME (HOURS/DAY)	12.0
ASPHALTIC CONCRETE COMPACTED DENSITY (TONS/C.Y.)	1.90
ASPHALTIC CONCRETE PRODUCTION RATE (TONS/HOUR)	200.0
WIDTH OF EACH LANE (FEET)	12.0
FIRST YEAR COST OF ROUTINE MAINTENANCE (DOLLARS/LANE-MILE)	0.00
ANNUAL INCREMENTAL INCREASE IN MAINTENANCE COST (DOLLARS/LANE-MILE)	0.00

DETOUR DESIGN FOR OVERLAYS

TRAFFIC MODEL USED DURING OVERLAYING	3
TOTAL NUMBER OF LANES OF THE FACILITY	6
NUMBER OF OPEN LANES IN RESTRICTED ZONE (OVERLAY DIRECTION)	2
NUMBER OF OPEN LANES IN RESTRICTED ZONE (NON-OVERLAY DIRECTION)	3
DISTANCE TRAFFIC IS SLOWED (OVERLAY DIRECTION) (MILES)	0.60
DISTANCE TRAFFIC IS SLOWED (NON-OVERLAY DIRECTION) (MILES)	0.00
DETOUR DISTANCE AROUND THE OVERLAY ZONE (MILES)	0.00

PAVING MATERIALS INFORMATION

LAYER	CODE	MATERIALS NAME	COST PER CY	E MODULUS	POISSON RATIO	MIN. DEPTH	MAX. DEPTH	SALVAGE PCT.
1	C	DENSE-GRADED HMA T	115.00	650000.	0.35	8.50	8.50	30.00
2	M	FLEXIBLE BASE	37.00	40000.	0.35	11.00	12.00	75.00
3	M	FLEXIBLE BASE	37.00	40000.	0.35	12.00	12.00	75.00
4	R	LIME(CEMENT) STAB	15.00	20000.	0.30	10.00	10.00	70.00
5	T	SUBGRADE	2.00	6000.	0.40	200.00	200.00	90.00

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

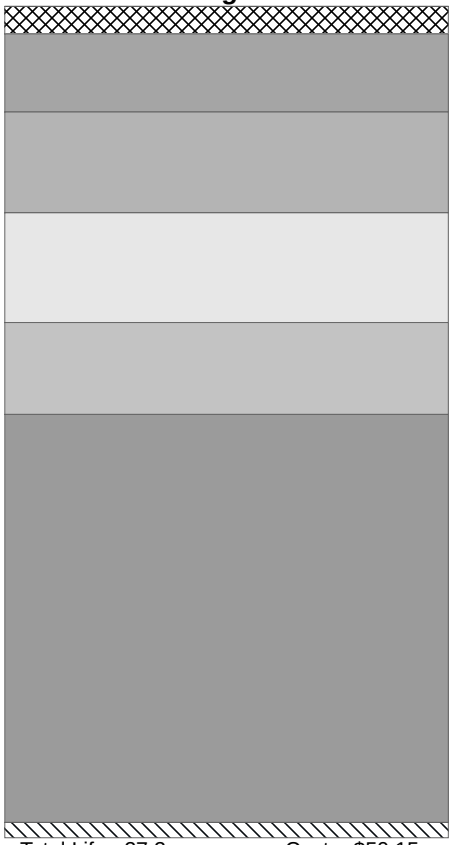
PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/8/2018**	**3**

C. LEVEL C SUMMARY OF THE BEST DESIGN STRATEGIES
IN ORDER OF INCREASING TOTAL COST
1

MATERIAL ARRANGEMENT	CMMR
INIT. CONST. COST	54.96
OVERLAY CONST. COST	3.25
USER COST	0.00
ROUTINE MAINT. COST	0.00
SALVAGE VALUE	-8.06
TOTAL COST	50.15
NUMBER OF LAYERS	4
LAYER DEPTH (INCHES)	
D(1)	8.50
D(2)	11.00
D(3)	12.00
D(4)	10.00
NO.OF PERF.PERIODS	2
PERF. TIME (YEARS)	
T(1)	16.
T(2)	27.
OVERLAY POLICY(INCH) (INCLUDING LEVEL-UP)	
O(1)	3.0

THE TOTAL NUMBER OF FEASIBLE DESIGNS CONSIDERED WAS 4

Design- 1



Total Life: 27.2 years Cost: $50.15

Thick (in)	Modulus (ksi)	Poisson's Ratio	Mat.Type
3.00			Overlay
8.50	650.0	0.35	DENSE-GRADED HMA Thick
11.00	40.0	0.35	FLEXIBLE BASE
12.00	40.0	0.35	FLEXIBLE BASE
10.00	20.0	0.30	LIME(CEMENT) STAB SUBG
200.00	6.0	0.40	SUBGRADE

Performance:

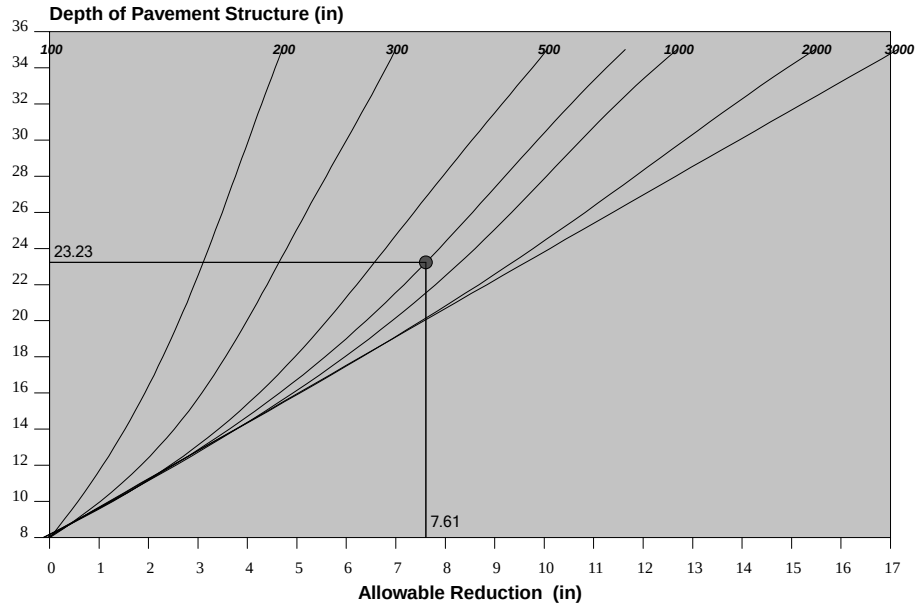
No. of Perf. Period	2
Perf. Time (year)	16.2,27.2
Overlay Policy (in)	3.00

Cost:

Initial Construction Cost	54.958
Overlay Construction Cost	3.246
User Cost	0.000
Routine Maintain Cost	0.000
Salvage Value	-8.059
Total Cost of Pavement	50.145

FPS 21 Feasible Design Plotting Output (FPS21-1.3Release:7-1-2015)			
Highway	KENNEY FOR	Problem	001
C-S-J	NA - NA - NA	Date	2/8/2018
District	Austin	County	WILLIAMSON
Design Type:User Defined Pavement Design			

	Thickness (inches)	Modulus (ksi)	Poisson's Ratio	Material Name
DENSE-GRADED HMA Thick	8.50	650.00	0.35	DENSE-GRADED HMA Thick
FLEXIBLE BASE	11.00	40.00	0.35	FLEXIBLE BASE
FLEXIBLE BASE	12.00	40.00	0.35	FLEXIBLE BASE
LIME(CEMENT) STAB SUBG	10.00	20.00	0.30	LIME(CEMENT) STAB SUBG
SUBGRADE	200.00	6.00	0.40	SUBGRADE
Bed Rock		600.00	0.15	Bed Rock



Thickness Reduction Chart for Stabilized Layers

INPUT PARAMETERS:

The Heaviest Wheel Loads Daily (ATHWLD)	11500.0 (lb)
Percentage of TandemAxles	40.0 (%)
Modified Cohesionmeter Value	800.0
Design Wheel Load	11500.0 (lb)
Subgrade Texas Triaxial Class Number (TTC) Calculated TTC based on input soil PI	5.67
User Input Sub-Grade Plasticity Index (PI)	34.00

RESULT:

Triaxial Thickness Required	23.2 (in)
The FPS Design Thickness	41.5 (in)
Allowable Thickness Reduction	7.6 (in)
Modified Triaxial Thickness	15.6 (in)

TRIAXIAL CHECK CONCLUSION:

The Design OK !

FPS 21 Triaxial Design Check Output		**(FPS21-1.3Release:7-1-2015)**	
Highway	KENNEY FOR	Problem	001
C-S-J	NA - NA - NA	Date	2/8/2018
District	Austin	County	WILLIAMSON
Design Type:User Defined Pavement Design			

Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

F P S21-1.3 *FLEXIBLE PAVEMENT SYSTEM* *Release:7-1-2015*

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/9/2018**	**1**

COMMENTS ABOUT THIS PROBLEM

Kenney Fort Boulevard Segments 2 and 3
Flexible Pavement
Section 3 (P-08)

BASIC DESIGN CRITERIA

LENGTH OF THE ANALYSIS PERIOD (YEARS)	20.0
MINIMUM TIME TO FIRST OVERLAY (YEARS)	15.0
MINIMUM TIME BETWEEN OVERLAYS (YEARS)	10.0
DESIGN CONFIDENCE LEVEL (95.0%)	C
SERVICEABILITY INDEX OF THE INITIAL STRUCTURE	4.5
FINAL SERVICEABILITY INDEX P2	3.0
SERVICEABILITY INDEX P1 AFTER AN OVERLAY	4.2
DISTRICT TEMPERATURE CONSTANT	31.0
SUBGRADE ELASTIC MODULUS by COUNTY (ksi)	25.00
INTEREST RATE OR TIME VALUE OF MONEY (PERCENT)	7.0

PROGRAM CONTROLS AND CONSTRAINTS

NUMBER OF SUMMARY OUTPUT PAGES DESIRED (8 DESIGNS/PAGE)	3
MAX FUNDS AVAILABLE PER SQ.YD. FOR INITIAL DESIGN (DOLLARS)	99.00
MAXIMUM ALLOWED THICKNESS OF INITIAL CONSTRUCTION (INCHES)	99.0
ACCUMULATED MAX DEPTH OF ALL OVERLAYS (INCHES) (EXCLUDING LEVEL-UP)	6.0

TRAFFIC DATA

ADT AT BEGINNING OF ANALYSIS PERIOD (VEHICLES/DAY)	5779.
ADT AT END OF TWENTY YEARS (VEHICLES/DAY)	48124.
ONE-DIRECTION 20YEAR 18 kip ESAL (millions)	9.000
AVERAGE APPROACH SPEED TO THE OVERLAY ZONE(MPH)	45.0
AVERAGE SPEED THROUGH OVERLAY ZONE (OVERLAY DIRECTION)(MPH)	45.0
AVERAGE SPEED THROUGH OVERLAY ZONE (NON-OVERLAY DIRECTION) (MPH)	45.0
PROPORTION OF ADT ARRIVING EACH HOUR OF CONSTRUCTION (PERCENT)	4.0
PERCENT TRUCKS IN ADT	11.0

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/9/2018**	**2**

INPUT DATA CONTINUED

CONSTRUCTION AND MAINTENANCE DATA

MINIMUM OVERLAY THICKNESS (INCHES)	2.0
OVERLAY CONSTRUCTION TIME (HOURS/DAY)	12.0
ASPHALTIC CONCRETE COMPACTED DENSITY (TONS/C.Y.)	1.90
ASPHALTIC CONCRETE PRODUCTION RATE (TONS/HOUR)	200.0
WIDTH OF EACH LANE (FEET)	12.0
FIRST YEAR COST OF ROUTINE MAINTENANCE (DOLLARS/LANE-MILE)	0.00
ANNUAL INCREMENTAL INCREASE IN MAINTENANCE COST (DOLLARS/LANE-MILE)	0.00

DETOUR DESIGN FOR OVERLAYS

TRAFFIC MODEL USED DURING OVERLAYING	3
TOTAL NUMBER OF LANES OF THE FACILITY	6
NUMBER OF OPEN LANES IN RESTRICTED ZONE (OVERLAY DIRECTION)	2
NUMBER OF OPEN LANES IN RESTRICTED ZONE (NON-OVERLAY DIRECTION)	3
DISTANCE TRAFFIC IS SLOWED (OVERLAY DIRECTION) (MILES)	0.60
DISTANCE TRAFFIC IS SLOWED (NON-OVERLAY DIRECTION) (MILES)	0.00
DETOUR DISTANCE AROUND THE OVERLAY ZONE (MILES)	0.00

PAVING MATERIALS INFORMATION

LAYER	CODE	MATERIALS NAME	COST PER CY	E MODULUS	POISSON RATIO	MIN. DEPTH	MAX. DEPTH	SALVAGE PCT.
1	C	DENSE-GRADED HMA T	115.00	650000.	0.35	8.50	8.50	30.00
2	M	FLEXIBLE BASE	37.00	40000.	0.35	10.00	10.00	75.00
3	M	FLEXIBLE BASE	37.00	40000.	0.35	12.00	12.00	75.00
4	T	SUBGRADE	2.00	25000.	0.40	200.00	200.00	90.00

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

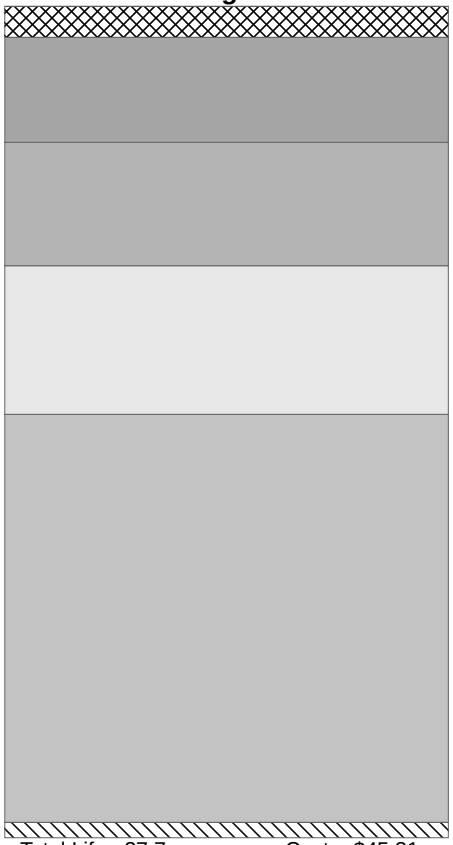
PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/9/2018**	**3**

C. LEVEL C SUMMARY OF THE BEST DESIGN STRATEGIES
IN ORDER OF INCREASING TOTAL COST
1

MATERIAL ARRANGEMENT	CMM
INIT. CONST. COST	49.76
OVERLAY CONST. COST	2.53
USER COST	0.00
ROUTINE MAINT. COST	0.00
SALVAGE VALUE	-6.98
TOTAL COST	45.31
NUMBER OF LAYERS	3
LAYER DEPTH (INCHES)	
D(1)	8.50
D(2)	10.00
D(3)	12.00
NO.OF PERF.PERIODS	2
PERF. TIME (YEARS)	
T(1)	17.
T(2)	28.
OVERLAY POLICY(INCH) (INCLUDING LEVEL-UP)	
O(1)	2.5

THE TOTAL NUMBER OF FEASIBLE DESIGNS CONSIDERED WAS 1

Design- 1



Total Life: 27.7 years Cost: $45.31

Thick (in)	Modulus (ksi)	Poisson's Ratio	Mat.Type
2.50			Overlay
8.50	650.0	0.35	DENSE-GRADED HMA Thick
10.00	40.0	0.35	FLEXIBLE BASE
12.00	40.0	0.35	FLEXIBLE BASE
200.00	25.0	0.40	SUBGRADE

Performance:

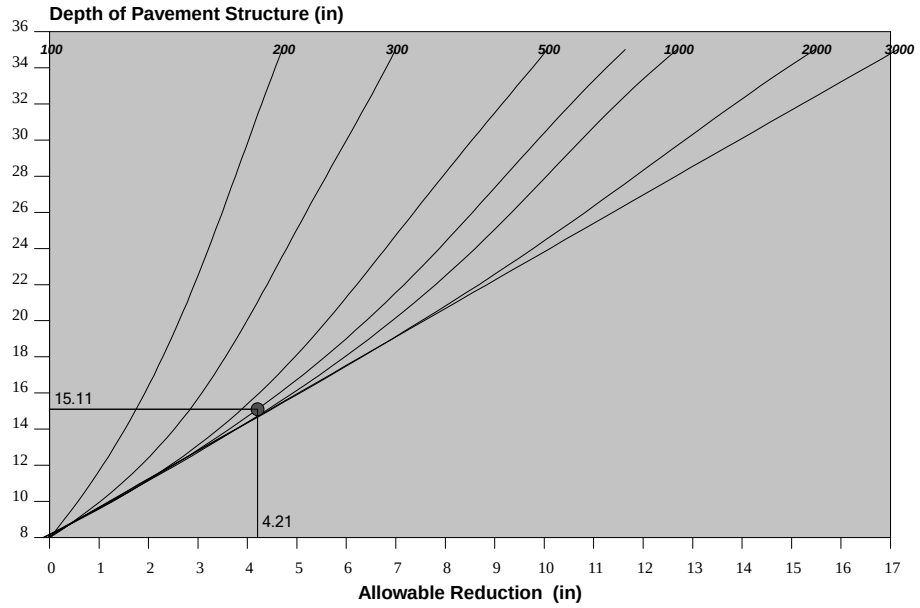
No. of Perf. Period	2
Perf. Time (year)	17.3,27.7
Overlay Policy (in)	2.50

Cost:

Initial Construction Cost	49.764
Overlay Construction Cost	2.528
User Cost	0.000
Routine Maintain Cost	0.000
Salvage Value	-6.983
Total Cost of Pavement	45.309

FPS 21 Feasible Design Plotting Output (FPS21-1.3Release:7-1-2015)			
Highway	KENNEY FOR	Problem	001
C-S-J	NA - NA - NA	Date	2/9/2018
District	Austin	County	WILLIAMSON
Design Type:User Defined Pavement Design			

	Thickness (inches)	Modulus (ksi)	Poisson's Ratio	Material Name
DENSE-GRADED HMA Thick	8.50	650.00	0.35	DENSE-GRADED HMA Thick
FLEXIBLE BASE	10.00	40.00	0.35	FLEXIBLE BASE
FLEXIBLE BASE	12.00	40.00	0.35	FLEXIBLE BASE
SUBGRADE	200.00	25.00	0.40	SUBGRADE
Bed Rock		2500.00	0.15	Bed Rock



Thickness Reduction Chart for Stabilized Layers

INPUT PARAMETERS:

The Heaviest Wheel Loads Daily (ATHWLD)	11500.0 (lb)
Percentage of TandemAxles	40.0 (%)
Modified Cohesionmeter Value	800.0
Design Wheel Load	11500.0 (lb)
Subgrade Texas Triaxial Class Number (TTC) Calculated TTC based on input soil PI	4.41
User Input Sub-Grade Plasticity Index (PI)	19.00

RESULT:

Triaxial Thickness Required	15.1 (in)
The FPS Design Thickness	30.5 (in)
Allowable Thickness Reduction	4.2 (in)
Modified Triaxial Thickness	10.9 (in)

TRIAXIAL CHECK CONCLUSION:

The Design OK !

FPS 21 Triaxial Design Check Output	**(FPS21-1.3Release:7-1-2015)**		
Highway	KENNEY FOR	Problem	001
C-S-J	NA - NA - NA	Date	2/9/2018
District	Austin	County	WILLIAMSON
Design Type:User Defined Pavement Design			

Texas Department of Transportation

TEXAS DEPARTMENT OF TRANSPORTATION

F P S21-1.3 *FLEXIBLE PAVEMENT SYSTEM* *Release:7-1-2015*

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/9/2018**	**1**

COMMENTS ABOUT THIS PROBLEM

Kenney Fort Boulevard Segments 2 and 3
Flexible Pavement
Section 4 (P-09 to P-12, P16 and P-17)

BASIC DESIGN CRITERIA

LENGTH OF THE ANALYSIS PERIOD (YEARS)	20.0
MINIMUM TIME TO FIRST OVERLAY (YEARS)	15.0
MINIMUM TIME BETWEEN OVERLAYS (YEARS)	10.0
DESIGN CONFIDENCE LEVEL (95.0%)	C
SERVICEABILITY INDEX OF THE INITIAL STRUCTURE	4.5
FINAL SERVICEABILITY INDEX P2	3.0
SERVICEABILITY INDEX P1 AFTER AN OVERLAY	4.2
DISTRICT TEMPERATURE CONSTANT	31.0
SUBGRADE ELASTIC MODULUS by COUNTY (ksi)	6.00
INTEREST RATE OR TIME VALUE OF MONEY (PERCENT)	7.0

PROGRAM CONTROLS AND CONSTRAINTS

NUMBER OF SUMMARY OUTPUT PAGES DESIRED (8 DESIGNS/PAGE)	3
MAX FUNDS AVAILABLE PER SQ.YD. FOR INITIAL DESIGN (DOLLARS)	99.00
MAXIMUM ALLOWED THICKNESS OF INITIAL CONSTRUCTION (INCHES)	99.0
ACCUMULATED MAX DEPTH OF ALL OVERLAYS (INCHES) (EXCLUDING LEVEL-UP)	6.0

TRAFFIC DATA

ADT AT BEGINNING OF ANALYSIS PERIOD (VEHICLES/DAY)	5779.
ADT AT END OF TWENTY YEARS (VEHICLES/DAY)	48124.
ONE-DIRECTION 20YEAR 18 kip ESAL (millions)	9.000
AVERAGE APPROACH SPEED TO THE OVERLAY ZONE(MPH)	45.0
AVERAGE SPEED THROUGH OVERLAY ZONE (OVERLAY DIRECTION)(MPH)	45.0
AVERAGE SPEED THROUGH OVERLAY ZONE (NON-OVERLAY DIRECTION) (MPH)	45.0
PROPORTION OF ADT ARRIVING EACH HOUR OF CONSTRUCTION (PERCENT)	4.0
PERCENT TRUCKS IN ADT	11.0

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/9/2018**	**2**

INPUT DATA CONTINUED

CONSTRUCTION AND MAINTENANCE DATA

MINIMUM OVERLAY THICKNESS (INCHES)	2.0
OVERLAY CONSTRUCTION TIME (HOURS/DAY)	12.0
ASPHALTIC CONCRETE COMPACTED DENSITY (TONS/C.Y.)	1.90
ASPHALTIC CONCRETE PRODUCTION RATE (TONS/HOUR)	200.0
WIDTH OF EACH LANE (FEET)	12.0
FIRST YEAR COST OF ROUTINE MAINTENANCE (DOLLARS/LANE-MILE)	0.00
ANNUAL INCREMENTAL INCREASE IN MAINTENANCE COST (DOLLARS/LANE-MILE)	0.00

DETOUR DESIGN FOR OVERLAYS

TRAFFIC MODEL USED DURING OVERLAYING	3
TOTAL NUMBER OF LANES OF THE FACILITY	6
NUMBER OF OPEN LANES IN RESTRICTED ZONE (OVERLAY DIRECTION)	2
NUMBER OF OPEN LANES IN RESTRICTED ZONE (NON-OVERLAY DIRECTION)	3
DISTANCE TRAFFIC IS SLOWED (OVERLAY DIRECTION) (MILES)	0.60
DISTANCE TRAFFIC IS SLOWED (NON-OVERLAY DIRECTION) (MILES)	0.00
DETOUR DISTANCE AROUND THE OVERLAY ZONE (MILES)	0.00

PAVING MATERIALS INFORMATION

LAYER	MATERIALS CODE	NAME	COST PER CY	E MODULUS	POISSON RATIO	MIN. DEPTH	MAX. DEPTH	SALVAGE PCT.
1	C	DENSE-GRADED HMA T	115.00	650000.	0.35	8.50	8.50	30.00
2	M	FLEXIBLE BASE	37.00	40000.	0.35	12.00	12.00	75.00
3	M	FLEXIBLE BASE	37.00	40000.	0.35	12.00	12.00	75.00
4	R	LIME(CEMENT) STAB	15.00	20000.	0.30	12.00	12.00	70.00
5	T	SUBGRADE	2.00	6000.	0.40	200.00	200.00	90.00

PAVEMENT DESIGN TYPE # 7 -- USER DEFINED PAVEMENT

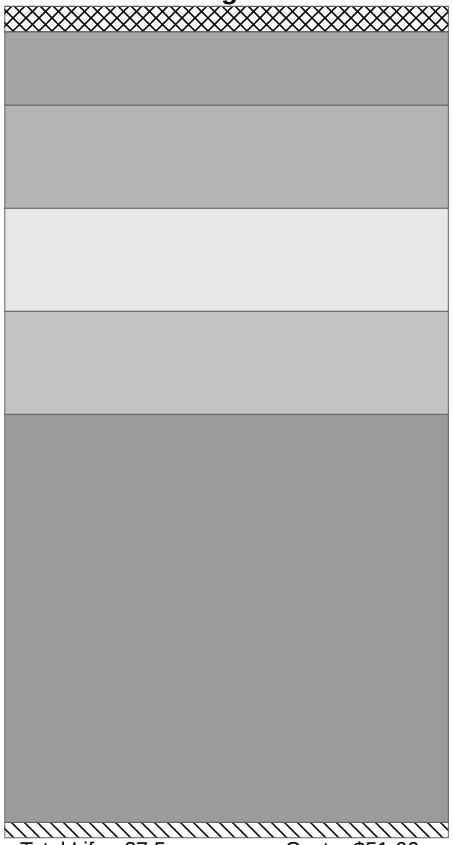
PROB	DIST.-14	COUNTY-246	CONT.	SECT.	JOB	HIGHWAY	DATE	PAGE
001	**Austin**	**WILLIAMSON**	**NA**	**NA**	**NA**	**KENNEY FOR**	**2/9/2018**	**3**

C. LEVEL C SUMMARY OF THE BEST DESIGN STRATEGIES
IN ORDER OF INCREASING TOTAL COST
1

MATERIAL ARRANGEMENT	CMMR
INIT. CONST. COST	56.82
OVERLAY CONST. COST	3.25
USER COST	0.00
ROUTINE MAINT. COST	0.00
SALVAGE VALUE	-8.41
TOTAL COST	51.66
NUMBER OF LAYERS	4
LAYER DEPTH (INCHES)	
D(1)	8.50
D(2)	12.00
D(3)	12.00
D(4)	12.00
NO.OF PERF.PERIODS	2
PERF. TIME (YEARS)	
T(1)	16.
T(2)	28.
OVERLAY POLICY(INCH) (INCLUDING LEVEL-UP)	
O(1)	3.0

THE TOTAL NUMBER OF FEASIBLE DESIGNS CONSIDERED WAS 1

Design- 1



Total Life: 27.5 years Cost: $51.66

Thick (in)	Modulus (ksi)	Poisson's Ratio	Mat.Type
3.00			Overlay
8.50	650.0	0.35	DENSE-GRADED HMA Thick
12.00	40.0	0.35	FLEXIBLE BASE
12.00	40.0	0.35	FLEXIBLE BASE
12.00	20.0	0.30	LIME(CEMENT) STAB SUBG
200.00	6.0	0.40	SUBGRADE

Performance:

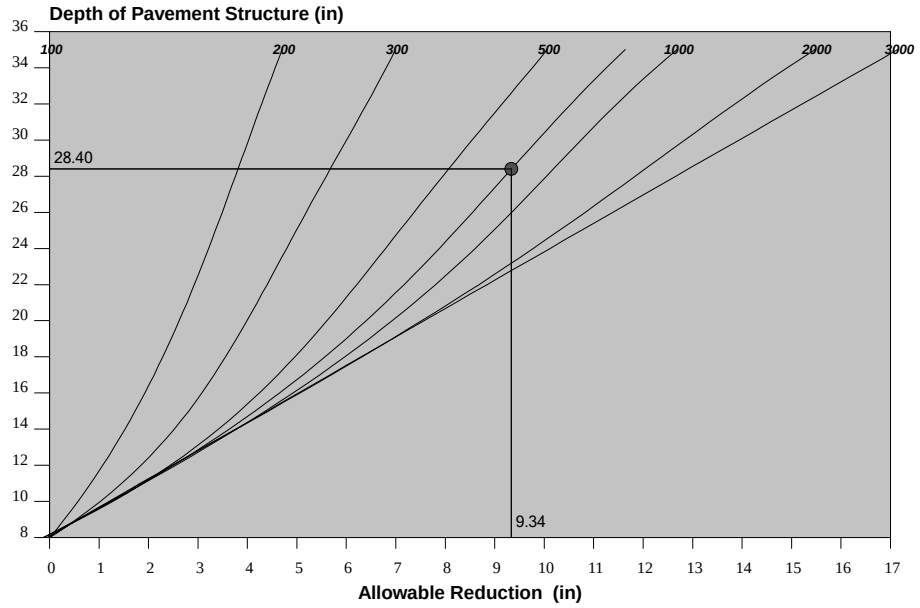
No. of Perf. Period	2
Perf. Time (year)	16.4,27.5
Overlay Policy (in)	3.00

Cost:

Initial Construction Cost	56.819
Overlay Construction Cost	3.246
User Cost	0.000
Routine Maintain Cost	0.000
Salvage Value	-8.409
Total Cost of Pavement	51.656

FPS 21 Feasible Design Plotting Output (FPS21-1.3Release:7-1-2015)			
Highway	KENNEY FOR	Problem	001
C-S-J	NA - NA - NA	Date	2/9/2018
District	Austin	County	WILLIAMSON
Design Type:User Defined Pavement Design			

	Thickness (inches)	Modulus (ksi)	Poisson's Ratio	Material Name
DENSE-GRADED HMA Thick	8.50	650.00	0.35	DENSE-GRADED HMA Thick
FLEXIBLE BASE	12.00	40.00	0.35	FLEXIBLE BASE
FLEXIBLE BASE	12.00	40.00	0.35	FLEXIBLE BASE
LIME(CEMENT) STAB SUBG	12.00	20.00	0.30	LIME(CEMENT) STAB SUBG
SUBGRADE	200.00	6.00	0.40	SUBGRADE
Bed Rock		600.00	0.15	Bed Rock



Thickness Reduction Chart for Stabilized Layers

INPUT PARAMETERS:

The Heaviest Wheel Loads Daily (ATHWLD)	11500.0 (lb)
Percentage of TandemAxles	40.0 (%)
Modified Cohesionmeter Value	800.0
Design Wheel Load	11500.0 (lb)
Subgrade Texas Triaxial Class Number (TTC) Calculated TTC based on input soil PI	6.28
User Input Sub-Grade Plasticity Index (PI)	60.00

RESULT:

Triaxial Thickness Required	28.4 (in)
The FPS Design Thickness	44.5 (in)
Allowable Thickness Reduction	9.3 (in)
Modified Triaxial Thickness	19.1 (in)

TRIAXIAL CHECK CONCLUSION:

The Design OK !

FPS 21 Triaxial Design Check Output		**(FPS21-1.3Release:7-1-2015)**	
Highway	KENNEY FOR	Problem	001
C-S-J	NA - NA - NA	Date	2/9/2018
District	Austin	County	WILLIAMSON
Design Type:User Defined Pavement Design			

Attachment E

GeoSearch Radius Report

Radius Report

GeoLens by GeoSearch

Target Property:

Kenney Fort Blvd from Forest Creek Dr to SH 45
Round Rock, Williamson County, Texas

Prepared For:

CP&Y-San Antonio

Order #: 127211
Job #: 296180
Date: 05/29/2019

Table of Contents

Disclaimer

This report was designed by GeoSearch to meet or exceed the records search requirements of the All Appropriate Inquiries Rule (40 CFR ï¿½312.26) and the current version of the ASTM International E1527, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process or, if applicable, the custom requirements requested by the entity that ordered this report. The records and databases of records used to compile this report were collected from various federal,state and local governmental entities. It is the goal of GeoSearch to meet or exceed the 40 CFR ï¿½312.26 and E1527 requirements for updating records by using the best available technology. GeoSearch contacts the appropriate governmental entities on a recurring basis. Depending on the frequency with which a record source or database of records is updated by the governmental entity, the data used to prepare this report may be updated monthly, quarterly, semi-annually, or annually.

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Target Property Summary

Target Property Information

Kenney Fort Blvd from Forest Creek Dr to SH 45
Round Rock, Texas

Coordinates
Area centroid (-97.632906, 30.4975637)
731 feet above sea level

USGS Quadrangle
Round Rock, TX
Pflugerville West, TX

Geographic Coverage Information

County/Parish: Williamson (TX) , Travis (TX)
ZipCode(s):
Pflugerville TX: 78660
Round Rock TX: 78664, 78665

Database Summary

FEDERAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
EMERGENCY RESPONSE NOTIFICATION SYSTEM	ERNSTX	0	0	TP/AP
FEDERAL ENGINEERING INSTITUTIONAL CONTROL SITES	EC	0	0	TP/AP
LAND USE CONTROL INFORMATION SYSTEM	LUCIS	0	0	TP/AP
RCRA SITES WITH CONTROLS	RCRASC	0	0	TP/AP
RESOURCE CONSERVATION & RECOVERY ACT - GENERATOR	RCRAGR06	0	0	0.1250
RESOURCE CONSERVATION & RECOVERY ACT - NON-GENERATOR	RCRANGR06	0	0	0.1250
BROWNFIELDS MANAGEMENT SYSTEM	BF	0	0	0.5000
DELISTED NATIONAL PRIORITIES LIST	DNPL	0	0	0.5000
NO LONGER REGULATED RCRA NON-CORRACTS TSD FACILITIES	NLRRCRAT	0	0	0.5000
RESOURCE CONSERVATION & RECOVERY ACT - NON-CORRACTS TREATMENT, STORAGE & DISPOSAL FACILITIES	RCRAT	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM	SEMS	0	0	0.5000
SUPERFUND ENTERPRISE MANAGEMENT SYSTEM ARCHIVED SITE INVENTORY	SEMSARCH	0	0	0.5000
NATIONAL PRIORITIES LIST	NPL	0	0	1.0000
NO LONGER REGULATED RCRA CORRECTIVE ACTION FACILITIES	NLRRCRAC	0	0	1.0000
PROPOSED NATIONAL PRIORITIES LIST	PNPL	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - CORRECTIVE ACTION FACILITIES	RCRAC	0	0	1.0000
RESOURCE CONSERVATION & RECOVERY ACT - SUBJECT TO CORRECTIVE ACTION FACILITIES	RCRASUBC	0	0	1.0000

SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
AEROMETRIC INFORMATION RETRIEVAL SYSTEM / AIR FACILITY SUBSYSTEM	AIRSAFS	0	0	TP/AP
BIENNIAL REPORTING SYSTEM	BRS	0	0	TP/AP
CERCLIS LIENS	SFLIENS	0	0	TP/AP
CLANDESTINE DRUG LABORATORY LOCATIONS	CDL	0	0	TP/AP
EPA DOCKET DATA	DOCKETS	0	0	TP/AP
ENFORCEMENT AND COMPLIANCE HISTORY INFORMATION	ECHOR06	2	0	TP/AP
FACILITY REGISTRY SYSTEM	FRSTX	3	0	TP/AP

Database Summary

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
HAZARDOUS MATERIALS INCIDENT REPORTING SYSTEM	HMIRSR06	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM (FORMERLY DOCKETS)	ICIS	0	0	TP/AP
INTEGRATED COMPLIANCE INFORMATION SYSTEM NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	ICISNPDES	1	0	TP/AP
MATERIAL LICENSING TRACKING SYSTEM	MLTS	0	0	TP/AP
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM	NPDESR06	0	0	TP/AP
PCB ACTIVITY DATABASE SYSTEM	PADS	0	0	TP/AP
PERMIT COMPLIANCE SYSTEM	PCSR06	0	0	TP/AP
SEMS LIEN ON PROPERTY	SEMSLIENS	0	0	TP/AP
SECTION SEVEN TRACKING SYSTEM	SSTS	0	0	TP/AP
TOXIC SUBSTANCE CONTROL ACT INVENTORY	TSCA	0	0	TP/AP
TOXICS RELEASE INVENTORY	TRI	0	0	TP/AP
ALTERNATIVE FUELING STATIONS	ALTFUELS	0	0	0.2500
FEMA OWNED STORAGE TANKS	FEMAUST	0	0	0.2500
HISTORICAL GAS STATIONS	HISTPST	0	0	0.2500
INTEGRATED COMPLIANCE INFORMATION SYSTEM DRYCLEANERS	ICISCLEANERS	0	0	0.2500
MINE SAFETY AND HEALTH ADMINISTRATION MASTER INDEX FILE	MSHA	0	0	0.2500
MINERAL RESOURCE DATA SYSTEM	MRDS	0	0	0.2500
OPEN DUMP INVENTORY	ODI	0	0	0.5000
SURFACE MINING CONTROL AND RECLAMATION ACT SITES	SMCRA	0	0	0.5000
URANIUM MILL TAILINGS RADIATION CONTROL ACT SITES	USUMTRCA	0	0	0.5000
DEPARTMENT OF DEFENSE SITES	DOD	0	0	1.0000
FORMER MILITARY NIKE MISSILE SITES	NMS	0	0	1.0000
FORMERLY USED DEFENSE SITES	FUDS	0	0	1.0000
FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM	FUSRAP	0	0	1.0000
RECORD OF DECISION SYSTEM	RODS	0	0	1.0000

SUB-TOTAL		6	0	

Database Summary

STATE (TX) LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
STATE INSTITUTIONAL/ENGINEERING CONTROL SITES	SIEC01	0	0	TP/AP
PETROLEUM STORAGE TANKS	PST	1	0	0.2500
BROWNFIELDS SITE ASSESSMENTS	BSA	0	0	0.5000
CLOSED & ABANDONED LANDFILL INVENTORY	CALF	0	0	0.5000
LEAKING PETROLEUM STORAGE TANKS	LPST	0	0	0.5000
MUNICIPAL SOLID WASTE LANDFILL SITES	MSWLF	0	0	0.5000
RAILROAD COMMISSION VCP AND BROWNFIELD SITES	RRCVCP	0	0	0.5000
VOLUNTARY CLEANUP PROGRAM SITES	VCP	0	0	0.5000
STATE SUPERFUND SITES	SF	0	0	1.0000
SUB-TOTAL		1	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
GROUNDWATER CONTAMINATION CASES	GWCC	0	0	TP/AP
HISTORIC GROUNDWATER CONTAMINATION CASES	HISTGWCC	0	0	TP/AP
LAND APPLICATION PERMITS	LANDAPP	0	0	TP/AP
MUNICIPAL SETTING DESIGNATIONS	MSD	0	0	TP/AP
NOTICE OF VIOLATIONS	NOV	0	0	TP/AP
SPILLS LISTING	SPILLS	0	0	TP/AP
TCEQ LIENS	LIENS	0	0	TP/AP
TIER I I CHEMICAL REPORTING PROGRAM FACILITIES	TIERII	0	0	TP/AP
DRY CLEANER REGISTRATION DATABASE	DCR	0	0	0.2500
INDUSTRIAL AND HAZARDOUS WASTE SITES	IHW	0	0	0.2500
PERMITTED INDUSTRIAL HAZARDOUS WASTE SITES	PIHW	0	0	0.2500
AFFECTED PROPERTY ASSESSMENT REPORTS	APAR	0	0	0.5000
DRY CLEANER REMEDIATION PROGRAM SITES	DCRPS	0	0	0.5000
INNOCENT OWNER / OPERATOR DATABASE	IOP	0	0	0.5000
RADIOACTIVE WASTE SITES	RWS	0	0	0.5000
RECYCLING FACILITIES	WMRF	0	0	0.5000
SALT CAVERNS FOR PETROLEUM STORAGE	STCV	0	0	0.5000
INDUSTRIAL AND HAZARDOUS WASTE CORRECTIVE ACTION SITES	IHWCA	0	0	1.0000

SUB-TOTAL		0	0	

Database Summary

LOCAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
CITY OF AUSTIN UNDERGROUND STORAGE TANKS	AUSTINUST	0	0	0.2500
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
EDWARDS AQUIFER PERMITS	EAP	0	0	TP/AP
CITY OF AUSTIN HISTORICAL UNDERGROUND STORAGE TANKS	AUSTINHISTUST	0	0	0.2500
SUB-TOTAL		0	0	

TRIBAL LISTING

Standard Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	USTR06	0	0	0.2500
LEAKING UNDERGROUND STORAGE TANKS ON TRIBAL LANDS	LUSTR06	0	0	0.5000
OPEN DUMP INVENTORY ON TRIBAL LANDS	ODINDIAN	0	0	0.5000
SUB-TOTAL		0	0	

Additional Environmental Records

Database	Acronym	Locatable	Unlocatable	Search Radius (miles)
INDIAN RESERVATIONS	INDIANRES	0	0	1.0000
SUB-TOTAL		0	0	
TOTAL		7	0	

Database Radius Summary

FEDERAL LISTING

*Standard environmental records are displayed in **bold**.*

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
AIRSAFS	0.0200	0	NS	NS	NS	NS	NS	0
BRS	0.0200	0	NS	NS	NS	NS	NS	0
CDL	0.0200	0	NS	NS	NS	NS	NS	0
DOCKETS	0.0200	0	NS	NS	NS	NS	NS	0
EC	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
ECHOR06	0.0200	2	NS	NS	NS	NS	NS	2
ERNSTX	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
FRSTX	0.0200	3	NS	NS	NS	NS	NS	3
HMIRSR06	0.0200	0	NS	NS	NS	NS	NS	0
ICIS	0.0200	0	NS	NS	NS	NS	NS	0
ICISNPDES	0.0200	1	NS	NS	NS	NS	NS	1
LUCIS	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
MLTS	0.0200	0	NS	NS	NS	NS	NS	0
NPDESR06	0.0200	0	NS	NS	NS	NS	NS	0
PADS	0.0200	0	NS	NS	NS	NS	NS	0
PCSR06	0.0200	0	NS	NS	NS	NS	NS	0
RCRASC	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
SEMSLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SFLIENS	0.0200	0	NS	NS	NS	NS	NS	0
SSTS	0.0200	0	NS	NS	NS	NS	NS	0
TRI	0.0200	0	NS	NS	NS	NS	NS	0
TSCA	0.0200	0	NS	NS	NS	NS	NS	0
RCRAGR06	**0.1250**	**0**	**0**	**NS**	**NS**	**NS**	**NS**	**0**
RCRANGR06	**0.1250**	**0**	**0**	**NS**	**NS**	**NS**	**NS**	**0**
ALTFUELS	0.2500	0	0	0	NS	NS	NS	0
FEMAUST	0.2500	0	0	0	NS	NS	NS	0
HISTPST	0.2500	0	0	0	NS	NS	NS	0
ICISCLEANERS	0.2500	0	0	0	NS	NS	NS	0
MRDS	0.2500	0	0	0	NS	NS	NS	0
MSHA	0.2500	0	0	0	NS	NS	NS	0
BF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
DNPL	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
NLRRCRAT	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
ODI	0.5000	0	0	0	0	NS	NS	0
RCRAT	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**

Database Radius Summary

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
SEMS	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
SEMSARCH	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
SMCRA	0.5000	0	0	0	0	NS	NS	0
USUMTRCA	0.5000	0	0	0	0	NS	NS	0
DOD	1.0000	0	0	0	0	0	NS	0
FUDS	1.0000	0	0	0	0	0	NS	0
FUSRAP	1.0000	0	0	0	0	0	NS	0
NLRRCRAC	**1.0000**	**0**	**0**	**0**	**0**	**0**	**NS**	**0**
NMS	1.0000	0	0	0	0	0	NS	0
NPL	**1.0000**	**0**	**0**	**0**	**0**	**0**	**NS**	**0**
PNPL	**1.0000**	**0**	**0**	**0**	**0**	**0**	**NS**	**0**
RCRAC	**1.0000**	**0**	**0**	**0**	**0**	**0**	**NS**	**0**
RCRASUBC	**1.0000**	**0**	**0**	**0**	**0**	**0**	**NS**	**0**
RODS	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		6	0	0	0	0	0	6

Database Radius Summary

STATE (TX) LISTING

*Standard environmental records are displayed in **bold**.*

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
GWCC	0.0200	0	NS	NS	NS	NS	NS	0
HISTGWCC	0.0200	0	NS	NS	NS	NS	NS	0
LANDAPP	0.0200	0	NS	NS	NS	NS	NS	0
LIENS	0.0200	0	NS	NS	NS	NS	NS	0
MSD	0.0200	0	NS	NS	NS	NS	NS	0
NOV	0.0200	0	NS	NS	NS	NS	NS	0
SIEC01	**0.0200**	**0**	**NS**	**NS**	**NS**	**NS**	**NS**	**0**
SPILLS	0.0200	0	NS	NS	NS	NS	NS	0
TIERII	0.0200	0	NS	NS	NS	NS	NS	0
DCR	0.2500	0	0	0	NS	NS	NS	0
IHW	0.2500	0	0	0	NS	NS	NS	0
PIHW	0.2500	0	0	0	NS	NS	NS	0
PST	**0.2500**	**0**	**1**	**0**	**NS**	**NS**	**NS**	**1**
APAR	0.5000	0	0	0	0	NS	NS	0
BSA	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
CALF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
DCRPS	0.5000	0	0	0	0	NS	NS	0
IOP	0.5000	0	0	0	0	NS	NS	0
LPST	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
MSWLF	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
RRCVCP	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
RWS	0.5000	0	0	0	0	NS	NS	0
STCV	0.5000	0	0	0	0	NS	NS	0
VCP	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
WMRF	0.5000	0	0	0	0	NS	NS	0
IHWCA	1.0000	0	0	0	0	0	NS	0
SF	**1.0000**	**0**	**0**	**0**	**0**	**0**	**NS**	**0**

SUB-TOTAL		0	1	0	0	0	0	1

Database Radius Summary

LOCAL LISTING

*Standard environmental records are displayed in **bold**.*

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
EAP	0.0200	0	NS	NS	NS	NS	NS	0
AUSTINHISTUST	0.2500	0	0	0	NS	NS	NS	0
AUSTINUST	**0.2500**	**0**	**0**	**0**	**NS**	**NS**	**NS**	**0**

SUB-TOTAL		0	0	0	0	0	0	0

Database Radius Summary

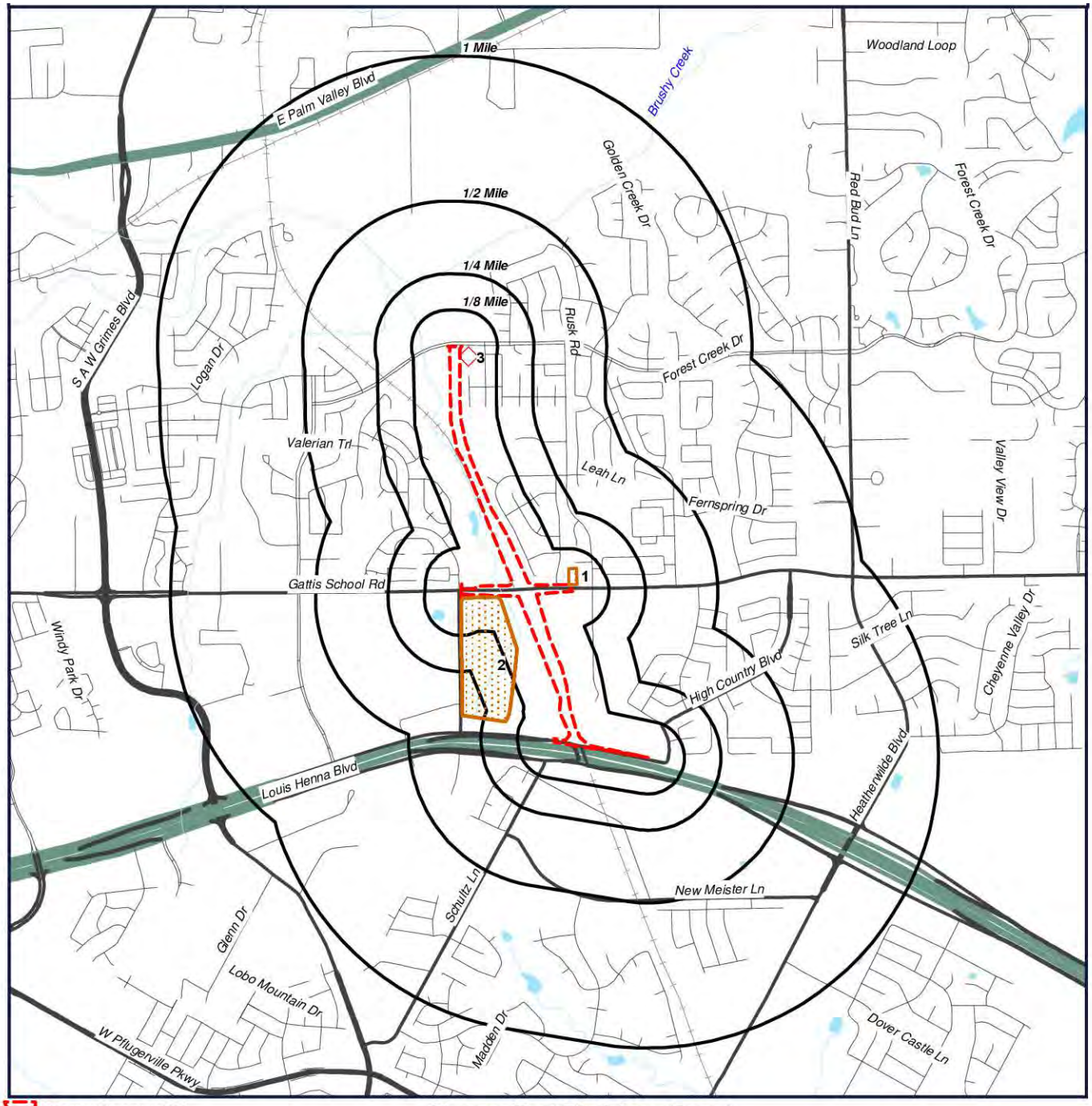
TRIBAL LISTING

*Standard environmental records are displayed in **bold**.*

Acronym	Search Radius (miles)	TP/AP (0 - 0.02)	1/8 Mile (> TP/AP)	1/4 Mile (> 1/8)	1/2 Mile (> 1/4)	1 Mile (> 1/2)	> 1 Mile	Total
USTR06	**0.2500**	**0**	**0**	**0**	**NS**	**NS**	**NS**	**0**
LUSTR06	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
ODINDIAN	**0.5000**	**0**	**0**	**0**	**0**	**NS**	**NS**	**0**
INDIANRES	1.0000	0	0	0	0	0	NS	0
SUB-TOTAL		0	0	0	0	0	0	0
TOTAL		6	1	0	0	0	0	7

NOTES:
NS = NOT SEARCHED
TP/AP = TARGET PROPERTY/ADJACENT PROPERTY

Radius Map 1



Target Property (TP)
FRSTX
ECHOR06
ICISNPDES
PST

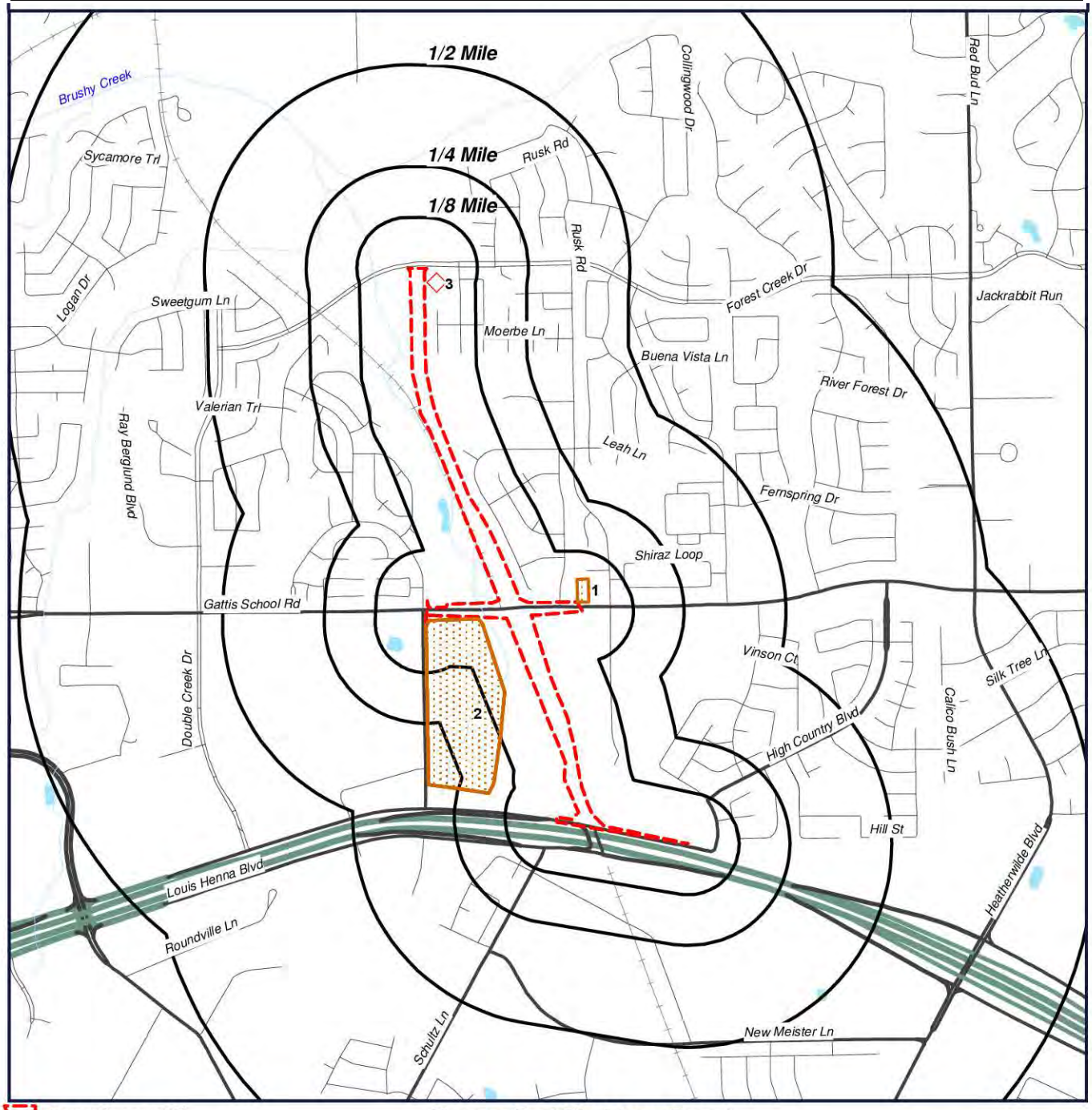
Kenney Fort Blvd from Forest Creek Dr to SH 45
Round Rock, Texas

N
W E
S

0' 1400' 2800' 4200'
SCALE: 1" = 2800'

[Click here to access Satellite view]

Radius Map 2



Target Property (TP)
FRSTX
ECHOR06
ICISNPDES
PST

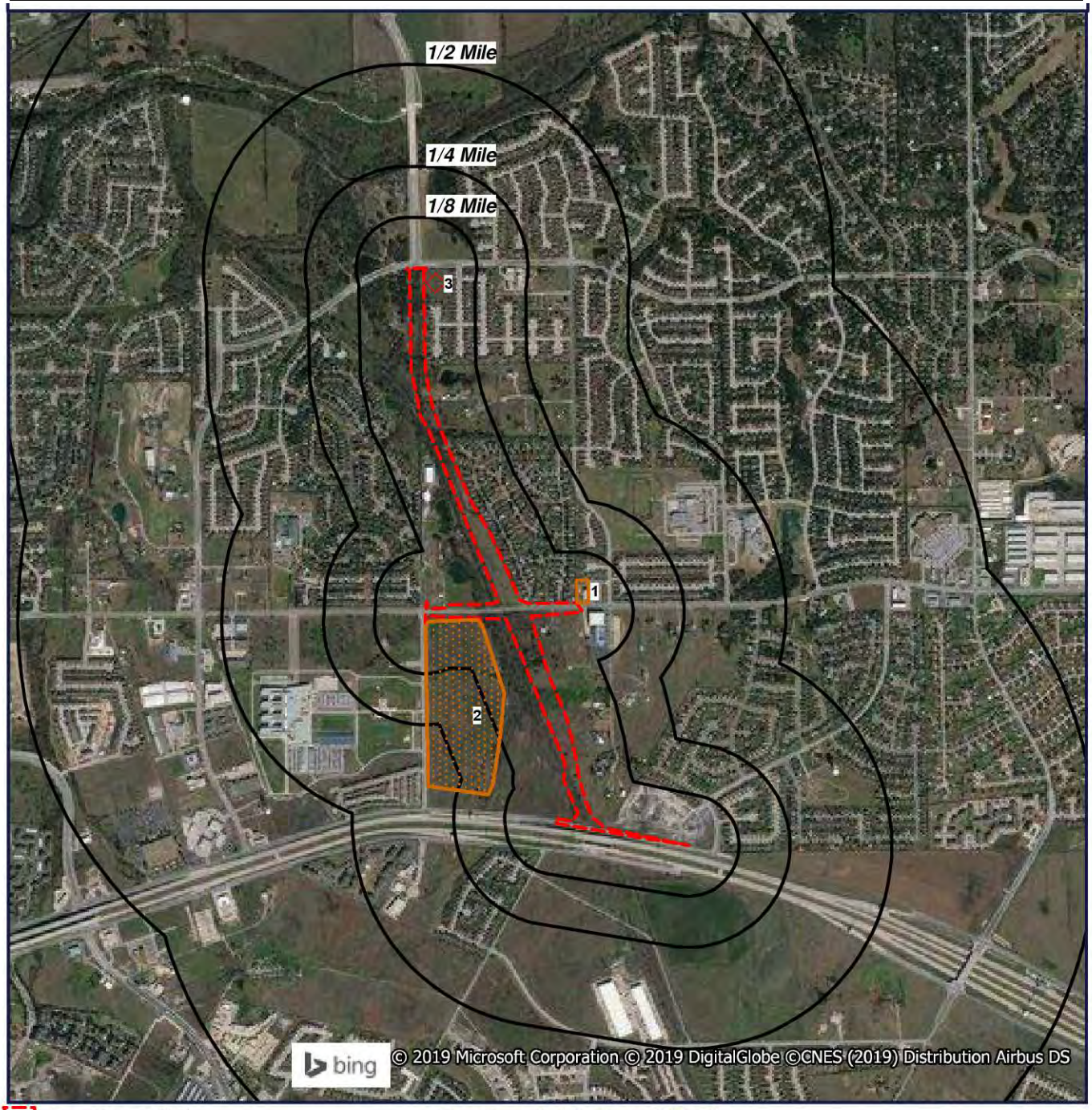
Kenney Fort Blvd from Forest Creek Dr to SH 45
Round Rock, Texas

N
W E
S

0' 1000' 2000' 3000'
SCALE: 1" = 2000'

[Click here to access Satellite view]

Ortho Map



Target Property (TP)
FRSTX
ECHOR06
ICISNPDES
PST

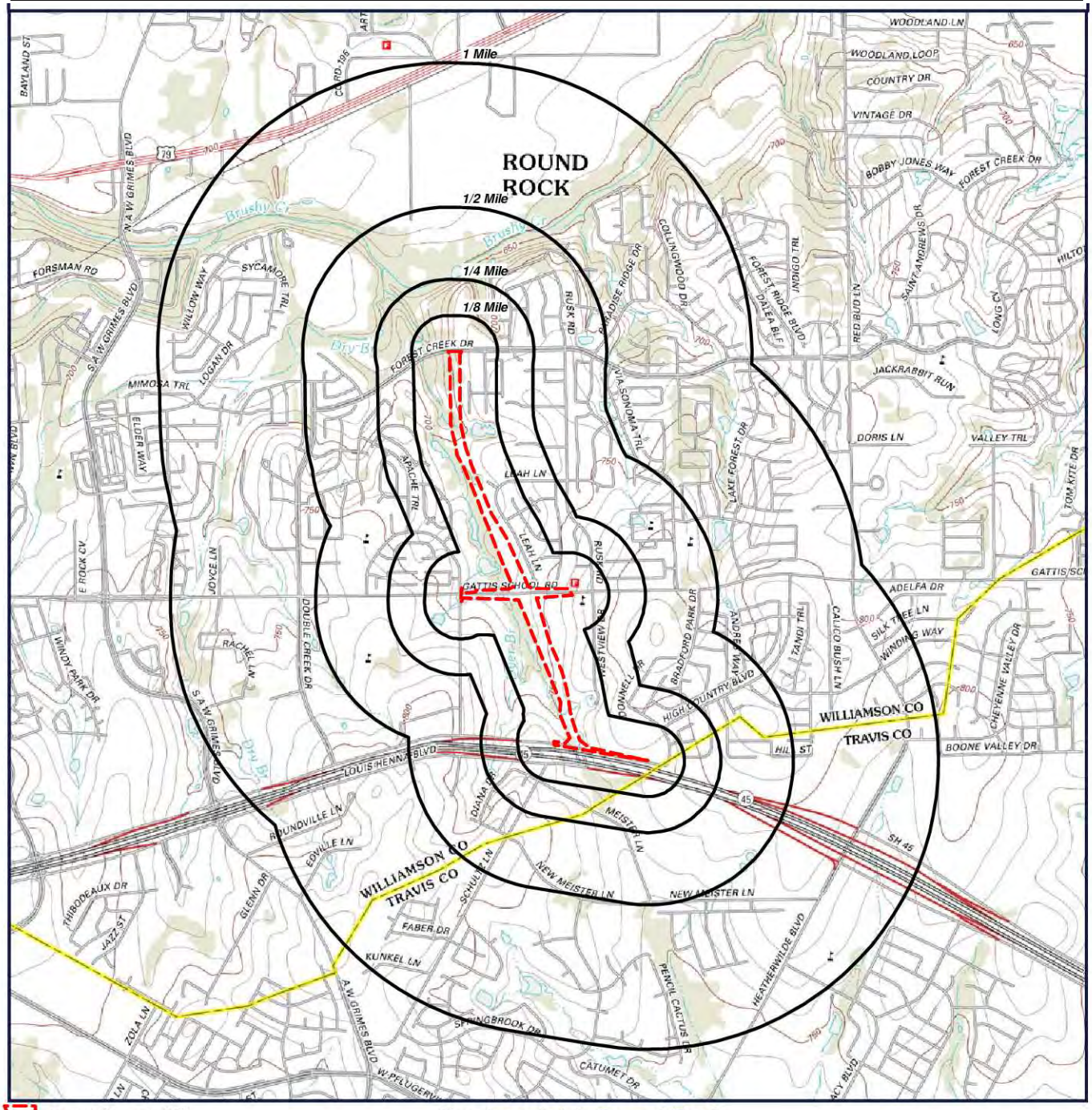
Quadrangle(s): Round Rock, Pflugerville West
Kenney Fort Blvd from Forest Creek Dr to SH 45
Round Rock, Texas

N
W E
S

0' 1000' 2000' 3000'
SCALE: 1" = 2000'

[Click here to access Satellite view]

Topographic Map



Target Property (TP)

Quadrangle(s): Round Rock, Pflugerville West
Source: USGS, 01/08/2013
Kenney Fort Blvd from Forest Creek Dr to SH 45
Round Rock, Texas

N
W E
S

0' 1400' 2800' 4200'
SCALE: 1" = 2800'

[Click here to access Satellite view]

Located Sites Summary

*NOTE: Standard environmental records are displayed in **bold**.*

Map ID#	Database Name	Site ID#	Relative Elevation	Distance From Site	Site Name	Address	PAGE #
1	FRSTX	110034420641	Higher (767 ft.)	0.001 mi. ENE (5 ft.)	CITY OF ROUND ROCK ENVIRONMENTAL SERVICES	3300 GATTIS SCHOOL RD, ROUND ROCK, TX 78664	19
2	ECHOR06	110070052947	Higher (758 ft.)	0.005 mi. S (26 ft.)	NORTHFIELDS PHS. 2	SE OF MEISTER LN & ROUND ROCK RANCH BLVD., ROUND ROCK, TX 78664	20
2	ECHOR06	110070368645	Higher (758 ft.)	0.005 mi. S (26 ft.)	NORTHFIELDS PHASE 1	NORTHEAST OF THE INTERSECTION OF MEISTER LANE AND, ROUND ROCK, TX 78664	21
2	FRSTX	110070052947	Higher (758 ft.)	0.005 mi. S (26 ft.)	NORTHFIELDS PHS. 2	SE OF MEISTER LN & ROUND ROCK RANCH BLVD., ROUND ROCK, TX 78664	22
2	FRSTX	110070368645	Higher (758 ft.)	0.005 mi. S (26 ft.)	NORTHFIELDS PHASE 1	NORTHEAST OF THE INTERSECTION OF MEISTER LANE AND, ROUND ROCK, TX 78664	23
2	ICISNPDES	TXR10F49VINPDES	Higher (758 ft.)	0.005 mi. S (26 ft.)	NORTHFIELDS PHS. 2	SE OF MEISTER LN & ROUND ROCK RANCH BLVD., ROUND ROCK, TX 78664	24
3	***PST***	***89424***	***Lower (720 ft.)***	***0.029 mi. E (153 ft.)***	***FOREST CREEK GAS STATION***	***2451 FOREST CREEK DR, ROUND ROCK, TX 78665***	***26***

Elevation Summary

Elevations are collected from the USGS 3D Elevation Program 1/3 arc-second (approximately 10 meters) layer hosted at the NGTOC. .

Target Property Elevation: 731 ft.

*NOTE: Standard environmental records are displayed in **bold**.*

EQUAL/HIGHER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
1	FRSTX	767 ft.	CITY OF ROUND ROCK ENVIRONMENTAL SERVICES	3300 GATTIS SCHOOL RD, ROUND ROCK, TX 78664	19
2	ECHOR06	758 ft.	NORTHFIELDS PHS. 2	SE OF MEISTER LN & ROUND ROCK RANCH BLVD., ROUND ROCK, TX 78664	20
2	ECHOR06	758 ft.	NORTHFIELDS PHASE 1	NORTHEAST OF THE INTERSECTION OF MEISTER LANE AND, ROUND ROCK, TX 78664	21
2	FRSTX	758 ft.	NORTHFIELDS PHS. 2	SE OF MEISTER LN & ROUND ROCK RANCH BLVD., ROUND ROCK, TX 78664	22
2	FRSTX	758 ft.	NORTHFIELDS PHASE 1	NORTHEAST OF THE INTERSECTION OF MEISTER LANE AND, ROUND ROCK, TX 78664	23
2	ICISNPDES	758 ft.	NORTHFIELDS PHS. 2	SE OF MEISTER LN & ROUND ROCK RANCH BLVD., ROUND ROCK, TX 78664	24

LOWER ELEVATION

Map ID#	Database Name	Elevation	Site Name	Address	Page #
3	***PST***	***720 ft.***	***FOREST CREEK GAS STATION***	***2451 FOREST CREEK DR, ROUND ROCK, TX 78665***	***26***

Facility Registry System (FRSTX)

MAP ID# 1

Distance from Property: 0.001 mi. (5 ft.) ENE
Elevation: 767 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: **110034420641**

NAME: **CITY OF ROUND ROCK ENVIRONMENTAL SERVICES**

LOCATION ADDRESS: **3300 GATTIS SCHOOL RD**
ROUND ROCK, TX 78664-9717

COUNTY: **WILLIAMSON**

EPA REGION: **06**

FEDERAL FACILITY: **NOT REPORTED**

TRIBAL LAND: **NOT REPORTED**

ALTERNATIVE NAME/S:

CITY OF ROUND ROCK ENVIRONMENTAL SERVICES

PROGRAM/S LISTED FOR THIS FACILITY

TX-TCEQ ACR - TEXAS COMMISSION ON EVIRONMENTAL QUALITY - AGENCY CENTRAL REGISTRY

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)

NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)

NO NAICS DATA REPORTED

Back to Report Summary

Enforcement and Compliance History Information (ECHOR06)

MAP ID# 2

Distance from Property: 0.005 mi. (26 ft.) S
Elevation: 758 ft. (Higher than TP)

FACILITY INFORMATION

UNIQUE ID: **110070052947**
REGISTRY ID: **110070052947**
NAME: **NORTHFIELDS PHS. 2**
ADDRESS: **SE OF MEISTER LN & ROUND ROCK RANCH BLVD.**
ROUND ROCK, TX 78664
COUNTY: **NOT REPORTED**
FACILITY LINK: *Facility Detail Report*

Back to Report Summary

Enforcement and Compliance History Information (ECHOR06)

MAP ID# 2

Distance from Property: 0.005 mi. (26 ft.) S
Elevation: 758 ft. (Higher than TP)

FACILITY INFORMATION

UNIQUE ID: **110070368645**
REGISTRY ID: **110070368645**
NAME: **NORTHFIELDS PHASE 1**
ADDRESS: **NORTHEAST OF THE INTERSECTION OF MEISTER LANE AND**
ROUND ROCK, TX 78664
COUNTY: **NOT REPORTED**
FACILITY LINK: *Facility Detail Report*

Back to Report Summary

Facility Registry System (FRSTX)

MAP ID# 2

Distance from Property: 0.005 mi. (26 ft.) S
Elevation: 758 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: **110070052947**

NAME: **NORTHFIELDS PHS. 2**

LOCATION ADDRESS: **SE OF MEISTER LN & ROUND ROCK RANCH BLVD.**
ROUND ROCK, TX 78664

COUNTY: **NOT REPORTED**

EPA REGION: **06**

FEDERAL FACILITY: **NOT REPORTED**

TRIBAL LAND: **NOT REPORTED**

ALTERNATIVE NAME/S:
NO ALTERNATIVE NAME(S) LISTED FOR THIS FACILITY

PROGRAM/S LISTED FOR THIS FACILITY
NPDES - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)
NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)
NO NAICS DATA REPORTED

Back to Report Summary

Facility Registry System (FRSTX)

MAP ID# 2

Distance from Property: 0.005 mi. (26 ft.) S
Elevation: 758 ft. (Higher than TP)

FACILITY INFORMATION

REGISTRY ID: **110070368645**

NAME: **NORTHFIELDS PHASE 1**

LOCATION ADDRESS: **NORTHEAST OF THE INTERSECTION OF MEISTER LANE AND**
ROUND ROCK, TX 78664

COUNTY: **NOT REPORTED**

EPA REGION: **06**

FEDERAL FACILITY: **NOT REPORTED**

TRIBAL LAND: **NOT REPORTED**

ALTERNATIVE NAME/S:
NO ALTERNATIVE NAME(S) LISTED FOR THIS FACILITY

PROGRAM/S LISTED FOR THIS FACILITY
NPDES - NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

STANDARD INDUSTRIAL CLASSIFICATION/S (SIC)
NO SIC DATA REPORTED

NORTH AMERICAN INDUSTRY CLASSIFICATION/S (NAICS)
NO NAICS DATA REPORTED

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Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

MAP ID# 2

Distance from Property: 0.005 mi. (26 ft.) S
Elevation: 758 ft. (Higher than TP)

FACILITY INFORMATION

GEOSEARCH ID: **TXR10F49VINPDES**
NPDES ID: **TXR10F49V** FACILITY #: **110070052947**
NAME: **NORTHFIELDS PHS. 2**
PHYSICAL ADDRESS: **SE OF MEISTER LN & ROUND ROCK RANCH BLVD.**
ROUND ROCK TX 78664
COUNTY: **NOT REPORTED**
FACILITY TYPE: **NOT REPORTED**
IMPAIRED WATERS: **NOT REPORTED**

STANDARD INDUSTRIAL CLASSIFICATION

- NOT REPORTED -

PERMITS

FACILITY TYPE INDICATOR: **NON-POTABLE WATER**
PERMIT TYPE: **GENERAL PERMIT COVERED FACILITY**
MAJOR MINOR FACILITY: **MINOR DISCHARGER**
PERMIT STATUS: **EFFECTIVE**
WATER BODY: **NOT REPORTED**
PERMIT NAME: **DNT CONSTRUCTION**
AGENCY TYPE: **U.S. EPA**
ORIGINAL ISSUE DATE: **4/13/2017**
ISSUE DATE: **4/13/2017**
ISSUING AGENCY: **U.S. EPA**
EFFECTIVE DATE: **4/13/2017**
EXPIRATION DATE: **2/15/2022**
RETIREMENT DATE: **NOT REPORTED**
TERMINATION DATE: **NOT REPORTED**
PERMIT COMPLIANCE STATUS: **YES**
PERMIT SUBJECT TO DMR RUN: **NOT REPORTED**
REPORTABLE NONCOMPLIANCE TRACKING IS ON: **YES**

INSPECTIONS

- NO INSPECTIONS REPORTED -

HISTORIC COMPLIANCE

- NO HISTORIC COMPLIANCE REPORTED -

SINGLE EVENT VIOLATIONS

- NO SINGLE EVENT VIOLATIONS REPORTED -

FORMAL ENFORCEMENT ACTIONS

- NO FORMAL ENFORCEMENT ACTIONS REPORTED -

EFFLUENT VIOLATIONS

- NOT REPORTED -

EFFLUENT VIOLATIONS contd..

- NOT REPORTED -

EFFLUENT VIOLATIONS contd..

Integrated Compliance Information System National Pollutant Discharge Elimination System (ICISNPDES)

- NOT REPORTED -

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MAP ID# 3

Distance from Property: 0.029 mi. (153 ft.) E
Elevation: 720 ft. (Lower than TP)

FACILITY INFORMATION

ID#: **89424**
NAME: **FOREST CREEK GAS STATION**
ADDRESS: **2451 FOREST CREEK DR**
ROUND ROCK, TX 78665
COUNTY: **WILLIAMSON**
REGION: **11**
TYPE: **NOT REPORTED**
BEGIN DATE: **NOT REPORTED**
STATUS: **PENDING**
EXEMPT STATUS: **NOT REPORTED**
RECORDS OFF-SITE: **NO**
NUMBER OF ACTIVE UNDERGROUND TANKS: **NOT REPORTED**
NUMBER OF ACTIVE ABOVEGROUND TANKS: **NOT REPORTED**

APPLICATION INFORMATION:

RECEIVED DATE ON EARLIEST REGISTRATION FORM: **NOT REPORTED**
SIGNATURE DATE ON EARLIEST REGISTRATION FORM: **NOT REPORTED**
SIGNATURE NAME & TITLE: **SIGNATURE NAME NOT REPORTED, SIGNATURE TITLE NOT REPORTED**
ENFORCEMENT ACTION DATE: **NOT REPORTED**

CONTACT INFORMATION

NAME: **NOT REPORTED**
TITLE: **NOT REPORTED**
ORGANIZATION: **NOT REPORTED**
MAIL ADDRESS: **MAILING ADDRESS NOT REPORTED**
CITY NOT REPORTED
PHONE: **NOT REPORTED**

OWNER

OWNER NUMBER: **CN605412972**
NAME: **WELKOM LLC**
CONTACT ADDRESS: **6615 YAUPON DR**
AUSTIN TX 78759
TYPE: **CORPORATION/COMPANY**
BEGIN DATE: **08/24/2017**
CONTACT ROLE: **OWNOPRCON**
CONTACT NAME: **RAFIQUE KAREDIA**
CONTACT TITLE: **NOT REPORTED**
ORGANIZATION: **WELKOM LLC**
PHONE: **(512) 5905702 0**
FAX: **NOT REPORTED**
EMAIL: **NOT REPORTED**

OPERATOR

OPERATOR NUMBER: **CN605412972**
NAME: **WELKOM LLC**
CONTACT ADDRESS: **6615 YAUPON DR**
AUSTIN TX 78759
TYPE: **CORPORATION/COMPANY**
BEGIN DATE: **08/24/2017**
CONTACT ROLE: **OWNOPRCON**
CONTACT NAME: **RAFIQUE KAREDIA**
CONTACT TITLE: **NOT REPORTED**

ORGANIZATION: **WELKOM LLC**
PHONE: **(512) 5905702 0**
FAX: **NOT REPORTED**
EMAIL: **NOT REPORTED**

SELF-CERTIFICATION

-**NO SELF-CERTIFICATION INFORMATION REPORTED-**

CONSTRUCTION NOTIFICATION

NOTIFICATION CONSTRUCTION ID: **33787**
APPLICATION RECEIVED DATE: **11/02/2018**
SCHEDULE CONSTRUCTION DATE: **12/04/2018**
GENERAL DESCRIPTION OF PROPOSED CONSTRUCTION:
NEW FUEL SYSTEM INCLUDING NEW USTS, PRODUCT VENT PIPING, NEW DISPENSERS & ATG SYSTEM.
NOTIFICATION CONSTRUCTION ID: **32057**
APPLICATION RECEIVED DATE: **10/20/2017**
SCHEDULE CONSTRUCTION DATE: **12/01/2017**
GENERAL DESCRIPTION OF PROPOSED CONSTRUCTION:
INSTALLATION OF (1) 30K D/W FRP UST, D/W PIPING FROM TANK SUMPS TO (4) DISPENSER SUMPS AND INSTALL STG WITH PROBES AND SENSORS.
NOTIFICATION CONSTRUCTION ID: **31840**
APPLICATION RECEIVED DATE: **08/24/2017**
SCHEDULE CONSTRUCTION DATE: **09/15/2017**
GENERAL DESCRIPTION OF PROPOSED CONSTRUCTION:
INSTALL (1) 32K DW FIBERGLASS UST W/ 3 COMPARTMENTS (20/6/6). INSTALL 3-2 HP SUBMERSIBLE PUMPS WITH REKAY CONTROLLERS AND MECHANICAL LEAK DETECTORS. PROVIDE AND INSTALL TANK HARDWARE INCLUDING MANHOLE FITTINGS, ASSEMBLIES, DROP TUBES AND OTHER REQU

UNDERGROUND STORAGE TANK

NO UNDERGROUND STORAGE TANK DATA REPORTED FOR THIS FACILITY

ABOVEGROUND STORAGE TANK INFORMATION

NO ABOVEGROUND STORAGE TANK DATA REPORTED FOR THIS FACILITY

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Unlocated Sites Summary

This list contains sites that could not be mapped due to limited or incomplete address information.

No Records Found

AIRSAFS Aerometric Information Retrieval System / Air Facility Subsystem

VERSION DATE: 10/20/14

The United States Environmental Protection Agency (EPA) modified the Aerometric Information Retrieval System (AIRS) to a database that exclusively tracks the compliance of stationary sources of air pollution with EPA regulations: the Air Facility Subsystem (AFS). Since this change in 2001, the management of the AIRS/AFS database was assigned to EPA's Office of Enforcement and Compliance Assurance.

BRS Biennial Reporting System

VERSION DATE: 12/31/15

The United States Environmental Protection Agency (EPA), in cooperation with the States, biennially collects information regarding the generation, management, and final disposition of hazardous wastes regulated under the Resource Conservation and Recovery Act of 1976 (RCRA), as amended. The Biennial Report captures detailed data on the generation of hazardous waste from large quantity generators and data on waste management practices from treatment, storage and disposal facilities. Currently, the EPA states that data collected between 1991 and 1997 was originally a part of the defunct Biennial Reporting System and is now incorporated into the RCRAInfo data system.

CDL Clandestine Drug Laboratory Locations

VERSION DATE: 10/05/17

The U.S. Department of Justice ("the Department") provides this information as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments. The Department does not establish, implement, enforce, or certify compliance with clean-up or remediation standards for contaminated sites; the public should contact a state or local health department or environmental protection agency for that information.

DOCKETS EPA Docket Data

VERSION DATE: 12/22/05

The United States Environmental Protection Agency Docket data lists Civil Case Defendants, filing dates as far back as 1971, laws broken including section, violations that occurred, pollutants involved, penalties assessed and superfund awards by facility and location. Please refer to ICIS database as source of current data.

EC Federal Engineering Institutional Control Sites

VERSION DATE: 08/03/15

This database includes site locations where Engineering and/or Institutional Controls have been identified as part

of a selected remedy for the site as defined by United States Environmental Protection Agency official remedy decision documents. A site listing does not indicate that the institutional and engineering controls are currently in place nor will be in place once the remedy is complete; it only indicates that the decision to include either of them in the remedy is documented as of the completed date of the document. Institutional controls are actions, such as legal controls, that help minimize the potential for human exposure to contamination by ensuring appropriate land or resource use. Engineering controls include caps, barriers, or other device engineering to prevent access, exposure, or continued migration of contamination. The data included in this report was extracted from the final CERCLIS dataset (CERCLIS was a Superfund data system that EPA decommissioned in 2014 following its deployment of the Superfund Enterprise Management System), which represents program progress as of the end of fiscal year 2013.

ECHOR06 Enforcement and Compliance History Information

VERSION DATE: 03/09/19

The U.S. Environmental Protection Agency's Enforcement and Compliance History Online (ECHO) database, provides compliance and enforcement information for facilities nationwide. This database includes facilities regulated as Clean Air Act stationary sources, Clean Water Act direct dischargers, Resource Conservation and Recovery Act hazardous waste handlers, Safe Drinking Water Act public water systems along with other data, such as Toxics Release Inventory releases.

ERNSTX Emergency Response Notification System

VERSION DATE: 04/07/19

This National Response Center database contains data on reported releases of oil, chemical, radiological, biological, and/or etiological discharges into the environment anywhere in the United States and its territories. The data comes from spill reports made to the U.S. Environmental Protection Agency, U.S. Coast Guard, the National Response Center and/or the U.S. Department of Transportation.

FRSTX Facility Registry System

VERSION DATE: 04/05/19

The United States Environmental Protection Agency's Office of Environmental Information (OEI) developed the Facility Registry System (FRS) as the centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. The Facility Registry System replaced the Facility Index System or FINDS database.

HMIRSR06 Hazardous Materials Incident Reporting System

VERSION DATE: 04/14/19

The HMIRS database contains unintentional hazardous materials release information reported to the U.S. Department of Transportation located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

ICIS Integrated Compliance Information System (formerly DOCKETS)

VERSION DATE: 03/09/19

ICIS is a case activity tracking and management system for civil, judicial, and administrative federal Environmental Protection Agency enforcement cases. ICIS contains information on federal administrative and federal judicial cases under the following environmental statutes: the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Emergency Planning and Community Right-to-Know Act - Section 313, the Toxic Substances Control Act, the Federal Insecticide, Fungicide, and Rodenticide Act, the Comprehensive Environmental Response, Compensation, and Liability Act, the Safe Drinking Water Act, and the Marine Protection, Research, and Sanctuaries Act.

ICISNPDES Integrated Compliance Information System National Pollutant Discharge Elimination System

VERSION DATE: 07/09/17

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. This database is provided by the U.S. Environmental Protection Agency.

LUCIS Land Use Control Information System

VERSION DATE: 09/01/06

The LUCIS database is maintained by the U.S. Department of the Navy and contains information for former Base Realignment and Closure (BRAC) properties across the United States.

MLTS Material Licensing Tracking System

VERSION DATE: 06/29/17

MLTS is a list of approximately 8,100 sites which have or use radioactive materials subject to the United States Nuclear Regulatory Commission (NRC) licensing requirements. Disclaimer: Due to agency regulations and policies, this database contains applicant/licensee location information which may or may not be related to the physical location per MLTS site.

NPDESR06 National Pollutant Discharge Elimination System

VERSION DATE: 04/01/07

Authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The NPDES database was collected from the U.S. Environmental Protection Agency (EPA) from December 2002 through April 2007. Refer to the PCS and/or ICIS-NPDES database as source of current data. This database includes permitted facilities located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

PADS PCB Activity Database System

VERSION DATE: 09/14/18

PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the U.S. Environmental Protection Agency of such activities.

PCSR06 Permit Compliance System

VERSION DATE: 08/01/12

The Permit Compliance System is used in tracking enforcement status and permit compliance of facilities controlled by the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act and is maintained by the United States Environmental Protection Agency's Office of Compliance. PCS is designed to support the NPDES program at the state, regional, and national levels. This database includes permitted facilities located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas. PCS has been modernized, and no longer exists. National Pollutant Discharge Elimination System (ICIS-NPDES) data can now be found in Integrated Compliance Information System (ICIS).

RCRASC RCRA Sites with Controls

VERSION DATE: 02/22/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with institutional controls in place.

SEMSLIENS SEMS Lien on Property

VERSION DATE: 08/13/18

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs. This is a listing of SEMS sites with a lien on the property.

SFLIENS CERCLIS Liens

VERSION DATE: 06/08/12

A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which United States

Environmental Protection Agency has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties. This database contains those CERCLIS sites where the Lien on Property action is complete. Please refer to the SEMSLIENS database as source of current data.

SSTS Section Seven Tracking System

VERSION DATE: 02/01/17

The United States Environmental Protection Agency tracks information on pesticide establishments through the Section Seven Tracking System (SSTS). SSTS records the registration of new establishments and records pesticide production at each establishment. The Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) requires that production of pesticides or devices be conducted in a registered pesticide-producing or device-producing establishment. ("Production" includes formulation, packaging, repackaging, and relabeling.)

TRI Toxics Release Inventory

VERSION DATE: 12/31/16

The Toxics Release Inventory, provided by the United States Environmental Protection Agency, includes data on toxic chemical releases and waste management activities from certain industries as well as federal and tribal facilities. This inventory contains information about the types and amounts of toxic chemicals that are released each year to the air, water, and land as well as information on the quantities of toxic chemicals sent to other facilities for further waste management.

TSCA Toxic Substance Control Act Inventory

VERSION DATE: 12/31/12

The Toxic Substances Control Act (TSCA) was enacted in 1976 to ensure that chemicals manufactured, imported, processed, or distributed in commerce, or used or disposed of in the United States do not pose any unreasonable risks to human health or the environment. TSCA section 8(b) provides the United States Environmental Protection Agency authority to "compile, keep current, and publish a list of each chemical substance that is manufactured or processed in the United States." This TSCA Chemical Substance Inventory contains non-confidential information on the production amount of toxic chemicals from each manufacturer and importer site.

RCRAGR06 Resource Conservation & Recovery Act - Generator

VERSION DATE: 04/01/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities currently generating hazardous waste. EPA region 6 includes the following states: Arkansas,

Louisiana, New Mexico, Oklahoma, and Texas.

RCRANGR06 Resource Conservation & Recovery Act - Non-Generator

VERSION DATE: 04/01/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities classified as non-generators. Non-Generators do not presently generate hazardous waste. EPA Region 6 includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

ALTFUELS Alternative Fueling Stations

VERSION DATE: 03/01/19

Nationwide list of alternative fueling stations made available by the U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Bio-diesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE).

FEMAUST FEMA Owned Storage Tanks

VERSION DATE: 12/01/16

This is a listing of FEMA owned underground and aboveground storage tank sites. For security reasons, address information is not released to the public according to the U.S. Department of Homeland Security.

HISTPST Historical Gas Stations

VERSION DATE: NR

This historic directory of service stations is provided by the Cities Service Company. The directory includes Cities Service filling stations that were located throughout the United States in 1930.

ICISCLEANERS Integrated Compliance Information System Drycleaners

VERSION DATE: 03/09/19

This is a listing of drycleaner facilities from the Integrated Compliance Information System (ICIS). The U.S. Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

MRDS Mineral Resource Data System

VERSION DATE: 03/15/16

MRDS (Mineral Resource Data System) is a collection of reports describing metallic and nonmetallic mineral resources throughout the world. Included are deposit name, location, commodity, deposit description, geologic characteristics, production, reserves, resources, and references. This database contains the records previously provided in the Mineral Resource Data System (MRDS) of USGS and the Mineral Availability System/Mineral Industry Locator System (MAS/MILS) originated in the U.S. Bureau of Mines, which is now part of USGS.

MSHA Mine Safety and Health Administration Master Index File

VERSION DATE: 03/15/19

The Mine dataset lists all Coal and Metal/Non-Metal mines under MSHA's jurisdiction since 1/1/1970. It includes such information as the current status of each mine (Active, Abandoned, NonProducing, etc.), the current owner and operating company, commodity codes and physical attributes of the mine. Mine ID is the unique key for this data. This information is provided by the United States Department of Labor - Mine Safety and Health Administration (MSHA).

BF Brownfields Management System

VERSION DATE: 03/31/19

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. The United States Environmental Protection Agency maintains this database to track activities in the various brown field grant programs including grantee assessment, site cleanup and site redevelopment. This database included tribal brownfield sites.

DNPL Delisted National Priorities List

VERSION DATE: 04/09/19

This database includes sites from the United States Environmental Protection Agency's Final National Priorities List (NPL) where remedies have proven to be satisfactory or sites where the original analyses were inaccurate, and the site is no longer appropriate for inclusion on the NPL, and final publication in the Federal Register has occurred.

NLRRCRAT No Longer Regulated RCRA Non-CORRACTS TSD Facilities

VERSION DATE: 04/01/19

This database includes RCRA Non-Corrective Action TSD facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements. This listing includes facilities that formerly treated, stored or disposed of hazardous waste.

ODI Open Dump Inventory

VERSION DATE: 06/01/85

The open dump inventory was published by the United States Environmental Protection Agency. An “open dump” is defined as a facility or site where solid waste is disposed of which is not a sanitary landfill which meets the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944) and which is not a facility for disposal of hazardous waste. This inventory has not been updated since June 1985.

RCRAT Resource Conservation & Recovery Act - Non-CORRACTS Treatment, Storage & Disposal Facilities

VERSION DATE: 04/01/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities recognized as hazardous waste treatment, storage, and disposal sites (TSD).

SEMS Superfund Enterprise Management System

VERSION DATE: 03/11/19

The U.S. Environmental Protection Agency's (EPA) Office of Solid Waste and Emergency Response, Office of Superfund Remediation and Technology Innovation (OSRTI), has implemented The Superfund Enterprise Management System (SEMS), formerly known as CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) to track and report on clean-up and enforcement activities taking place at Superfund sites. SEMS represents a joint development and ongoing collaboration between Superfund's Remedial, Removal, Federal Facilities, Enforcement and Emergency Response programs.

SEMSARCH Superfund Enterprise Management System Archived Site Inventory

VERSION DATE: 03/11/19

The U.S. Environmental Protection Agency’s (EPA) Superfund Enterprise Management System Archived Site Inventory (List 8R Archived) replaced the CERCLIS NFRAP reporting system in 2015. This listing reflects sites at which the EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program.

SMCRA Surface Mining Control and Reclamation Act Sites

VERSION DATE: 03/19/19

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by the Office of Surface Mining Reclamation and Enforcement (OSMRE) to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type,

and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

USUMTRCA Uranium Mill Tailings Radiation Control Act Sites

VERSION DATE: 03/04/17

The Legacy Management Office of the Department of Energy (DOE) manages radioactive and chemical waste, environmental contamination, and hazardous material at over 100 sites across the U.S. The L.M. Office manages this database of sites registered under the Uranium Mill Tailings Control Act (UMTRCA).

DOD Department of Defense Sites

VERSION DATE: 12/01/14

This information originates from the National Atlas of the United States Federal Lands data, which includes lands owned or administered by the Federal government. Army DOD, Army Corps of Engineers DOD, Air Force DOD, Navy DOD and Marine DOD areas of 640 acres or more are included.

FUDS Formerly Used Defense Sites

VERSION DATE: 06/01/15

The Formerly Used Defense Sites (FUDS) inventory includes properties previously owned by or leased to the United States and under Secretary of Defense Jurisdiction, as well as Munitions Response Areas (MRAs). The remediation of these properties is the responsibility of the Department of Defense. This data is provided by the U.S. Army Corps of Engineers (USACE), the boundaries/polygon data are based on preliminary findings and not all properties currently have polygon data available. DISCLAIMER: This data represents the results of data collection/processing for a specific USACE activity and is in no way to be considered comprehensive or to be used in any legal or official capacity as presented on this site. While the USACE has made a reasonable effort to insure the accuracy of the maps and associated data, it should be explicitly noted that USACE makes no warranty, representation or guaranty, either expressed or implied, as to the content, sequence, accuracy, timeliness or completeness of any of the data provided herein. For additional information on Formerly Used Defense Sites please contact the USACE Public Affairs Office at (202) 528-4285.

FUSRAP Formerly Utilized Sites Remedial Action Program

VERSION DATE: 03/04/17

The U.S. Department of Energy (DOE) established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from the Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations. The DOE Office of Legacy Management (LM) established long-term surveillance and maintenance (LTS&M) requirements for remediated FUSRAP sites. DOE evaluates the final site conditions of a remediated site on the basis of risk for different future uses. DOE then confirms that LTS&M requirements will maintain protectiveness.

NLRRCRAC No Longer Regulated RCRA Corrective Action Facilities

VERSION DATE: 04/01/19

This database includes RCRA Corrective Action facilities that are no longer regulated by the United States Environmental Protection Agency or do not meet other RCRA reporting requirements.

NMS Former Military Nike Missile Sites

VERSION DATE: 12/01/84

This information was taken from report DRXTH-AS-IA-83A016 (Historical Overview of the Nike Missile System, 12/1984) which was performed by Environmental Science and Engineering, Inc. for the U.S. Army Toxic and Hazardous Materials Agency Assessment Division. The Nike system was deployed between 1954 and the mid-1970's. Among the substances used or stored on Nike sites were liquid missile fuel (JP-4); starter fluids (UDKH, aniline, and furfuryl alcohol); oxidizer (IRFNA); hydrocarbons (motor oil, hydraulic fluid, diesel fuel, gasoline, heating oil); solvents (carbon tetrachloride, trichloroethylene, trichloroethane, stoddard solvent); and battery electrolyte. The quantities of material a disposed of and procedures for disposal are not documented in published reports. Virtually all information concerning the potential for contamination at Nike sites is confined to personnel who were assigned to Nike sites. During deactivation most hardware was shipped to depot-level supply points. There were reportedly instances where excess materials were disposed of on or near the site itself at closure. There was reportedly no routine site decontamination.

NPL National Priorities List

VERSION DATE: 04/09/19

This database includes United States Environmental Protection Agency (EPA) National Priorities List sites that fall under the EPA's Superfund program, established to fund the cleanup of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action.

PNPL Proposed National Priorities List

VERSION DATE: 04/09/19

This database contains sites proposed to be included on the National Priorities List (NPL) in the Federal Register. The United States Environmental Protection Agency investigates these sites to determine if they may present long-term threats to public health or the environment.

RCRAC Resource Conservation & Recovery Act - Corrective Action Facilities

VERSION DATE: 04/01/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems

that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities with corrective action activity.

RCRASUBC Resource Conservation & Recovery Act - Subject to Corrective Action Facilities

VERSION DATE: 04/01/19

The Resource Conservation and Recovery Act (RCRA) gives the U.S. Environmental Protection Agency (EPA) the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances. This listing refers to facilities subject to corrective actions.

RODS Record of Decision System

VERSION DATE: 02/06/19

These decision documents maintained by the United States Environmental Protection Agency describe the chosen remedy for NPL (Superfund) site remediation. They also include site history, site description, site characteristics, community participation, enforcement activities, past and present activities, contaminated media, the contaminants present, and scope and role of response action.

GWCC Groundwater Contamination Cases

VERSION DATE: 12/31/17

This is a Joint Groundwater Monitoring and Contamination Report provided by the Texas Commission on Environmental Quality (TCEQ). The annual report describes the status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities. The report provides a general overview of groundwater monitoring by participating members on a program by program basis. Groundwater contamination is broadly defined in the report as any detrimental alteration of the naturally occurring quality of groundwater.

HISTGWCC Historic Groundwater Contamination Cases

VERSION DATE: 12/31/16

This is a Joint Groundwater Monitoring and Contamination Report provided by the Texas Commission on Environmental Quality (TCEQ) that includes historic groundwater contamination cases reported since 1994. These cases have been closed by a program area or agency, such as the TCEQ, the Railroad Commission of Texas, and/or the Texas Alliance of Groundwater Districts. According to the TCEQ report, although enforcement actions may be closed on these cases, the Activity Status Code descriptions allow that groundwater contamination may still be present at the site and may therefore be of interest to regulatory agencies and the general public.

LANDAPP Land Application Permits

VERSION DATE: 01/03/19

Texas Land Application Permits are a requirement from the Texas Commission on Environmental Quality for any domestic facility that disposes of treated effluent by land application such as surface irrigation, evaporation, drainfields or subsurface land application.

LIENS TCEQ Liens

VERSION DATE: 06/06/18

Liens filed upon State and/or Federal Superfund Sites by the Texas Commission on Environmental Quality.

MSD Municipal Setting Designations

VERSION DATE: 01/16/19

The Texas Commission on Environmental Quality (TCEQ) defines an MSD as an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not used as potable water, and is prohibited from future use as potable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level. The prohibition must be in the form of a city ordinance, or a restrictive covenant that is enforceable by the city and filed in the property records. The MSD property can be a single property, multi-property, or a portion of property.

Environmental Records Definitions - STATE (TX)

TCEQ Disclaimer: This data is for informational purposes and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.

NOV Notice of Violations

VERSION DATE: 02/24/16

This database containing Notice of Violations (NOV) is maintained by the Texas Commission on Environmental Quality. An NOV is a written notification that documents and communicates violations observed during an inspection to the business or individual inspected.

SIEC01 State Institutional/Engineering Control Sites

VERSION DATE: 01/01/19

The Texas Risk Reduction Program (TRRP) requires the placement of institutional controls (e.g., deed notices or restrictive covenants) on affected property in different circumstances as part of completing a response action. In its simplest form, an institutional control (IC) is a legal document that is recorded in the county deed records. In certain circumstances, local zoning or ordinances can serve as an IC. This listing may also include locations where Engineering Controls are in effect, such as a cap, barrier, or other engineering device to prevent access, exposure, or continued migration of contamination. The sites included on this list are regulated by various programs of the Texas Commission on Environmental Quality (TCEQ).

SPILLS Spills Listing

VERSION DATE: 02/07/19

This Texas Commission on Environmental Quality database includes releases of hazardous or potentially hazardous materials into the environment.

TIERII Tier I I Chemical Reporting Program Facilities

VERSION DATE: 12/31/12

The Texas Tier II Chemical Reporting Program in the Department of State Health Services (DSHS) is the state repository for EPCRA-required Emergency Planning Letters (EPLs), which are one-time notifications to the state from facilities that have certain extremely hazardous chemicals in specified amounts. The Program is also the state repository for EPCRA/state-required hazardous chemical inventory reports called Texas Tier Two Reports. This data contains those facility reports for the 2005 through the 2012 calendar years. Please contact the Texas Commission on Environmental Quality Tier II Chemical Reporting Division as the current source for this data, due to confidentiality and safety reasons details such as the location and capacity of on-site hazardous chemicals is only available to local emergency planning agencies, fire departments, and/or owners.

DCR Dry Cleaner Registration Database

VERSION DATE: 02/01/19

The database includes dry cleaning drop stations and facilities registered with the Texas Commission on Environmental Quality.

IHW Industrial and Hazardous Waste Sites

VERSION DATE: 01/04/19

Owner and facility information is included in this database of permitted and non-permitted industrial and hazardous waste sites. Industrial waste is waste that results from or is incidental to operations of industry, manufacturing, mining, or agriculture. Hazardous waste is defined as any solid waste listed as hazardous or possesses one or more hazardous characteristics as defined in federal waste regulations. The IHW database is maintained by the Texas Commission on Environmental Quality.

PIHW Permitted Industrial Hazardous Waste Sites

VERSION DATE: 01/04/19

Owner and facility information is included in this database of all permitted industrial and hazardous waste sites. Industrial waste is waste that results from or is incidental to operations of industry, manufacturing, mining, or agriculture. Hazardous waste is defined as any solid waste listed as hazardous or possesses one or more hazardous characteristics as defined in federal waste regulations. Permitted IHW facilities are regulated under 30 Texas Administrative Code Chapter 335 in addition to federal regulations. The IHW database is maintained by the Texas Commission on Environmental Quality.

PST Petroleum Storage Tanks

VERSION DATE: 02/01/19

The Petroleum Storage Tank database is administered by the Texas Commission on Environmental Quality (TCEQ). Both Underground storage tanks (USTs) and Aboveground storage tanks (ASTs) are included in this report. Petroleum Storage Tank registration has been a requirement with the TCEQ since 1986.

APAR Affected Property Assessment Reports

VERSION DATE: 04/05/19

As regulated by the Texas Commission on Environmental Quality, an Affected Property Assessment Report is required when a person is addressing a release of chemical of concern (COC) under 30 TAC Chapter 350, the Texas Risk Reduction Program (TRRP). The purpose of the APAR is to document all relevant affected property information to identify all release sources and COCs, determine the extent of all COCs, identify all transport/exposure pathways, and to determine if any response actions are necessary. The Texas Administrative Code Title 30 §350.4(a)(1) defines affected property as the entire area (i.e. on-site and off-site; including all environmental media) which contains releases of chemicals of concern at concentrations equal to or greater than the assessment level applicable for residential land use and groundwater classification.

BSA Brownfields Site Assessments

VERSION DATE: 03/05/19

The Brownfields Site Assessments database is maintained by the Texas Commission on Environmental Quality (TCEQ). The TCEQ, in close partnership with the U.S. Environmental Protection Agency (EPA) and other federal, state, and local redevelopment agencies, and stakeholders, is facilitating cleanup, transferability, and revitalization of brownfields through the development of regulatory, tax, and technical assistance tools.

CALF Closed & Abandoned Landfill Inventory

VERSION DATE: 11/01/05

The Texas Commission on Environmental Quality, under a contract with Texas State University, and in cooperation with the 24 regional Council of Governments (COGs) in the State, has located over 4,000 closed and abandoned municipal solid waste landfills throughout Texas. This listing contains "unauthorized sites". Unauthorized sites have no permit and are considered abandoned. The information available for each site varies in detail and this historical information is not updated. Please refer to the specific regional COG for the most current information.

DCRPS Dry Cleaner Remediation Program Sites

VERSION DATE: 03/01/19

This list of DCRP sites is provided by the Texas Commission on Environmental Quality (TCEQ). According to the TCEQ, the Dry Cleaner Remediation Program (DCRP) establishes a prioritization list of dry cleaner sites and administers the Dry Cleaning Remediation fund to assist with remediation of contamination caused by dry cleaning solvents.

IOP Innocent Owner / Operator Database

VERSION DATE: 01/01/19

Texas Innocent Owner / Operator (IOP), created by House Bill 2776 of the 75th Legislature, provides a certificate to an innocent owner or operator if their property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination. The IOP database is maintained by the Texas Commission on Environmental Quality.

LPST Leaking Petroleum Storage Tanks

VERSION DATE: 03/07/19

The Leaking Petroleum Storage Tank listing is derived from the Petroleum Storage Tank (PST) database and is maintained by the Texas Commission on Environmental Quality. This listing includes aboveground and underground storage tank facilities with reported leaks.

MSWLF Municipal Solid Waste Landfill Sites

VERSION DATE: 03/01/19

The municipal solid waste landfill database is provided by the Texas Commission on Environmental Quality. This database includes active landfills and inactive landfills, where solid waste is treated or stored.

RRCVCP Railroad Commission VCP and Brownfield Sites

VERSION DATE: 04/18/19

According to the Railroad Commission of Texas, their Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

RWS Radioactive Waste Sites

VERSION DATE: 07/11/06

This Texas Commission on Environmental Quality database contains all sites in the State of Texas that have been designated as Radioactive Waste sites.

STCV Salt Caverns for Petroleum Storage

VERSION DATE: 09/01/06

The salt caverns for petroleum storage database is provided by the Railroad Commission of Texas.

VCP Voluntary Cleanup Program Sites

VERSION DATE: 05/17/19

The Texas Voluntary Cleanup Program (VCP) provides administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas. Since all non-responsible parties, including future lenders and landowners, receive protection from liability to the state of Texas for cleanup of sites under the VCP, most of the constraints for completing real estate transactions at those sites are eliminated. As a result, many unused or underused properties may be restored to economically productive or community beneficial uses. The VCP database is maintained by the Texas Commission on Environmental Quality.

WMRF Recycling Facilities

VERSION DATE: 11/01/12

This listing of recycling facilities is provided by the Texas Commission on Environmental Quality's Recycle Texas Online service. The company information provided in this database is self-reported. Since recyclers post their own information, a facility or company appearing on the list does not imply that it is in compliance with TCEQ

regulations or other applicable laws. This database is no longer maintained and includes the last compilation of the program participants before the Recycle Texas Online program was closed.

IHWCA Industrial and Hazardous Waste Corrective Action Sites

VERSION DATE: 04/05/19

This database is provided by the Texas Commission on Environmental Quality (TCEQ). According to the TCEQ, the mission of the industrial and hazardous waste corrective action program is to oversee the cleanup of sites contaminated from industrial and municipal hazardous and industrial nonhazardous wastes. The goals of this program are to: Ensure that sites are assessed and remediated to levels that protect human health and the environment; Verify that waste management units or facilities are taken out of service and closed properly; and to Facilitate revitalization of contaminated properties.

SF State Superfund Sites

VERSION DATE: 10/26/18

The state Superfund program mission is to remediate abandoned or inactive sites within the state that pose an unacceptable risk to public health and safety or the environment, but which do not qualify for action under the federal Superfund program (NPL - National Priority Listing). As required by the Texas Solid Waste Disposal Act, Texas Health and Safety Code, Chapter 361, the Texas Commission on Environmental Quality identifies and evaluates these facilities for inclusion on the state Superfund registry. This registry includes any recent developments and the anticipated action for these sites as documented in the annual state Superfund registry publication of the Texas Register.

Environmental Records Definitions - LOCAL

EAP Edwards Aquifer Permits

VERSION DATE: 07/21/06

This database, maintained by the Texas Commission on Environmental Quality, contains Edward Aquifer permits.

AUSTINHISTUST City of Austin Historical Underground Storage Tanks

VERSION DATE: 03/04/19

This is an inventory of historical underground gas storage tanks. An Underground Storage Tank (UST) can pose a very serious threat to human health, the environment, and property if not properly operated and maintained. The UST Leak Prevention Program focuses on all facilities with underground storage tanks storing hazardous materials found within the UST Program jurisdiction. Please credit the City of Austin Planning and Development Review with use of this data.

AUSTINUST City of Austin Underground Storage Tanks

VERSION DATE: 03/04/19

This is an inventory of active underground gas storage tanks. An Underground Storage Tank (UST) can pose a very serious threat to human health, the environment, and property if not properly operated and maintained. The UST Leak Prevention Program focuses on all facilities with underground storage tanks storing hazardous materials found within the UST Program jurisdiction. Please credit the City of Austin Planning and Development Review with use of this data.

Environmental Records Definitions - TRIBAL

USTR06 Underground Storage Tanks On Tribal Lands

VERSION DATE: 11/01/18

This database, provided by the United States Environmental Protection Agency (EPA), contains underground storage tanks on Tribal lands located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

LUSTR06 Leaking Underground Storage Tanks On Tribal Lands

VERSION DATE: 11/01/18

This database, provided by the United States Environmental Protection Agency (EPA), contains leaking underground storage tanks on Tribal lands located in EPA Region 6. This region includes the following states: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas.

ODINDIAN Open Dump Inventory on Tribal Lands

VERSION DATE: 11/08/06

This Indian Health Service database contains information about facilities and sites on tribal lands where solid waste is disposed of, which are not sanitary landfills or hazardous waste disposal facilities, and which meet the criteria promulgated under section 4004 of the Solid Waste Disposal Act (42 U.S.C. 6944).

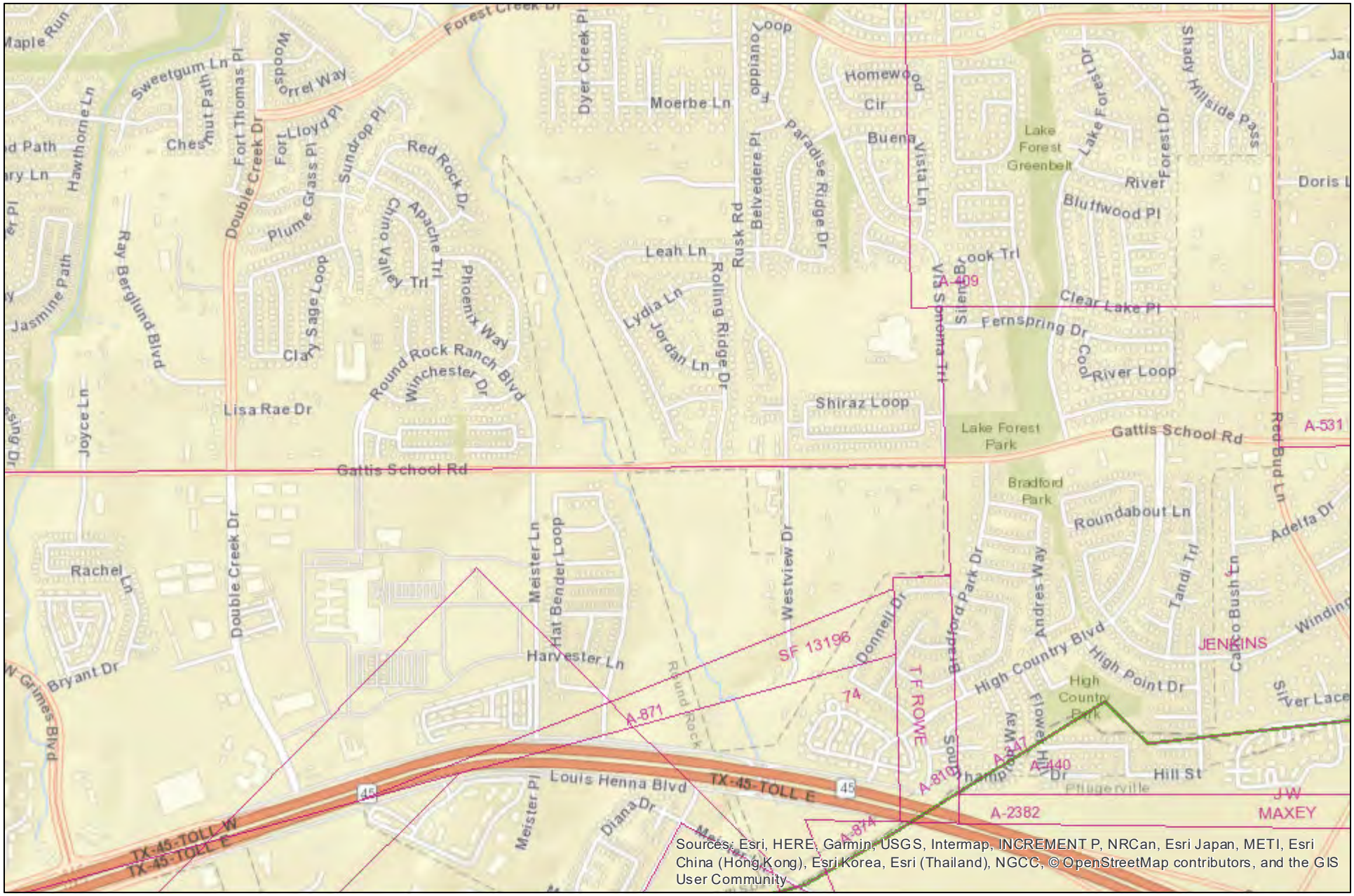
INDIANRES Indian Reservations

VERSION DATE: 01/01/00

The Department of Interior and Bureau of Indian Affairs maintains this database that includes American Indian Reservations, off-reservation trust lands, public domain allotments, Alaska Native Regional Corporations and Recognized State Reservations.

Attachment F

Texas Railroad Commission Public GIS Viewer & Legend



November 12, 2018

1 inch = 1,505 feet

PREPARED BY:

RAILROAD COMMISSION of TEXAS

P.O. BOX 12967
AUSTIN, TX 78711-2967

0 0.2 0.4 0.6 0.8
Miles

0 625 1,250 2,500 3,750 5,000
Feet

Source: RRC Public GIS Viewer

Public GIS Viewer Legend

Well Number

Well Locations

- Permitted Location
- Dry Hole
- Oil
- Gas
- Oil / Gas
- Plugged Oil
- Plugged Gas
- Canceled / Abandoned Location
- Plugged Oil / Gas
- Injection / Disposal
- Core Test
- Sulfur Test
- Storage from Oil
- Storage from Gas
- Shut-In Oil
- Shut-In Gas
- Injection / Disposal from Oil
- Injection / Disposal from Gas
- Injection / Disposal from Oil / Gas
- Geothermal
- Brine Mining
- Water Supply
- Water Supply from Oil
- Water Supply from Gas
- Water Supply from Oil / Gas
- Observation
- Observation from Oil
- Observation from Gas
- Observation from Oil / Gas
- Storage
- Service
- Service from Oil
- Service from Gas
- Service from Oil / Gas
- Storage from Oil / Gas
- Injection / Disposal from Storage
- Injection / Disposal from Storage / Oil
- Injection / Disposal from Storage / Gas
- Injection / Disposal from Storage / Oil / Gas
- Observation from Storage
- Observation from Storage / Oil
- Observation from Storage / Gas
- Observation from Storage / Oil / Gas
- Service from Storage
- Service from Storage / Oil
- Service from Storage / Gas
- Service from Storage / Oil / Gas
- Plugged Storage
- Plugged Storage / Oil

Public GIS Viewer Legend

- Plugged Storage / Gas
- Plugged Storage Oil / Gas
- Brine Mining
- Brine Mining / Oil
- Brine Mining / Gas
- Brine Mining / Oil / Gas
- Injection / Disposal from Brine Mining
- Injection / Disposal from Brine Mining / Oil
- Injection / Disposal from Brine Mining / Gas
- Injection / Disposal from Brine Mining / Oil / Gas
- Observation from Brine Mining
- Observation from Brine Mining / Oil
- Observation from Brine Mining / Gas
- Observation from Brine Mining / Oil / Gas
- Service from Brine Mining
- Service from Brine Mining / Oil
- Service from Brine Mining / Gas
- Service from Brine Mining / Oil / Gas
- Plugged Brine Mining
- Plugged Brine Mining / Oil
- Plugged Brine Mining / Gas
- Plugged Brine Mining / Oil / Gas
- Storage / Brine Mining
- Storage / Brine Mining / Oil
- Storage / Brine Mining / Gas
- Storage / Brine Mining / Oil / Gas
- Injection / Disposal from Storage / Brine Mining
- Injection / Disposal from Storage / Brine Mining / Oil
- Injection / Disposal from Storage / Brine Mining / Gas
- Injection / Disposal from Storage / Brine Mining / Oil / Gas
- Observation from Storage / Brine Mining
- Observation from Storage / Brine Mining / Oil
- Observation from Storage / Brine Mining / Gas
- Observation from Storage / Brine Mining / Oil / Gas
- Plugged Storage / Brine Mining
- Plugged Storage / Brine Mining / Oil
- Plugged Storage / Brine Mining / Gas
- Plugged Storage / Brine Mining / Oil / Gas

Orphan Wells

Commercial Disposal

Injection/Disposal

HCTS Deeper than 15,000 ft.

Public GIS Viewer Legend

High Cost Tight Sands

EOR H13 Oil Wells

Well Logs

Horiz/Dir Surface Locations

Horizontal Well

Directional Well

Horizontal/Directional Lines

LPGAS Sites

QPipelines

Pipelines

Bay Tracts

Offshore Areas

Offshore Tracts

Water Lines

Subdivisions

Railroads

Surveys

Quads

Alert Areas

Water

City Limits

Counties

Operator Cleanup Program Sites

Active

Closed

Oil and Gas Districts

AED Districts

Pipeline Safety Regions

Attachment G

Project Schematic and Profiles

CITY OF ROUND ROCK

SCHEMATIC LAYOUT

ROADWAY: KENNEY FORT BLVD SEGMENT 2 & 3

9/16/2019

FROM FOREST CREEK DR TO SH 45

NET LENGTH OF PROJECT:
8,190.70 FEET = 1.551 MILES

LOCATION MAP

BEARING BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD83 (HARN 93), CENTRAL ZONE AND ADJUSTED TO SURFACE USING PROJECTED SURFACE ADJUSTMENT FACTOR OF 1.000084953.

KENNEY FORT BLVD 2016 EXISTING VOLUMES

KENNEY FORT BLVD 2040 FUTURE VOLUMES

PRELIMINARY DESIGN SCHEMATIC
KENNEY FORT BLVD SEGMENT 2 AND 3

CP&Y TEXAS REGISTERED ENGINEERING FIRM. F-1741
13809 RESEARCH BLVD SUITE 300 AUSTIN, TX 78750

ROUND ROCK TEXAS

Plotted on: 9/16/2019

Attachment H

Site Photographs

Photograph 1. Abandoned car present on Property 12 within project area.

Photograph 2. Debris piled on Property 12 within the project area. Unknown fill material and concrete slabs visible.

Photograph 3. Debris pile located on Property 12. Majority of pile appeared to be wooden pallets, but unknown fill and debris were present beneath.

Photograph 4. Tires piled along back (western) fence line of Property 12.

Photograph 5. Boat in disrepair located in northwestern corner of Property 12.

Photograph 6. Racing fuel barrel present on Property 12. Two of these barrels were observed on this property. No obvious signs of contamination present.

Photograph 7. View looking east from ROW on Property 8. Demolished house present. Debris piles and pipes were still present in the vicinity.

Photograph 8. Burn pit located on Property 4 looking east. Property is utilized as a motorcycle shop and has several motorcycles on property.

Photograph 9. Propane tank, tubing, used tires, and debris visible located on Property 4.

Photograph 10. Used tires and mound of unknown fill material present on Property 4 within project ROW.

Photograph 11. Used tires piled and used barrels within project ROW on Property 4. It is unknown what substance was originally in these barrels.

Photograph 12. View inside one of the barrels picture in Photograph 13. Barrel appears to have been used as burn pit.

Photograph 13. Used tires and a boat in disrepair located within project ROW on Property 4.

Photograph 14. Gasoline tank located within project ROW. No obvious signs of contamination present near container.

Photograph 15. Warning post for underground gas line and transmission lines present within project area.

Photograph 16. Unidentified pipes exposed and running adjacent to the west side of the project area near Property 14.

Photograph 17. Old railroad support beams still present within the project area near Property 14.