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REVISED
AFFECTED PROPERTY ASSESSMENT WORKPLAN
FOR
GRAND PARK, 7275 DALLAS PARKWAY, FRISCO, TEXAS
VCP #2592

OCTOBER 2013
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Prepared for:

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And

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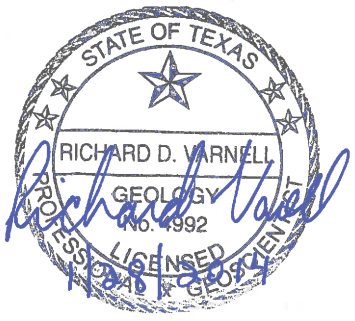

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1.0 INTRODUCTION

This Workplan has been prepared by Cook-Joyce, Inc. (CJI) to describe procedures to be used in implementing an affected property assessment for the City of Frisco's ~320-acre Grand Park development located between Cotton Gin Road, Legacy Drive, Stonebrook Parkway, and Dallas North Tollway in Frisco, Texas. Based on sediment sampling of Stewart Creek conducted by Southwest Geoscience (SWG), it appears that Stewart Creek sediment in Grand Park has been impacted by past operations at the upstream former Exide Battery Recycling Facility (Exide). In addition, historic stack emissions from Exide may have impacted surface soils within Grand Park. The location of the Grand Park site (Site) and the Exide facility are shown on Figure 1.

The field investigation and data evaluation activities described in this Workplan have been developed to fulfill the affected property assessment requirements contained in the TCEQ's Texas Risk Reduction Program (TRRP) rules at 30 TAC Chapter 350, Subchapter C. The primary intent of the affected property assessment is to collect the necessary information to determine the nature and extent of impacted soils or sediments at the Site and to identify any areas of impacted soils or sediments that may require a response action, in accordance with TRRP requirements.

2.0 BACKGROUND INFORMATION

2.1 DESCRIPTION OF GRAND PARK

The Site consists of approximately 320 acres of contiguous property which is bound by Cotton Gin Road to the north, the North Dallas Tollway to the east, Stonebrook Parkway to the south, and Legacy Drive to the west. The Site contains mostly undeveloped land and one cultivated field (in the northwest corner of the property). A farmhouse and associated barns/sheds were observed in the central portion of the Site in historical aerial photographs. Remnants of some of these structures remain.

A current conceptual site plan that depicts the City's future development plans for Grand Park is provided to the right. Two lakes will be constructed on Stewart Creek and will serve as a focal point for the development. Currently, the City of Frisco plans to redevelop the Site with a city park (Grand Park) to the south and east of Stewart Creek and the lakes. The area to the north and west of Stewart Creek and the lakes is planned to be "mixed development".

The "mixed development" area is expected to mostly be retail development, but it may also contain apartments or condominiums.

2.2 DESCRIPTION OF EXIDE BATTERY RECYLING FACILITY

Lead oxide manufacturing operations at Exide began in 1964 under previous ownership. Battery recycling operations began at Exide around 1969 and continued until operations ceased in November 2012 in accordance with a Settlement Agreement with the City of Frisco. Exide's plant infrastructure was constructed over the former channel of Stewart Creek and a tributary to the north. Currently, Stewart Creek is adjacent to the southern side of the former plant buildings, and the northern tributary of Stewart Creek is located immediately to the north of the former plant buildings. Other structures were located across Stewart Creek from the former plant buildings and were connected by piping that crosses the creek. While most of the plant buildings have been demolished, some structures remain Various Exide waste management units and a Class 2 landfill remain.

Exide recycled large batteries (such as auto and marine batteries) by breaking them in a water bath. Plastic and rubber "chips" from the broken battery casings floated to the surface of the water where they were collected for disposal. Liquid from the batteries mixed with the water, and was treated in the facility's wastewater treatment plant. Metal from the batteries sank to the bottom of the bath, where it was collected. The metal was then re-smelted to recover lead and smaller amounts of other valuable metals. The smelting process produced three waste streams: slag, dust control water, and dust (most of which was captured in baghouses).

2.3 CONTAMINATION SOURCE

The waste streams produced at Exide have resulted in widespread contamination of the Exide property and surrounding areas. Exide has been subject to multiple state and federal environmental enforcement actions. Sections of Stewart Creek have previously been dredged to remove slag and/or lead contaminated sediment - initially in 1986 and again in 1999. Lead contaminated sediment has been reported in or adjacent to Stewart Creek downstream of Exide on the Site and other property.

Previous sampling has shown that shallow soil contamination from airborne deposition of lead particulate also extends over at least 20 acres of Exide property. Most of this soil contamination is less than 1 foot deep. Due to the Site's close proximity to the Exide facility and the Exide "buffer property" (also known as the J-Parcel), shallow soil contamination from airborne

deposition of arsenic, lead, cadmium, and selenium is also a potential contaminant source for the Site.

2.4 CONTAMINANTS OF CONCERN

The contaminants of concern (COCs) are contaminants that have previously been identified during Exide site investigation activities. COCs also include potential contaminants that were identified in the Phase I Environmental Site Assessment (ESA)[1] that was prepared for the Site. Grand Park COCs include:

- Target metals (arsenic, cadmium, lead, and selenium);
- Herbicides and pesticides from on-site farming activities;
- Total Petroleum Hydrocarbons (TPH) from historic and current petroleum use;
- Polycyclic Aromatic Hydrocarbons (PAHs) from current diesel fuel use at an on-Site concrete crusher; and
- Resource Conservation and Recovery Act (RCRA) 8 metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver).

2.5 PRIOR INVESTIGATION AND SAMPLING

In November 2011, SWG collected 19 sediment samples in and around Stewart Creek on the Site. The locations of the sediment samples are shown on Figure 2 of this document and on Figure 2 of SWG's Limited Site Investigation - Sediment Sampling of Stewart Creek report (provided in Appendix J of the Grand Park Phase I ESA and incorporated herein by reference). These sediment samples were collected from the ground surface and were submitted for laboratory analysis of arsenic, selenium, cadmium, lead, and sulfate. The analytical results are summarized in Table 1 of this Workplan.

In March and April of 2013, Southwest Geoscience (SWG) conducted a walking survey of Stewart Creek between Dallas North Tollway and Stonebrook Parkway on the Site. SWG identified numerous areas containing battery chips and potential slag within Stewart Creek.

[1] *Phase I Environmental Site Assessment, Grand Park, 7275 Dallas Parkway, Frisco, Texas, VCP #2592, CN600245526*, by Cook-Joyce, Inc., dated January 2014

SWG returned to the Site in June 2013 and collected additional sediment samples and samples of battery chips and potential pieces of slag that were observed in the creek. Although SWG has not finalized its report documenting its sample collection and data validation procedures, SWG has provided those data to the City of Frisco and CJI for use in the Grand Park VCP project. Therefore, those data are included in Table 1 and those sample locations are provided in Figure 2. The laboratory reports for SWG's 2013 analytical data are provided in Appendix K of the Phase I ESA and are incorporated by reference in this document.

In addition to the impacts to creek sediment, shallow soil contamination from airborne deposition of lead particulate has been reported on the Exide property. The Affected Property Assessment Report prepared for a portion of the Exide property[2] (the "FOP APAR") documents some of the surficial soil impacts. The Exide property subject to the FOP APAR consists of land inside of Exide's RCRA Permit Boundary and a tract of land outside of the RCRA permit boundary called "the Lake Tract". Exide's also operates a Class 2 Landfill on the property that is outside of the RCRA Permit Boundary (all of this property is also known as the Bowtie tract).

In addition to the FOP APAR, CJI has reviewed analytical data obtained for the adjacent Exide buffer property (also known as the J-Parcel tract) which is a VCP project (VCP #2541). The J-Parcel consists of 13 tracts of land owned by Exide that have historically served as buffer property around the FOP. The data CJI has reviewed have not been submitted to the TCEQ and CJI cannot provide them with this Workplan. However, they indicate that at least another 12 acres of land within the J-Parcel is also contaminated with lead. Most of this soil contamination is less than 1 foot deep, and some is present in heavily wooded areas.

Several conclusions can be drawn from this information for use in future planning of affected property assessment activities:

- Sediment in Stewart Creek within and upgradient of Grand Park is known to have been impacted by past Exide operations.

- Surficial soils at the Site may have been impacted by airborne deposition of lead contaminated particulate from Exide. If surficial impacts exist, their extent is

[2] *Affected Property Assessment Report, Former Operating Plant, Frisco Recycling Center, Frisco, Collin County, Texas (Agreed Order Docket No. 2011-1712-IHW-E)*, by Pastor, Behling & Wheeler, LLC, dated 8 July 2013.

currently unknown. Therefore, it is unknown if PCLs for a source area of less than ½ acre or greater than ½ acre, but less than 30 acres, will be used during the investigation. However, as a conservative measure CJI will assume that less than 30 acre PCLs should be used at the Site unless the sample data suggests otherwise.

2.6 PHASE I ESA FINDINGS

The Grand Park Phase I ESA concluded that there are two recognized environmental conditions at the Site. They are:

- **The Former Exide Battery Recycling Facility** – As discussed above, analytical data indicates that Stewart Creek sediment in Grand Park has been contaminated by Exide. Based on this information Exide is an REC for the Site.

- **On-Site Monitoring Wells** –Two permanent monitoring wells were noted on the Site's eastern property boundary (adjacent to Dallas Parkway/Dallas North Tollway). The City of Frisco had no information related to these monitoring wells. They are considered an REC for the Site because their purpose (what they were installed to investigate) is unknown.

In addition to the two RECs, there were several other items of interest noted at the Site. The Grand Park Phase I ESA concluded that there are two recognized environmental conditions in connection with the subject property. They are:

- **On-Site Piezometers** – Two piezometers with no permanent surface completion were observed at the Site. One was located near the center of the Site, the second on the north side of Stewart Creek. The piezometers were reportedly installed to provide geotechnical and depth to water information in the area where future Grand Park dams will be constructed. Both piezometers are located near a sewer line that runs north-south across the Site.

- **Historic On-Site Ranch Buildings** – There are several dilapidated structures in the vicinity of a former "farmhouse complex" that is located on the Site. Based on historical aerial photographs, the complex consisted of a house and several associated outbuildings. There are broken power/telephone poles in this area. There is also reportedly a cellar that was not observed by CJI due to a nearby, active bee hive.

- **Historic On-Site Cultivation** – Available aerial photography indicates that various portions of the Site were used as farmland in the past. Based on discussions with City of Frisco personnel, cotton was a common crop that was grown in the Frisco area in the past. But no specific information was available regarding if, when, or where cotton was cultivated on the Site.

- **Debris Piles and Trash** – Debris piles were noted in several areas on the Site. Trash was noted along the Site's frontage with the Dallas North Tollway/Dallas Parkway and along Stewart Creek.

- **TBK Materials Lease Area** – TBK Materials currently leases an area of the Site and uses that area to crush, separate, and stockpile concrete. Concrete is trucked in, crushed, and then stockpiled in this area. Waste rebar was not observed in the lease area, but 3 ASTs and 3 drums were noted. The ASTs contain different grades of diesel fuel; the drums hydraulic fluid or oil. Significant staining or other evidence of a release was not observed in the lease area or adjacent to the fuel containers.

Several conclusions can be drawn from this information for use in future planning of affected property assessment activities:

- Additional analyses are warranted in portions of the Site that have been under cultivation for decades.

- Additional analyses are warranted in the vicinity of the former farmhouse and its associated outbuildings.

- Additional analyses are warranted in the vicinity of the TBK Materials Lease Area.

- Additional research of the two permanent monitoring wells and two piezometers is warranted.

3.0 ASSESSMENT APPROACH

An affected property assessment will be conducted to determine the nature and extent of contaminants in soils and sediments within the Site. The assessment activities may require more than one field mobilization to adequately determine the extent, if any, of soil contamination. The investigation activities for the first field mobilization are presented in Section 4.0. Subsequent field mobilizations, if required, will be based on the investigation findings from the first field mobilization.

3.1 SURFACE WATER SAMPLING IN STEWART CREEK

Surface water will be sampled where it is available in Stewart Creek. Because it is anticipated that the creek is mostly dry due to drought conditions, discrete pools of water will be sampled in accordance with TCEQ Regulatory Guidance (RD) 415[3] using the following methodology:

1) Accessible and discrete sample locations will be selected along the main segment of Stewart Creek.

2) Sampling will not occur during periods of abnormally high turbidity associated with high or flood flows in the creek.

3) At each sample location a peristaltic pump will be used to sample water originating from approximately 0.3 meters (1 foot) beneath the water surface or approximately halfway down if the standing water is less than 1 foot deep. Care will be taken to not unduly agitate the water to reduce the amount of sediment in each sample.

4) Surface water being sampled for total metals will be pumped directly into a laboratory provided sample bottle. Once sufficiently full the sample bottle will be preserved with nitric acid, capped, labeled and placed in an ice filled cooler prior to being taken or shipped to the laboratory for analysis.

5) Surface water being sampled for dissolved metals will be pumped directly through a 0.45 micro filter prior to being pumped into a laboratory provided sample bottle. Once sufficiently

[3] *Surface Water Quality Monitoring Procedures, Volume 1: Physical and Chemical Monitoring Methods, RG-415*, TCEQ, Revised August 2012.

full the sample bottle will be capped and placed in an ice filled cooler prior to being taken or shipped to the laboratory for analysis.

Up to 20 samples of surface water will be collected and analyzed for total and dissolved concentrations of arsenic, cadmium, lead, and selenium. The coordinates of each surface water sample will be determined using a Global Positioning Satellite (GPS) unit and recorded in the logbook. A physical marker, such as flagging or a stake, will also be used to mark the sample location. One duplicate sample per 20 water samples will be collected for Quality Assurance/Quality Control (QA/QC) purposes.

3.2 SEDIMENT SAMPLING IN STEWART CREEK

There are 5 discrete segments of Stewart Creek and its tributaries in the assessment area. CJI proposes building on the previous assessment performed in Stewart Creek by SWG. SWG's data will be supplemented during this phase of the investigation. In general, SWG (which will perform the stream sampling in this phase of the assessment as well) will collect 1 sediment sample per each 250 linear feet of creekbed. Each area that will be sampled, its approximate length, the number of previous samples collected by SWG, and the number of additional samples that will be collected by SWG is described in the following table.

Segment	Description	Approximate Length (feet)	Previous Samples	Number of Additional Samples
Stewart Creek	Main Segment of Stewart Creek that bisects Grand Park	6400	24	3
Historic Path of Stewart Creek	A former path of Stewart Creek located north of its current path.	2200	0	9
Tributary 1	Starts near center of property and flows southwest to Stewart Creek	1000	0	4
Tributary 2	Flows southwest from east corner of site to Stewart Creek.	2900	0	13
Tributary 3	Flows northwest from southeast corner of site to Stewart Creek.	1300	0	5
	Totals	15200	24	34

Each sediment sample will be analyzed for total concentrations of arsenic, cadmium, lead, and selenium. General sample locations are shown on Figure 2. Sample locations will be chosen

from accessible portions of each creekbed. Sediment accumulation areas (such as bends in the creek) will preferentially be chosen as sample locations. Only the top 3 inches of sediment will be collected, and fine-grained sediment will be preferentially selected over coarse-grained sediment. Samples will either be collected by hand using a single-use, disposable plastic sampling trowel or, if sampling underwater, using a ponar or a similar dredge sampler. Regardless of the equipment used, reusable sampling equipment will be decontaminated prior to each use. The coordinates of each sediment sample will be determined using a GPS unit and recorded in the logbook. A physical marker, such as flagging or a stake, will also be used to mark the sample location. One duplicate sample per 20 sediment samples will be collected for QA/QC purposes.

3.3 SOIL SAMPLING IN UPLAND AREAS

The soil assessment will be conducted by superimposing a sampling grid across the Site and collecting samples within that grid. Some judgmental samples will also be collected from specific areas. Figure 3 provides a one square acre sampling grid that is superimposed over the general property boundaries and Grand Park design plans obtained from Jacobs Engineering. The design plans include the planned extent and depth of the Grand Park lakes. Due to the scale involved, elevation are not shown on the sidewalls of the lake, but they have been obtained from the plans. Jacob's current design calls for the base of the lakes to be at an approximate elevation of 577.5 feet above mean sea level.

Each surface soil sample will be collected from the top few inches of soil (0 to 3 inches below ground surface) since the potential contamination is from particulate deposition from airborne emissions from the former Exide facility. Samples will be collected by hand using disposable sampling trowels or reusable plastic hand shovels that will be decontaminated prior to each use. The coordinates of each surface soil sample will be determined using a GPS unit and recorded in the logbook. A physical marker, such as flagging or a stake, will also be used to mark each sample location. One duplicate sample per 20 soil samples will be collected for QA/QC purposes.

3.3.1 Target Metals

CJI proposes collecting samples for target metals (arsenic, cadmium, lead, and selenium) across the Site. CJI will collect at least 8 samples per acre in portions of the Site that may be

sold for mixed use commercial and residential development. That portion of the Site is approximately 160 acres in size and is shaped like an upside down capital L. Based on the sample grid that has been established for the Site, this will result in approximately 1,350 samples being collected within that portion of the Site.

Approximately two samples per acre will be collected in the area of the Site that will be redeveloped as a park (between 160 and 170 acres in size). This will result in an initial total of approximately 350 surface soil samples in the park area. Reasons why this reduced sampling frequency is warranted are discussed in Section 3.4.

When both areas are combined, the total number of surface soil samples that will be collected during the initial sampling effort (including duplicate samples) is approximately 1,700. Figure 4 provides the proposed location for each of these samples. If resampling or further delineation is required, those activities will increase the total number of samples collected in upland areas of the Site.

3.3.2 Pesticides and Herbicides

Based on historical information obtained for the Phase I ESA, the Site has primarily been either farmland or pasture since the 1940s. Based on a 10 December 2013 discussion with the TCEQ regarding this Workplan, we understand that the TCEQ is concerned with residual herbicides and pesticides that may be present in the previously farmed portions of the Site.

The City notes that agricultural chemicals, such as herbicides, pesticides, fertilizers and defoliants, which may have been used on the Site are by TCEQ rule not considered a release or waste disposal as long as their use was in accordance with respective label instructions. Such use is considered an application and is not regulated by the TCEQ. Therefore, the City does not believe the addition of herbicide and pesticide analyses to the Revised Workplan to be a regulatory necessity.

However, to address your concerns the City has requested that CJI add herbicide (EPA Method 8151A) and pesticide (Organochlorine Pesticides by EPA Method 8081A) analyses to all of the samples obtained from the agricultural field located at the Site's northeast corner. CJI's observations and historical aerial photography suggest that this area has been the most

consistently farmed portion of the property since the early 1940s. As such, it represents a "worst case" scenario for the presence of herbicides and pesticides.

The northeast field will be the first area CJI will collect surface soil samples from. Once obtained, the sample results from the northeast field will be used to evaluate the need to perform that level of analytical sampling in other areas of the Site. The results from that area will be shared with the TCEQ as soon as possible following their receipt and validation by CJI.

If herbicides are detected at concentrations above tier 1 residential PCLs for the northeast field, then CJI will modify the proposed analytical program to include herbicide analyses on samples collected from other historically cultivated portions of the Site.

Likewise, if pesticides are detected at concentrations above tier 1 residential PCLs for the northeast field, then CJI will modify the analytical program to include pesticide analyses in additional areas.

If neither type of chemical is detected at concentrations above critical PCLs, then these analyses will not performed as part of the general sampling program, but will still be performed in target areas, such as in the vicinity of the former farmhouse that is located on the subject property (see below).

3.3.3 Former Farmhouse and Associated Buildings

Because the former farmhouse, barn, and associated buildings represent likely areas where agricultural chemicals, oil, and fuels could have been stored, CJI proposes to analyze samples obtained from that area of the Site for additional COCs.

As shown on Figure 6, CJI will collect 9 soil samples in the near vicinity of the former farmhouse, barn, and associated buildings. CJI proposes to analyze those samples for the following:

- Target metals (arsenic, cadmium, lead, and selenium) by EPA Method 6020.
- Total Petroleum Hydrocarbon (TPH) analyses by Texas Method 1005. If necessary TPH concentrations will be speciated using Texas Method 1006.
- Herbicides (EPA Method 8151A) and Organochlorine Pesticides (EPA Method 8081A).

3.3.4 TBK Materials Lease Area

TBK Materials Company, a concrete crushing and construction materials business, has leased a 4-acre portion of the Site from the City of Frisco. TBK Materials trucks concrete to their lease area and crushes it on-site. Once crushed, the pieces of concrete are separated by size and type and stockpiled on-site. Then those materials are sold and trucked off-site to construction projects. The TBK Materials lease area is located on the southwest side of the Site (Figure 7). It is a roughly square area that is approximately 4 acres in size. It is essentially surrounded with silt fencing. In addition to the silt fencing, berms made from topsoil that was scraped up from the surface of the lease area are located along the southern and southwestern boundaries of the leased area. The TBK Materials lease area has compacted gravel entry/exit road that connects to Legacy Drive.

Three above-ground storage tanks (ASTs) were observed in the lease area. All three of the tanks were labeled as containing various grades of diesel fuel. Two 500-gallon tanks appeared to contain off-road diesel, and a larger 10,000-gallon AST in a metal secondary containment trough contained low sulfur diesel fuel. Hydraulic fluid and oil are stored in 3 drums located adjacent to the 10,000 gallon AST. Staining or other indications of leakage were not observed around the drums or ASTs.

CJI proposes to sample the TBK Materials lease area in the following manner:

- CJI will select 3 different locations adjacent to the diesel ASTs and oil/hydraulic fluid drums to collect samples. Those locations will be selected based on indications of a potential release (although no stained gravel was observed during the Phase I ESA, CJI will reevaluate the area for stained gravel, absorbent on the ground, or other indications of a release). Likely areas where there could have been a release, such as under a dispenser hose, will also be evaluated. We will dig past the gravel at the surface and collect samples of soil immediately underlying the gravel. The soil samples will be analyzed for target metals (arsenic, cadmium, lead, and selenium by EPA Method 6020), TPH (Tx Method 1005 and potentially 1006), and Polycyclic Aromatic Hydrocarbons (PAHs) by EPA Method 8270.

- CJI will install 12 test pits in the berm located to the southwest and south of the lease area. One sample will be obtained from each test pit. Each of those samples will be analyzed for target metals.

- Surface water drains through silt fencing from the lease area's southeast corner. CJI proposes to collect 1 surface water sample and 1 surface soil sample from that location.

Both samples will be analyzed for RCRA 8 Metals[4] (using EPA Methods 6020/7470/7471), TPH, and PAHs.

3.3.5 Future Lake Area

As discussed during our 10 December 2013 teleconference, we understand the TCEQ's concern relative to the lakes that will be excavated and constructed along the current path of Stewart Creek. CJI proposes to install 27 borings along the future path of the proposed lakes to assess the soil that will become the base or sidewalls of the lakes once they are developed. CJI proposes the following scope of work while installing those borings:

- Based on elevations provided by Jacobs Engineering, the planned elevation of the bottom of the lakes is approximately 577.5 feet above mean sea level (amsl). Sidewalls of the lakes are relatively steep. In the event that a boring is installed to assess a sidewall of the proposed lakes, the specific sidewall elevation for that area will be determined prior to installing the boring. The planned excavation is provided on Figures 3 through 9 of this Workplan. Proposed boring locations are provided on Figure 8.

- While future planned depths within the lakes are known, the ground surface at Grand Park is not (no current topographic survey exists). Therefore, CJI will determine the base elevation of each boring location using Trimble GPS units that meet TCEQ requirements. CJI staff have been trained, and received training certificates in accordance with TCEQ Guidance, in the use of these GPS units. Finally, the GPS units will be real time corrected to aid determining an accurate elevation.

- Once the elevation at each boring location has been determined, CJI will install a boring using a Geoprobe™ or similar direct push technology (DPT) drilling rig. CJI will log the lithology of the boring and field screen core samples. Absent other indications of contamination (such as an elevated Organic Vapor Meter [OVM] measurement), CJI will collect soil samples from the two, 2-foot intervals that most closely correspond to a sample elevation of 577.5 feet amsl or the elevation of the sidewall of the lake (depending on the location of the boring). For example, if the ground surface is 590 feet amsl, then CJI will collect soil samples from 10-12 feet bgs (578-580 feet amsl) and 12-14 feet bgs (576-578 feet amsl) for laboratory analysis.

- Both samples will be analyzed for target metals. If significant surficial contamination of other COCs is discovered, or if indicated by field screening, then additional analyses may also be performed on these samples.

3.4 MODIFIED EXPOSURE AREA FOR FUTURE GRAND PARK DEVELOPMENT

CJI proposes using a modified exposure area in the portion of Grand Park that will be redeveloped as a park. We believe a modified exposure area is justified based on the following:

[4] Arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

Current and Future Uses of the Park Area

- No existing residences and no platted residential properties currently exist on that area of the Site.
- The City of Frisco will restrict the future construction of residential properties in that area through the use of a deed recorded development restriction.
- Open areas are proposed for the park. The use of the park will not be limited to a small area (such as the back yard of a home). Therefore, exposure scenarios based on chronic exposures to a contaminant in a small area are not applicable to the Site.

Contamination Pathways at Grand Park

- It is documented that Stewart Creek has been impacted by the former Exide facility.
- It is considered unlikely that significant impacts originating from the former Exide facility will be discovered in upland areas of Grand Park. This is based on the following lines of reasoning:
    - Wind direction - According to wind roses for the Dallas/Fort Worth area (http://www.tceq.texas.gov/airquality/monops/windroses.html) the subject property is crosswind from the former Exide facility (the primary emission source in the area). Airborne impacts originating from Exide are considered the primary mechanism by which surface soil could have been contaminated at Grand Park. Because the prevailing winds in the Frisco area are from the south, CJI considers it unlikely that upland portions of the subject property will be significantly impacted by airborne deposition from the former Exide facility.
    - Grand Park was not historically owned or controlled by Exide or its predecessors.

Investigation Specifics

- Extensive investigation activities and intensive sampling and delineation of potential source areas both on and off site of this area will be conducted.
- The Site-specific PCL for lead, which is considered the primary contaminant of concern at the Site, is 250 milligrams per Kilogram. This is ½ of the residential $^{Tot}Soil_{Comb}$ PCL, which is anticipated to be the critical PCL for lead at the Site. This will result in more conservative delineation and remediation efforts at Grand Park than would otherwise be necessary.
- In addition to grid sampling, targeted sampling will be performed in areas where battery chips or slag are observed by CJI field personnel.
- CJI will statistically evaluate the samples taken in the future park area. If possible, we will demonstrate that COCs (if present) are relatively homogeneous over an area larger than the residential default size in accordance with 30 TAC 350.51(l)(3).

Based on this information CJI believes that a modified exposure area and a reduced sampling frequency is warranted in the future park area within Grand Park.

3.5 GROUNDWATER ASSESSMENT

As previously mentioned two permanent monitoring wells and two piezometers have been observed on the subject property. CJI has obtained boring logs and construction details for both of the piezometers. Those construction details are provided in Appendix B of the Grand Park Phase I ESA and are incorporated herein by reference. CJI has no construction details on the permanent monitoring wells.

CJI will continue to investigate the two permanent wells. If construction details can be determined for the two wells CJI will utilize them in the VCP investigation. If the wells can be used for the assessment they will be redeveloped. Once redeveloped, both wells will be sampled for target metals at a minimum. CJI will also evaluate the drums adjacent to both of these wells.

Likewise, CJI proposes to use the two piezometers in the investigation. Based on construction details, both piezometers are installed to depths of 40 feet below grade and have 15 feet of screen (from 25 to 40 feet bgs). Based on their boring logs, both piezometers are screened within the Eagle Ford shale that underlies the Site. Therefore, neither piezometer is screened appropriately to assess lighter than water contaminants.

However, due to the sand pack installed at both piezometers, they could be used for a qualitative evaluation of dissolved, inorganic contaminants (such as lead or cadmium). The sand pack for both piezometers extends from an approximate depth of 5 feet below grade to the total depth of both borings (from 5 to 40 feet bgs). Based on the boring log for boring/piezometer 6, the sand pack extends across the entire stratum that is likely producing the groundwater present in that piezometer (a clayey gravel stratum located from 9 to 13 feet bgs). A similar clayey gravel stratum was not reported in boring/piezometer 8, which contained no groundwater when measured in 2012 or 2013.

To utilize these piezometers in this assessment, both will initially be checked for groundwater. If groundwater is present, then the piezometers will be converted to permanent monitoring wells, resurveyed, redeveloped, and then sampled for target metals.

In addition to the four wells/piezometers discussed above, CJI proposes to install monitoring wells at locations where surface soil contamination is discovered in upland portions of the Site. In the event that surface soil contamination is not discovered, then CJI will install 3 permanent monitoring wells in the locations shown on Figure 9. Each of the new wells installed by CJI at the Site will be developed, then sampled for target metals at a minimum. In the event that additional contaminants are discovered in surface soils at the Site, then those analytes will be added to the groundwater assessment.

4.0 FIELD INVESTIGATION ACTIVITIES

CJI anticipates the field activities for the affected property assessment may require at least two field mobilizations. The following presents the investigation strategy for the first field mobilization. The investigation strategy for subsequent field mobilizations will be based on information obtained from the first field mobilization. As described below, a total of 20 surface water, 35 sediment, and approximately 1,800 surface soil samples will be collected during the first field mobilization. Soil and sediment samples will be collected for laboratory analysis in an effort to determine the nature and extent of impacts. The planned locations of the sediment samples are shown on Figure 2. The planned locations of soil samples are shown on Figures 4 through 8. Default locations for the monitoring wells that will be used in the groundwater assessment are shown on Figure 9. Sampling locations may require field adjustment based on actual site conditions encountered. Actual locations of all collected samples will be determined using a GPS unit and recorded in the logbook.

4.1 ASSESSMENT SAMPLES

During the first field mobilization, approximately 1, 850 surface water, groundwater, surface soil, and sediment samples will be collected at the Site. Due to the scope of this sampling effort the initial field mobilization will last several weeks. Soil and sediment samples will be collected from 0 to 3 inches at or near the locations shown on Figures 2 and 3.

Samples will be collected and handled in accordance with EPA and TCEQ technical guidance. The soil samples will be collected using pre-cleaned or decontaminated equipment. All samples will be placed in laboratory supplied, pre-cleaned jars with airtight lids, and then immediately transferred into a cooled shuttle container for delivery to the analytical laboratory. Each shuttle container will be chilled to and maintained at 4°±2° C. The temperature of the samples will be verified upon receipt by the laboratory. In accordance with TCEQ sampling guidance, the samples will be delivered or shipped to the laboratory within 2 days of sample collection.

4.2 QUALITY ASSURANCE / QUALITY CONTROL SAMPLES

Quality assurance/quality control samples will be collected to ensure data usability. QA/QC samples will consist of one duplicate sample for every 20 investigation samples collected. The

analytical results for the duplicate samples will be evaluated to determine the precision of sampling and analysis methods.

4.3 BACKGROUND SAMPLING

Background soil samples have been collected from the Grand Park property by Pastor, Behling & Wheeler, LLC (PBW). PBW collected the samples on behalf of their client, Exide Technologies. The purpose of the background samples was to determine representative background concentrations for arsenic, cadmium, and lead in surface soil in the area. The sample locations were reportedly requested by and were agreed to by the United States Environmental Protection Agency (EPA).

A Background Report[5] documenting their sample collection procedures, sample results, statistical evaluation, and conclusions is provided in Appendix I of the Grand Park Phase I ESA and incorporated herein by reference. The general location where these samples were collected is provided on Figure 4 of the Phase I ESA and on Figure 1 of the PBW report. Specific background sample locations are provided on Figure 2 of the PBW Report.

As documented in the Background Report, PBW collected 10 soil samples near Stewart Creek on the southern portion of the subject property on 29 March 2012. Based on a verbal request by the TCEQ, PBW collected 3 more soil samples from the same area on 9 May 2013. The TCEQ presumably requested additional sampling because 2 of the 10 samples in the initial data set were statistical outliers that represent likely contamination. The analytical data from those samples is summarized in the following table.

Sample ID	Sample Depth (feet below ground surface)	Concentration (milligrams per Kilogram [mg/Kg])		
		Arsenic	Cadmium	Lead
2012-BG-1	0-2	11.2	< 0.0313 UJ	13.2 J
2012-BG-2	0-2	9.29	< 0.0287 UJ	13 J
2012-BG-3	0-2	11.6	< 0.0301 UJ	11.5 J
2012-BG-4	0-2	10.8	< 0.0315 UJ	15.7 J
2012-BG-5	0-2	14.8	< 0.031 UJ	13.5 J

[5] *Revised Site-specific Background Soil Concentration Evaluation, Exide Technologies Frisco Recycling Center, 7471 South 5th Street, Frisco, Texas 75034, TCEQ SWR No. 30516; EPA ID No. TXD006451090; Customer No. CN600129787; Regulated Entity No. RN100218643*, by Pastor, Behling & Wheeler, LLC, dated 30 May 2013.

Sample ID	Sample Depth (feet below ground surface)	Concentration (milligrams per Kilogram [mg/Kg])		
		Arsenic	Cadmium	Lead
2012-BG-6	0-2	10.0	< 0.0314 UJ	14.3 J
2012-BG-7	0-2	9.74	< 0.031 UJ	14.1 J
2012-BG-8	0-2	9.83	0.122 J	24 J
2012-BG-9	0-2	12.6	8.09 J	*302 J*
2012-BG-10	0-2	11.0	< 0.615 UJ	*67.6 J*
2012-BG-11	0-2	Not Analyzed	Not Analyzed	20.6
2012-BG-12	0-2	Not Analyzed	Not Analyzed	27.5
2012-BG-13	0-2	Not Analyzed	Not Analyzed	18.9
Background Mean		11.1	Not Calculated	16.9
Standard Deviation		1.64	Not Calculated	5.16
K-Value		2.911	--	2.815
Upper Tolerance Limit		15.9	Not Calculated	31.5

Notes: Values presented in *italic* type were excluded from statistical analyses because they were statistically identified as outliers.

Data Qualifiers: J = estimated concentration; UJ – compound not detected at the indicated detection limit, estimated value.

Background values not calculated for cadmium because most of the data were non-detect.

The lead concentrations reported in the highlighted samples, 2012-BG-9 and 2012-BG-10, were considered outliers and were excluded from the statistical evaluation. CJI considers the highlighted lead and cadmium concentrations reported above to be indicative of surface soil contamination.

As shown in the table above, PBW used the arsenic and lead data to calculate upper tolerance limits (UTLs). The UTLs represent background levels for arsenic and lead in surface soil of 15.9 mg/Kg and 31.5 mg/Kg, respectively. Those values were reported to the TCEQ in the FOP APAR (the Background Report is provided in Appendix 8 of that document). CJI assumes that the TCEQ has approved the Background Report and calculations, since they did not comment on them in their 8 October 2013[6] or 19 November 2013[7] letters regarding the FOP APAR. The

[6] Letter from Mr. Gary Beyer (TCEQ) to Mr. Matt Love (Exide), *Comments to the Affected Property Assessment Report (APAR) and the Tier 2 Screening Level Ecological Risk Assessment (SLERA) for the*

19 November 2013 letter is a conditional approval of the FOP APAR. Based on the TCEQ's apparent concurrence, and since those samples were collected on-Site, CJI has concluded that those values are appropriate for use in the Grand Park VCP investigation.

4.4 VERTICAL DELINEATION

Using an iterative process, CJI will return to areas with contaminant concentrations that exceed the residential assessment levels (RALs) for the site. Impacts will be delineated vertically to background or, if applicable, to the method quantitation limit (MQL). Impacts will be delineated laterally to the RAL or, if applicable, the appropriate ecological PCL or comparison standard.

If possible CJI will attempt to vertically delineate impacts to background and/or MQLs in soils prior to encountering a saturated zone. However, if this is impossible, CJI will install monitoring wells to determine if groundwater is contaminated as discussed Section 3.5 of this Workplan.

4.5 ANALYTICAL PROTOCOL

Each soil and sediment sample collected during the first field mobilization will be analyzed for total concentrations of the target metals (arsenic, cadmium, lead, and selenium). Additional analyses will also be performed on soil samples collected in specific areas of the Site (as discussed in Section 3.3). Surface water samples will be analyzed for total and dissolved concentrations of the target metals. At a minimum, groundwater samples will be analyzed for total concentrations of target metals.

The target metals and other parameters were chosen based on the contaminants previously identified during site investigation activities at the Exide facility, on potential issues identified during the Phase I ESA, and on concerns voiced by the TCEQ. Contaminants of concern are described in Section 2.3.

Table 2 identifies the soil sample collection intervals and their associated analytical protocol. Analytical methods and sample handling requirements are summarized in Table 3.

Former Operating Plant, dated July 9, 2013, Request for a Revised APAR, Exide Recycling Facility, 7471 5th Street, Frisco, TX 75034-5047, dated 8 October 2013.

[7] Letter from Mr. Gary Beyer (TCEQ) to Mr. Matt Love (Exide), *Conditional Approval of Response to TCEQ and EPA Comments on Affected Property Assessment Report (APAR) and Tier 2 Screening Level Ecological Risk Assessment for the Former Operating Plant, dated October 29, 2013, Exide Recycling Facility, 7471 5th Street, Frisco, TX 75034-5047*, dated 19 November 2013.

4.6 DECONTAMINATION PROCEDURES

Sample collection equipment (trowels, shovels, etc.) will be cleaned in appropriate containers by scrubbing with a decontamination solution (distilled water with a surfactant such as Alconox^{TM}) and rinsing with distilled water prior to each use and/or reuse. Decontamination wash water, rinsate, and residues will be containerized in drums and managed as potentially-contaminated materials.

4.7 MANAGEMENT AND DISPOSAL OF INVESTIGATION DERIVED WASTE

Investigation-derived waste (IDW) will be collected and stored in one or more drums that will be temporarily stored on-site and managed as potentially-contaminated materials. In addition, CJI will evaluate the drums discovered adjacent to the permanent monitoring wells discovered on-Site.

5.0 RECEPTOR SURVEY AND GROUNDWATER CLASSIFICATION

5.1 RECEPTOR SURVEY

A receptor survey will be conducted as part of the affected property assessment. The survey will include a search for water wells within one-half mile of the affected property. In addition, a field receptor survey will be performed within 500 feet of the affected property to identify potential receptors, drainage features, ecological considerations, utilities, and other field receptor information required by TRRP.

5.2 GROUNDWATER CLASSIFICATION

CJI will classify groundwater on the subject property in accordance with TCEQ guidance and regulations.

6.0 DATA EVALUATION AND PLANNING

Upon receipt of the laboratory results, CJI will evaluate the laboratory data to determine if it meets quality assurance requirements and project and measurement objectives. CJI will evaluate the information obtained during the first field mobilization to determine if additional data collection activities will be required to fulfill the affected property assessment requirements of 30 TAC 350.

Once sufficient data has been collected and all impacts have been delineated, CJI will present that information to the TCEQ in an APAR. If applicable, a Response Action Plan (RAP) will also be submitted.

TABLES

TABLE 1 - SUMMARY OF PREVIOUS STEWART CREEK ANALYTICAL DATA
GRAND PARK, FRISCO, TEXAS

Sample I.D.	Sample Date	Data Source	Stream Segment	Depth (feet)	Total Concentrations in mg/Kg					TCLP Lead (mg/L)
					Arsenic	Cadmium	Lead	Selenium	Sulfate	
Critical Residential PCLs[1]					15.9[5]	52[6]	250[7]	2.3	--	--
Ecological Freshwater Second Effects Level[2]					33	4.98	128	None	--	--
Ecological Freshwater Benchmark Values for Sediment[2]					9.79	0.99	35.8	None	--	--
Soil Background Values Calculated for Exide APAR[3]					15.9	--	31.5	None	--	--
Hazardous Waste Threshold[4]					--	--	--	--	--	5
SC-SED-1	11/18/2011	SWG-SCWWTP APAR	SCWWTP	0-0.5	11.9	0.61	38.2	<1.09	39.3	NA
Slag (6-24)-1	6/24/2013	SWG-Bowtie Inv.	SCWWTP	--	118	<0.020	35200	NA	NA	23.7
Slag (6-24)-1 Base	6/24/2013	SWG-Bowtie Inv.	SCWWTP	--	16.4	0.56	17.8	NA	NA	N/A
Slag (6-24)-2	6/24/2013	SWG-Bowtie Inv.	SCWWTP	--	38.7	1.9	20600	NA	NA	37.8
Slag (6-24)-2 Base	6/24/2013	SWG-Bowtie Inv.	SCWWTP	--	279	<0.020	459	NA	NA	20.6
SC-SED-2	11/18/2011	SWG-SCWWTP APAR	SCWWTP	0-0.5	11.2	0.75	46.9	<1.15	87.8	NA
SC-SED-3	11/18/2011	SWG-SCWWTP APAR	SCWWTP	0-0.5	18.6	2.01	63.8	<1.06	85.5	NA
SC-SED-4	11/18/2011	SWG-SCWWTP APAR	SCWWTP	0-0.5	12	0.95	39.1	<1.09	69.8	NA
CS-1	9/21/2010	PBW-SCWWTP APAR	SCWWTP	--	25.2	6.96	34.6	NA	NA	NA
CS-2	9/21/2010	PBW-SCWWTP APAR	SCWWTP	--	21.8	<0.87	32.3	NA	NA	NA
CS-3	9/21/2010	PBW-SCWWTP APAR	SCWWTP	--	23.2	<1.03	175	NA	NA	NA
CS-4	9/21/2010	PBW-SCWWTP APAR	SCWWTP	--	17.8	<0.99	43.7	NA	NA	NA
CS-5	9/21/2010	PBW-SCWWTP APAR	SCWWTP	--	13	<1.00	14	NA	NA	NA
CS-8	10/27/2010	PBW-SCWWTP APAR	SCWWTP	--	26.5	2.52	NA	NA	NA	NA
SC-SED-5	11/17/2011	SWG-SCWWTP APAR	NESC	0-0.5	14.4	0.9	397	<1.20	241	NA
Chip (6-24)-5	6/24/2013	SWG-Bowtie Inv.	NESC	--	5.4	0.088 J	15.4	NA	NA	NA
Chip (6-24)-5 Base Comp	6/24/2013	SWG-Bowtie Inv.	NESC	--	8.9	0.63	76.7	NA	NA	NA
SC-SED-6	11/17/2011	SWG-SCWWTP APAR	NESC	0-0.5	16.2	1.05	307	<1.08	55	NA
SC-SED-7	11/17/2011	SWG-SCWWTP APAR	NESC	0-0.5	16.1	0.54	35.6	<1.07	60.2	NA
SC-SED-8	11/17/2011	SWG-SCWWTP APAR	NESC	0-0.5	47.2	0.96	35.2	<1.10	52.7	NA
SC-SED-9	11/17/2011	SWG-SCWWTP APAR	NESC	0-0.5	20.5	4.16	162	<1.06	43.1	NA
SC-SED-10	11/17/2011	SWG-SCWWTP APAR	NESC	0-0.5	12.3	0.72	22.5	<1.01	45	NA
SC-SED-11	11/17/2011	SWG-SCWWTP APAR	NESC	0-0.5	29.4	1.11	46.8	<1.02	38.2	NA
Chip (6-24)-4	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	3.8	0.077 J	62.1	NA	NA	NA

TABLE 1 - SUMMARY OF PREVIOUS STEWART CREEK ANALYTICAL DATA
GRAND PARK, FRISCO, TEXAS

Sample I.D.	Sample Date	Data Source	Stream Segment	Depth (feet)	Total Concentrations in mg/Kg					TCLP Lead (mg/L)
					Arsenic	Cadmium	Lead	Selenium	Sulfate	
Critical Residential PCLs[1]					15.9[5]	52[6]	250[7]	2.3	--	--
Ecological Freshwater Second Effects Level[2]					33	4.98	128	None	--	--
Ecological Freshwater Benchmark Values for Sediment[2]					9.79	0.99	35.8	None	--	--
Soil Background Values Calculated for Exide APAR[3]					15.9	--	31.5	None	--	--
Hazardous Waste Threshold[4]					--	--	--	--	--	5
Chip (6-24)-4 Base Comp	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	9.2	0.63	15.3	NA	NA	NA
SC-SED-12	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	11.3	0.79	56.7	<1.26	172	NA
SC-SED-13	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	31.1	0.84	33.7	<1.00	58.3	NA
SC-SED-14	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	12.7	0.79	27.7	<0.97	48.2	NA
SC-SED-15	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	12.9	1.54	35.3	<1.01	58	NA
SC-SED-16	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	14.6	1.49	59	<1.00	35.6	NA
SC-SED-17	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	18.3	1.19	43.1	<0.97	40.2	NA
SC-SED-18	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	8.1	0.43	20.5	<0.91	190	NA
SC-SED-19	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	19.5	1.47	37.6	<1.18	93	NA
SC-SED-20	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	17.4	1.07	38.5	<1.03	54.2	NA
SC-SED-21	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	18	2.19	49.5	<0.96	31	NA
SC-SED-22	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	19.2	2.01	53.2	<0.93	78.5	NA
SC-SED-23	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	16.1	3.69	34.2	<1.15	190	NA
PS (6-24)-3	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	3	0.17 J	4.4	NA	NA	NA
PS (6-24)-3 Base Comp	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	11.8	0.82	13.6	NA	NA	NA
SC-SED-24	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	32.1	2	49.5	<1.03	39.8	NA
Chip (6-24)-3 Comp	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	11.5	1.4	32.6	NA	NA	NA
Chip (6-24)-3 Base Comp	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	9.2	1.1	27.7	NA	NA	NA
Chip (6-24)-3 Wall Base	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	8.1	0.92	15.7	NA	NA	NA
Chip (6-24)-3 SED	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	10.4	0.79	39.3	NA	NA	NA
SC-SED-25	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	15.1	1.03	21.6	<1.07	45	NA
Chip (6-24)-3	6/24/2013	SWG-Bowtie Inv.	Grand Park	--	3.3	0.29	27	NA	NA	NA
SC-SED-26	11/17/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	16.5	0.87	30.1	<1.07	66.3	NA
SC-SED-27	11/17/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	14.3	1.09	31.8	<1.00	54.1	NA

TABLE 1 - SUMMARY OF PREVIOUS STEWART CREEK ANALYTICAL DATA
GRAND PARK, FRISCO, TEXAS

Sample I.D.	Sample Date	Data Source	Stream Segment	Depth (feet)	Total Concentrations in mg/Kg					TCLP Lead (mg/L)
					Arsenic	Cadmium	Lead	Selenium	Sulfate	
Critical Residential PCLs[1]					15.9[5]	52[6]	250[7]	2.3	--	--
Ecological Freshwater Second Effects Level[2]					33	4.98	128	None	--	--
Ecological Freshwater Benchmark Values for Sediment[2]					9.79	0.99	35.8	None	--	--
Soil Background Values Calculated for Exide APAR[3]					15.9	--	31.5	None	--	--
Hazardous Waste Threshold[4]					--	--	--	--	--	5
SC-SED-28	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	14.1	1.23	29	<0.96	63	NA
SC-SED-29	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	18.2	1.75	35.9	<1.00	37.2	NA
SC-SED-30	11/18/2011	SWG-SCWWTP APAR	Grand Park	0-0.5	18.5	2.41	31.3	<0.98	58.9	NA

Notes: Samples presented in order from most upstream to most downstream.

1 = Critical Residential PCLs are based TCEQ's June 29, 2012 Tier I PCL Table for a residential site (0.5 acre source area).

2 = Value obtained from *Update to Guidance for Conducting Ecological Risk Assessments at Remediation Sites in Texas RG-263 (Revised)* , January 2006 Version

3 = Background values obtained from *Revised Site-specific Background Soil Concentration Evaluation, Exide Technologies Frisco Recycling Center, 7471 South 5th Street, Frisco, Texas 75034, TCEQ SWR No. 30516; EPA ID No. TXD006451090; Customer No. CN600129787; Regulated Entity No. RN100218643* , by Pastor, Behling & Wheeler, LLC, dated 30 May 2013.

4 = Toxicity characteristic leaching procedure (TCLP) Regulatory level provided in 40 CFR Section 261.24.

5 = 15.9 mg/Kg is the background value calculated by Pastor, Behling & Wheeler, LLC (PBW) for arsenic in surface soil.

6 = 52 mg/Kg value is the $^{Tot}Soil_{Comb}$ PCL. It is used here because it is anticipated that a Tier II PCL will exceed this value.

7 = 250 mg/Kg represents half of the $^{Tot}Soil_{Comb}$ PCL. It is based on 1) an agreement between the City of Frisco and Exide; and 2) an anticipated Tier II PCL that exceeds this value.

mg/Kg = milligrams per Kilogram

mg/L = milligrams per Liter

-- = Not applicable.

NA = Not Analyzed.

TABLE 1 - SUMMARY OF PREVIOUS STEWART CREEK ANALYTICAL DATA
GRAND PARK, FRISCO, TEXAS

Sample I.D.	Sample Date	Data Source	Stream Segment	Depth (feet)	Total Concentrations in mg/Kg					TCLP Lead (mg/L)
					Arsenic	Cadmium	Lead	Selenium	Sulfate	
Critical Residential PCLs[1]					15.9[5]	52[6]	250[7]	2.3	--	--
Ecological Freshwater Second Effects Level[2]					33	4.98	128	None	--	--
Ecological Freshwater Benchmark Values for Sediment[2]					9.79	0.99	35.8	None	--	--
Soil Background Values Calculated for Exide APAR[3]					15.9	--	31.5	None	--	--
Hazardous Waste Threshold[4]					--	--	--	--	--	5

Data Sources: SWG-SCWWTP APAR = Data collected by Southwest Geoscience to support the Stewart Creek Wastewater Treatment Plant APAR.

SWG-Bowtie Inv. = Data collected by Southwest Geoscience to support the Former Exide Operating Plant (the "Bowtie") APAR.

PBW-SCWWTP APAR = Data collected by PBW for the Stewart Creek Wastewater Treatment Plant APAR.

Stream Segment SCWWTP = The portion of Stewart Creek within the Former Stewart Creek Wastewater Treatment Plant VCP Site.

NESC = The portion of Stewart Creek within the Northeast Stewart Creek VCP Site.

Grand Park = The portion of Stewart Creek within the Grand Park VCP Site.

Sample Nomenclature: SED - Sample names containing the term "SED" represent sediment samples.

Chip - Sample names containing the term "Chip" represent battery chip samples.

PS - Sample names containing the term "PS" represent samples of potential slag.

Base Comp - Sample names containing the term "Base Comp" represent composite sediment samples taken adjacent to and under a battery chip or potential slag.

TABLE 2
GRAND PARK, FRISCO, TEXAS
SAMPLE COLLECTION INTERVALS AND ANALYTICAL PROTOCOL

Type of Sample	Sample Collection Intervals	Initial Analytical Protocol[(1)]	Subsequent Field Mobilization	Purpose of Sample
Surface Water	NA	Total and dissolved arsenic, cadmium, lead, and selenium	Lateral delineation where necessary.	Determine if surface water impacts are present at the site.
	NA	Total concentrations of RCRA 8 Metals	Lateral delineation where necessary.	Determine if surface water leaving an outfall at TBK Materials is impacted.
Groundwater	NA	Total arsenic, cadmium, lead, and selenium.	Lateral delineation where necessary.	Determine if groundwater impacts are present at the site.
Sediment	0-3"	Total arsenic, cadmium, lead, and selenium.	Vertical and lateral delineation where necessary.	Determine if sediment impacts are present at the site.
Surface Soil	0-3"	Total arsenic, cadmium, lead, and selenium.	Vertical and lateral delineation where necessary.	Determine if soil impacts are present at the site.
	0-3"	Herbicides, Pesticides, TPH, PAHs, & RCRA 8 Metals.	Vertical and lateral delineation where necessary.	Determine if soil impacts are present in targeted areas at the site.
Subsurface Soil	2' intervals	Total arsenic, cadmium, lead, and selenium.	Vertical and lateral delineation where necessary.	Determine if soil impacts are present at the future limits of the lakes that will be excavated at the site.

Notes: " = inches; ' = feet

TABLE 3

GRAND PARK, FRISCO, TEXAS

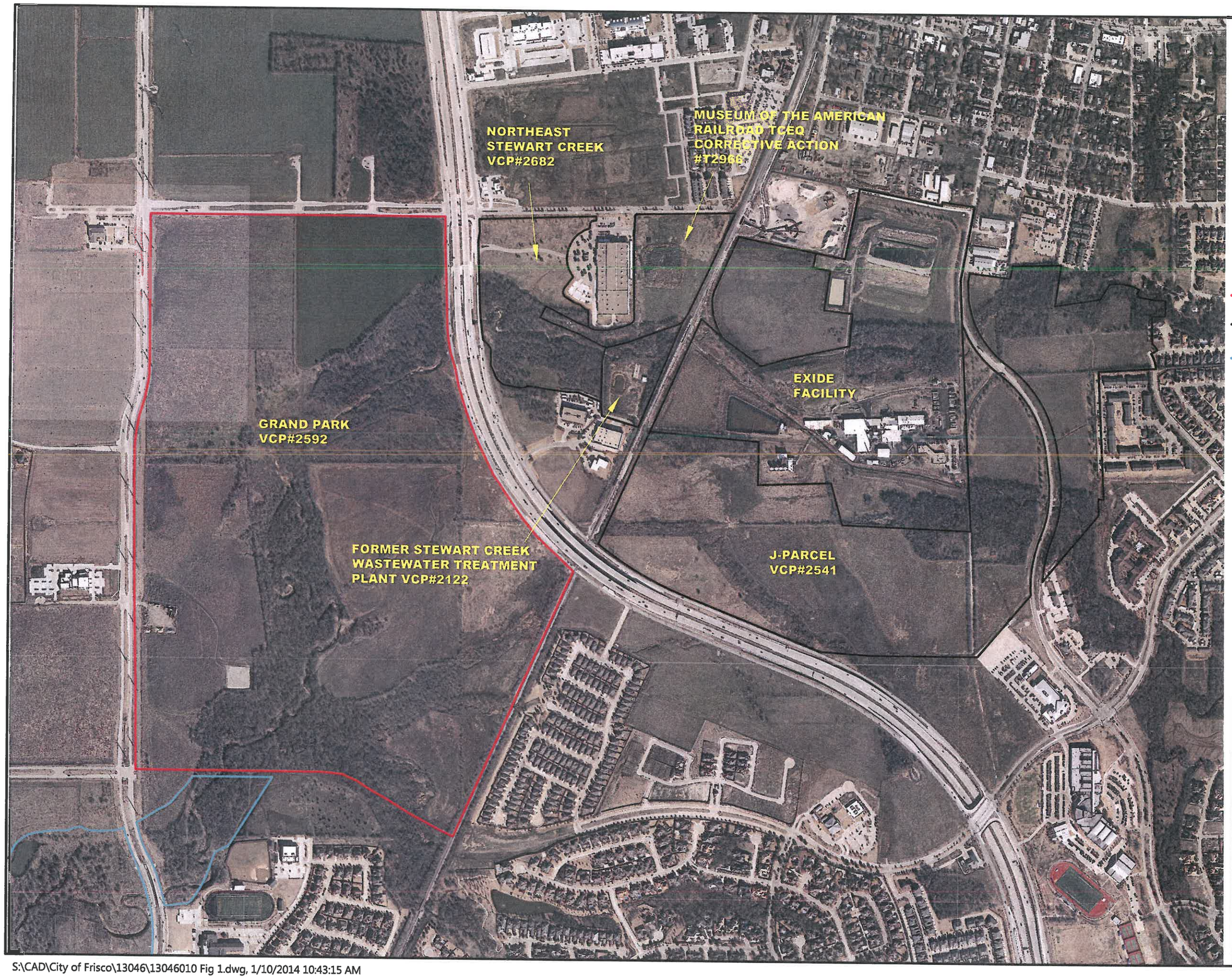
ANALYTICAL METHODS AND SAMPLE HANDLING REQUIREMENTS

Parameters	Analytical Method	Preservation	Required Reporting Limit	Holding Time
Total and dissolved heavy metals (excluding Mercury)	EPA 200.8/6020	Cool 4 ± 2°C Water: Acidify w/ HNO_3 to pH < 2	TRRP Reporting (see note 1)	180 days
Mercury	EPA 7470/7471	Cool 4 ± 2°C Water: Acidify w/ HNO_3 to pH < 2	TRRP Reporting	28 days
Herbicides	EPA 8321	Cool 4 ± 2°C	TRRP Reporting	7 days for aqueous; 14 days for solids
Organochlorine Pesticides	EPA 625/8270	Cool 4 ± 2°C	TRRP Reporting	7 days for aqueous; 14 days for solids
TPH	Tx 1005/1006	Cool 4 ± 2°C	TRRP Reporting	14 days
PAHs	EPA 625/8270	Cool 4 ± 2°C	TRRP Reporting	7 days for aqueous; 14 days for solids

Notes:

(1) Reporting limits must meet TRRP Tier 1 critical PCLs for a 30-acre source area. All analytical results will be reported for concentrations that exceed the method detection limits and that meet the qualitative identification criteria recommended in the analytical method. Analytical results that are reported at concentrations between the method detection limit and method quantitation limit shall be flagged. Analytical results that are reported as undetected will be reported as undetected at the sample quantitation limit.

FIGURES



N

800 400 0 800

(SCALE IN FEET)

LEGEND

SITE BOUNDARY

NEAR BY TCEQ REGULATED SITES

FUTURE VCP SITE

AERIAL SOURCE:
NORTH CENTRAL TEXAS COUNCIL
OF GOVERNMENT (NCTOCG); 2011

REV.	DATE	DESCRIPTION	DR BY	APP BY

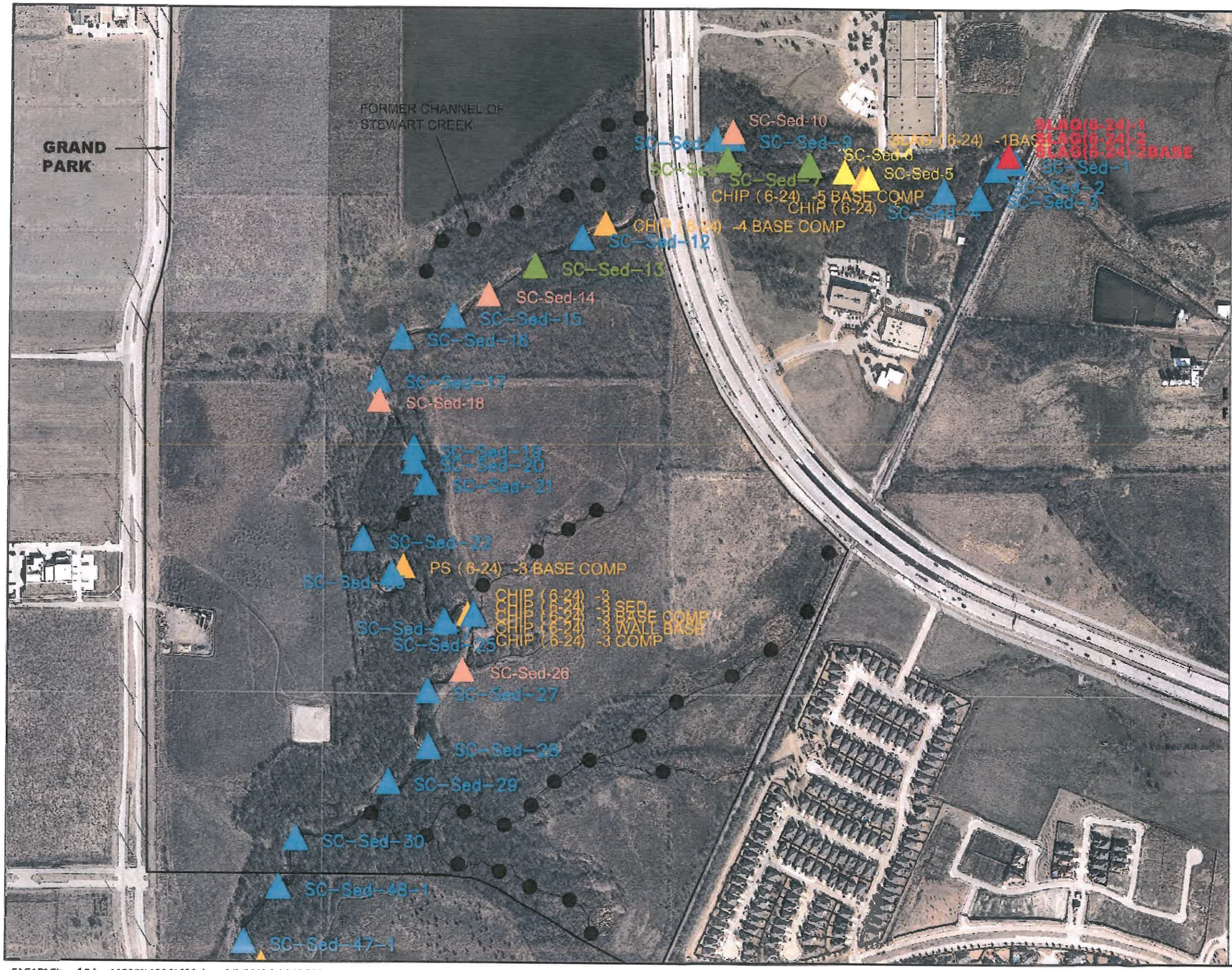
COOK-JOYCE INC.
ENGINEERING AND CONSULTING
812 WEST ELEVENTH 512-474-9097
AUSTIN, TEXAS 78701
HUB & WBE CERTIFIED
TEXAS REGISTERED ENGINEERING FIRM F-883

PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
SITE VICINITY MAP

DES BY			SCALE: SEE BAR SCALE
DR BY	SDB		PROJECT NO. 13046.01
CHK BY	RDV		CJI NO. 13046010
APP BY	RDV		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-10-2014			FIGURE NO. 1
PURPOSE: PHASSE I ESA			

S:\CAD\City of Frisco\13046\13046010 Fig 1.dwg, 1/10/2014 10:43:15 AM



STATE OF TEXAS
10/11/2013
RICHARD D. VARNELL
GEOLOGY
No. 4992
PROFESSIONAL GEOSCIENTIST

500 0 500
(SCALE IN FEET)

LEGEND

- HAZARDOUS WASTE (LEAD = 5 mg/L TCLP)
- NON-HAZARDOUS BATTERY CHIPS OR SLAG
- LEAD CONCENTRATIONS EXCEED 250 mg/Kg
- LEAD AND/OR CADMIUM CONCENTRATION(s) EXCEED FRESHWATER SEDIMENT BENCHMARK VALUE(s) (LEAD = 35.8 mg/Kg; cadmium = .99 mg/Kg)
- LEAD CONCENTRATIONS EXCEED EXIDE BACKGROUND (31.5 mg/Kg)
- "NATURAL" (BACKGROUND) LEAD CONCENTRATIONS (<31.5 mg/Kg)
- PROPOSED SEDIMENT SAMPLE LOCATIONS

NOTES:

1. COE = US CORPS OF ENGINEERS.
2. FT AMSL = FEET ABOVE MEAN SEA LEVEL.
3. mg/Kg = MILLIGRAMS PER KILOGRAM.
4. mg/L = MILLIGRAMS PER LITER
5. TCLP = TOXICITY CHARACTERISTIC LEACHING PROCEDURE

REV.	DATE	DESCRIPTION	DR BY	APP BY

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ENGINEERING AND CONSULTING
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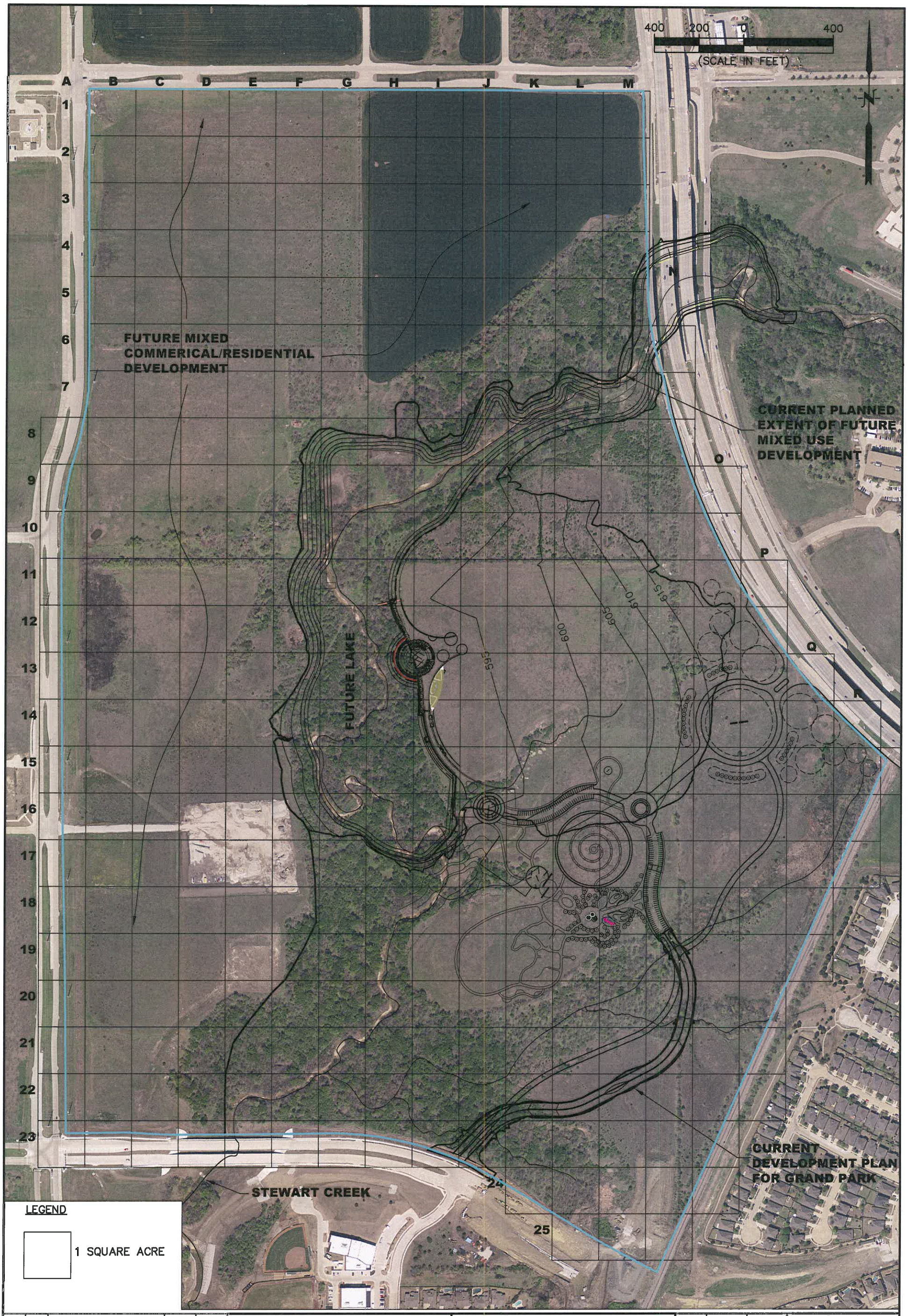
AUSTIN, TEXAS 78701
TEXAS REGISTERED ENGINEERING FIRM F-883

PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
STEWART CREEK PREVIOUS AND PROPOSED SAMPLE LOCATIONS

DES BY			SCALE: SEE BAR SCALE
DR BY	SDR		PROJECT NO. 12061.01
CHK BY	RDV		CJI NO. 12061030
APP BY	WR		SHEETS 1 OF 1 SHEETS
DATE ISSUED: 09-10-2013			FIGURE NO. 2
PURPOSE:			

S:\CAD\City of Frisco\12061\12061030.dwg, 9/9/2013 3:04:48 PM



REV.	DATE	DESCRIPTION	DR BY	APP BY

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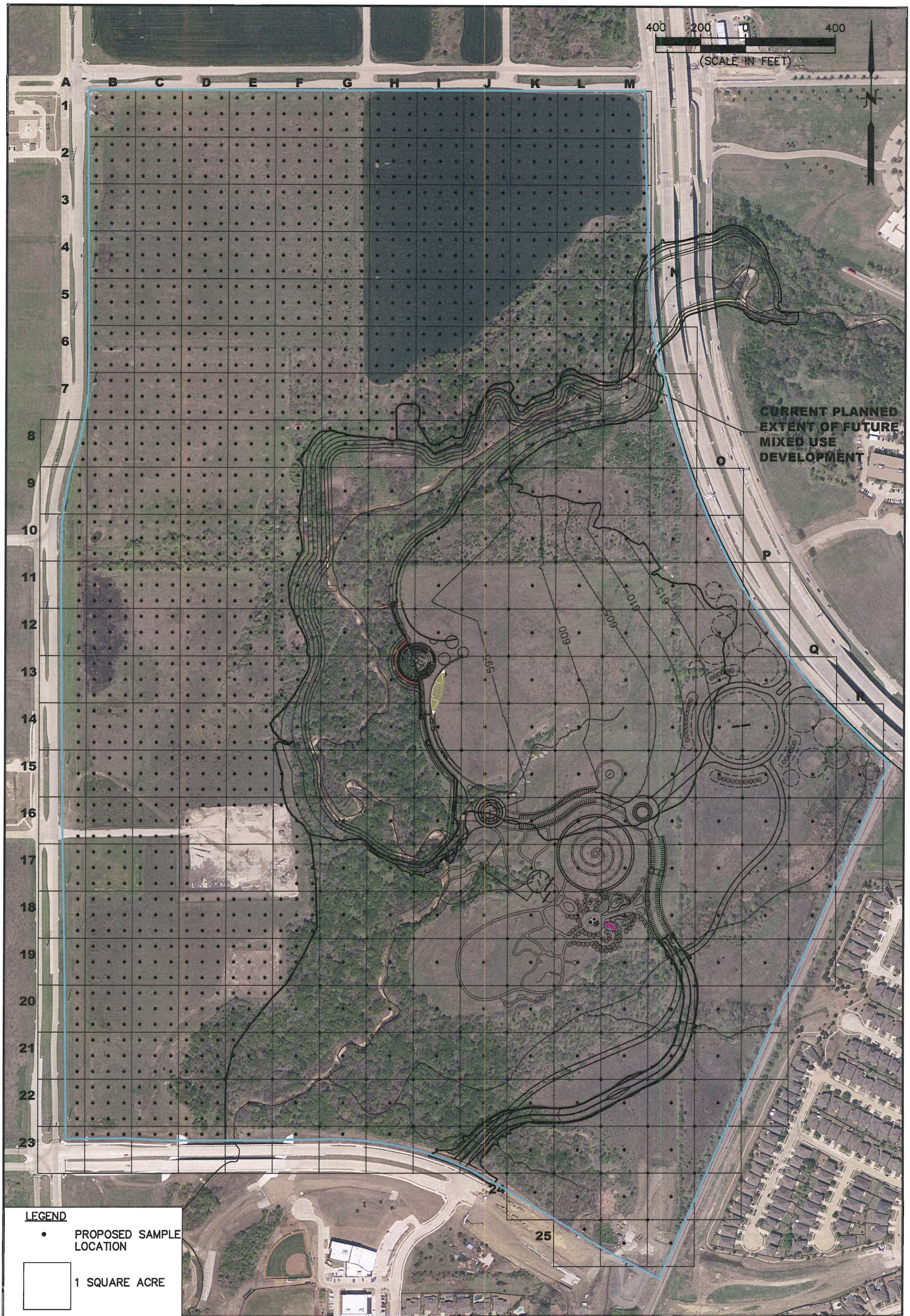
TEXAS REGISTERED ENGINEERING FIRM F-883

PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
FUTURE DEVELOPMENT
PLANS FOR GRAND PARK

DES BY			SCALE: 1" = 400'
DR BY	SDB		PROJECT NO. 13046.01
CHK BY	RDV		CJI NO. 13046012
APP BY	RDV		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-17-2014			FIGURE NO. 3
PURPOSE: APA WORKPLAN			

S:\CAD\City of Frisco\13046\13046012 Fig 3.dwg, 1/20/2014 1:30:17 PM



REV.	DATE	DESCRIPTION	DR BY	APP BY

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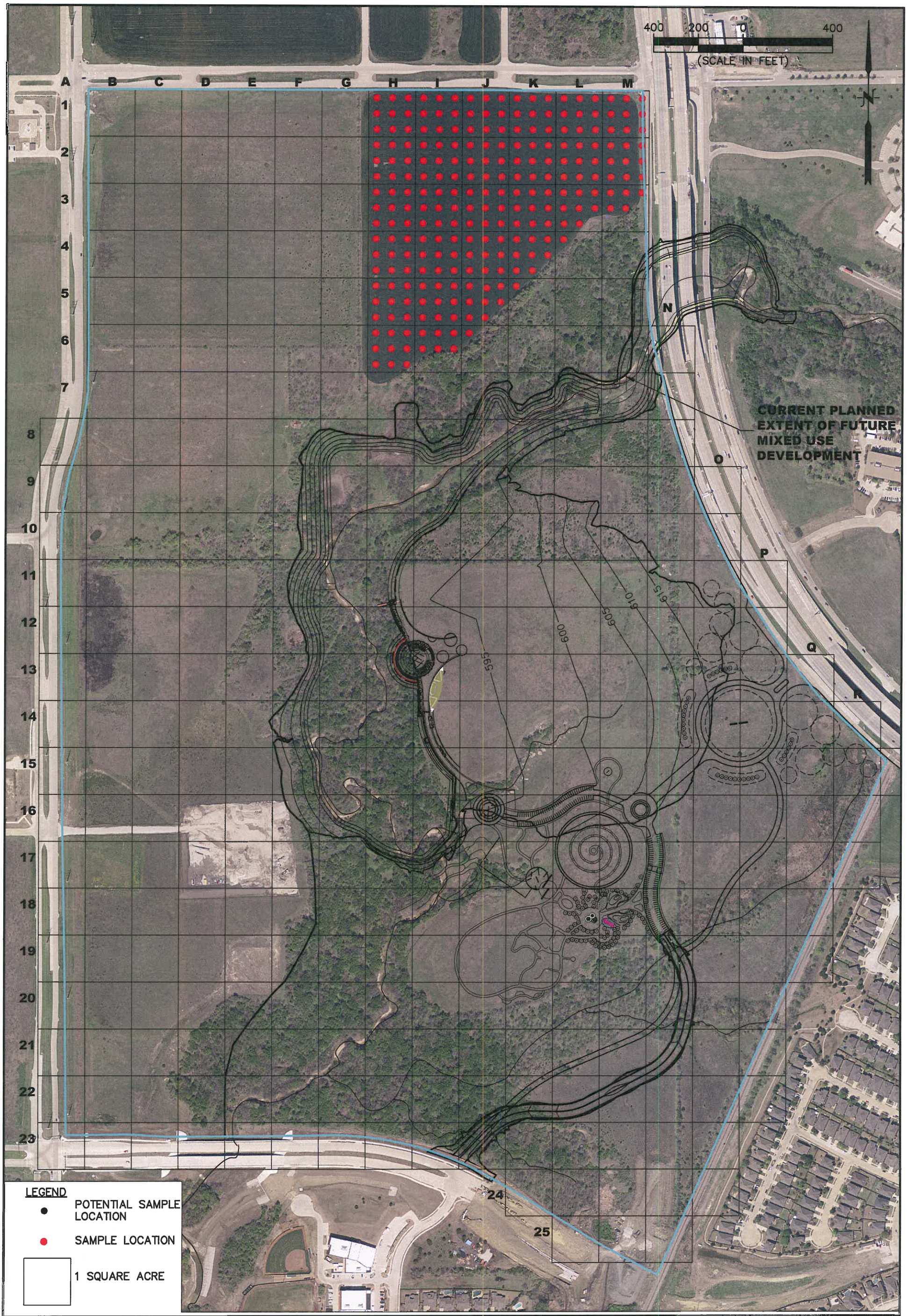
AUSTIN, TEXAS 78701
HUB & WBE CERTIFIED
TEXAS REGISTERED ENGINEERING FIRM F-883

PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
PROPOSED UPLAND SAMPLE LOCATION PLAN – TARGET METALS

DES BY			SCALE: 1" = 400'
DR BY	SDB		PROJECT NO. 13046.01
CHK BY	RDV		CJI NO. 13046013
APP BY	RDV		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-17-2014			FIGURE NO. 4
PURPOSE: APA WORKPLAN			

S:\CAD\City of Frisco\13046\13046013 Fig 4.dwg, 1/17/2014 10:41:29 AM



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TEXAS REGISTERED ENGINEERING FIRM F-883

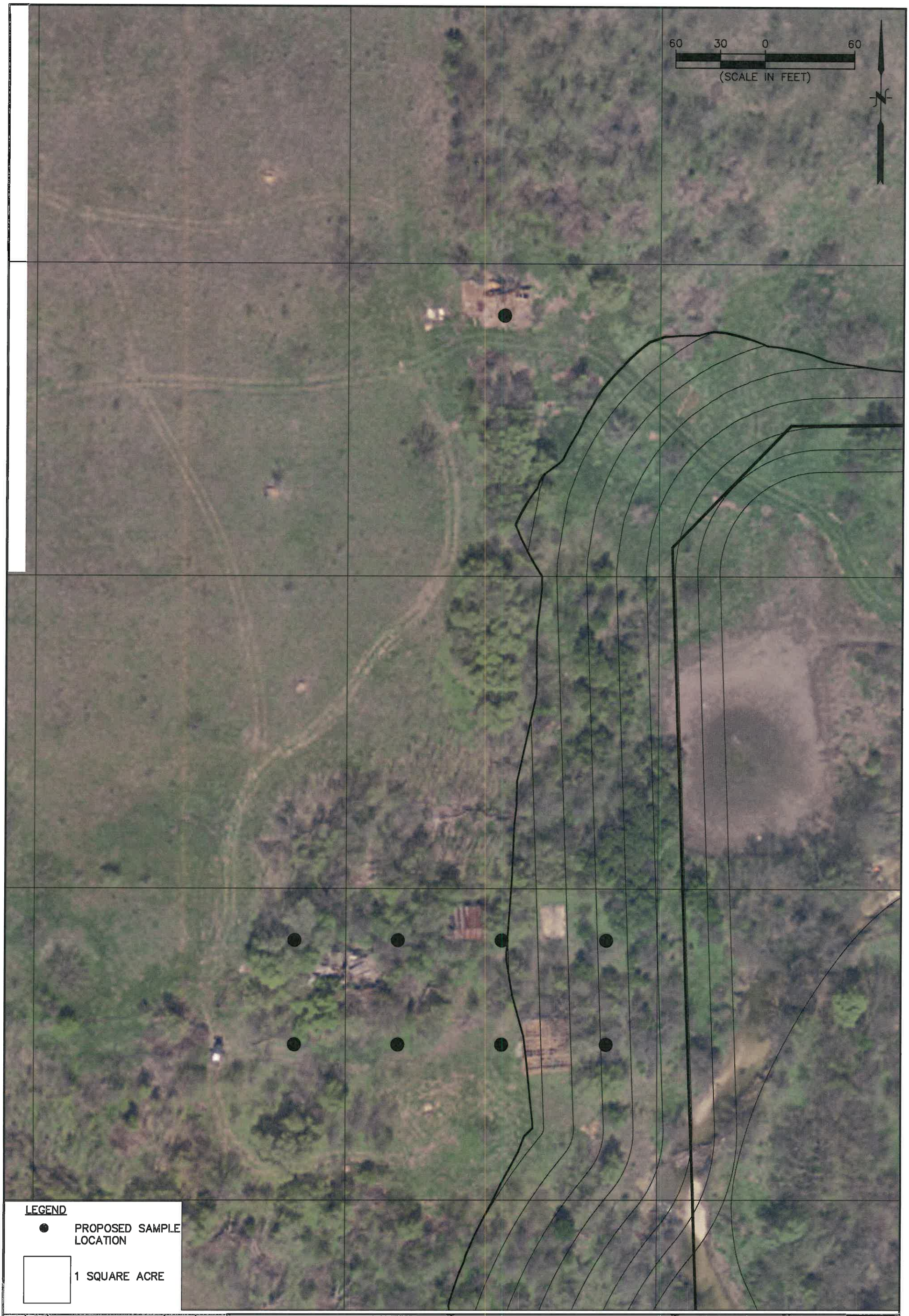
PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
PROPOSED UPLAND SAMPLE LOCATION PLAN
– HERBICIDES AND PESTICIDES

DES BY		
DR BY	SDB	
CHK BY	RDV	
APP BY	RDV	
DATE ISSUED: 01-17-2014		
PURPOSE: APA WORKPLAN		

SCALE:	1" = 400'
PROJECT NO.	13046.01
CJI NO.	13046019
SHEET	1 OF 1 SHEETS
FIGURE NO.	5

S:\CAD\City of Frisco\13046\13046019 Fig 5.dwg, 1/17/2014 4:17:14 PM



REV.	DATE	DESCRIPTION	DR BY	APP BY

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HUB & WBE CERTIFIED
TEXAS REGISTERED ENGINEERING FIRM F-883

PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
PROPOSED SAMPLE LOCATION PLAN
FARM HOUSE AREA

DES BY			SCALE: 1" = 60'
DR BY	SDB		PROJECT NO. 13046.01
CHK BY	RDV		CJI NO. 13046015
APP BY	RDV		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-17-2014			FIGURE NO. 6
PURPOSE: APA WORKPLAN			

S:\CAD\City of Frisco\13046\13046015 Fig 6.dwg, 1/20/2014 1:35:19 PM

REV.	DATE	DESCRIPTION	DR BY	APP BY

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AUSTIN, TEXAS 78701
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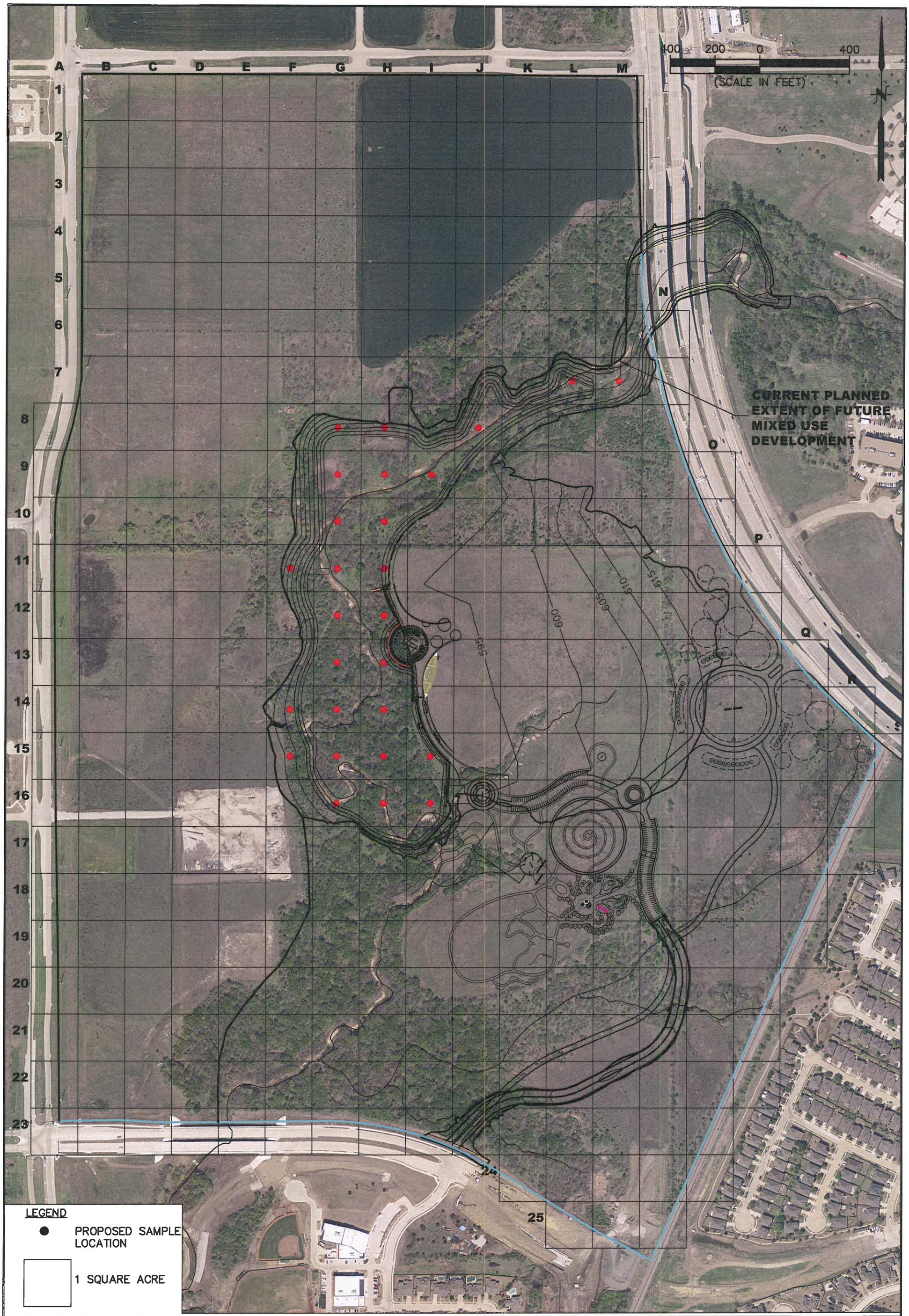
TEXAS REGISTERED ENGINEERING FIRM F-883

PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
PROPOSED SAMPLE LOCATION PLAN
CONCRETE CRUSHER AREA

DES BY			SCALE: 1" = 80'
DR BY	SDB		PROJECT NO. 13046.01
CHK BY	RDV		CJI NO. 13046017
APP BY	RDV		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-17-2014			FIGURE NO. 7
PURPOSE: APA WORKPLAN			

S:\CAD\City of Frisco\13046\13046017 Fig 7.dwg, 1/20/2014 1:21:54 PM



REV.	DATE	DESCRIPTION	DR BY	APP BY

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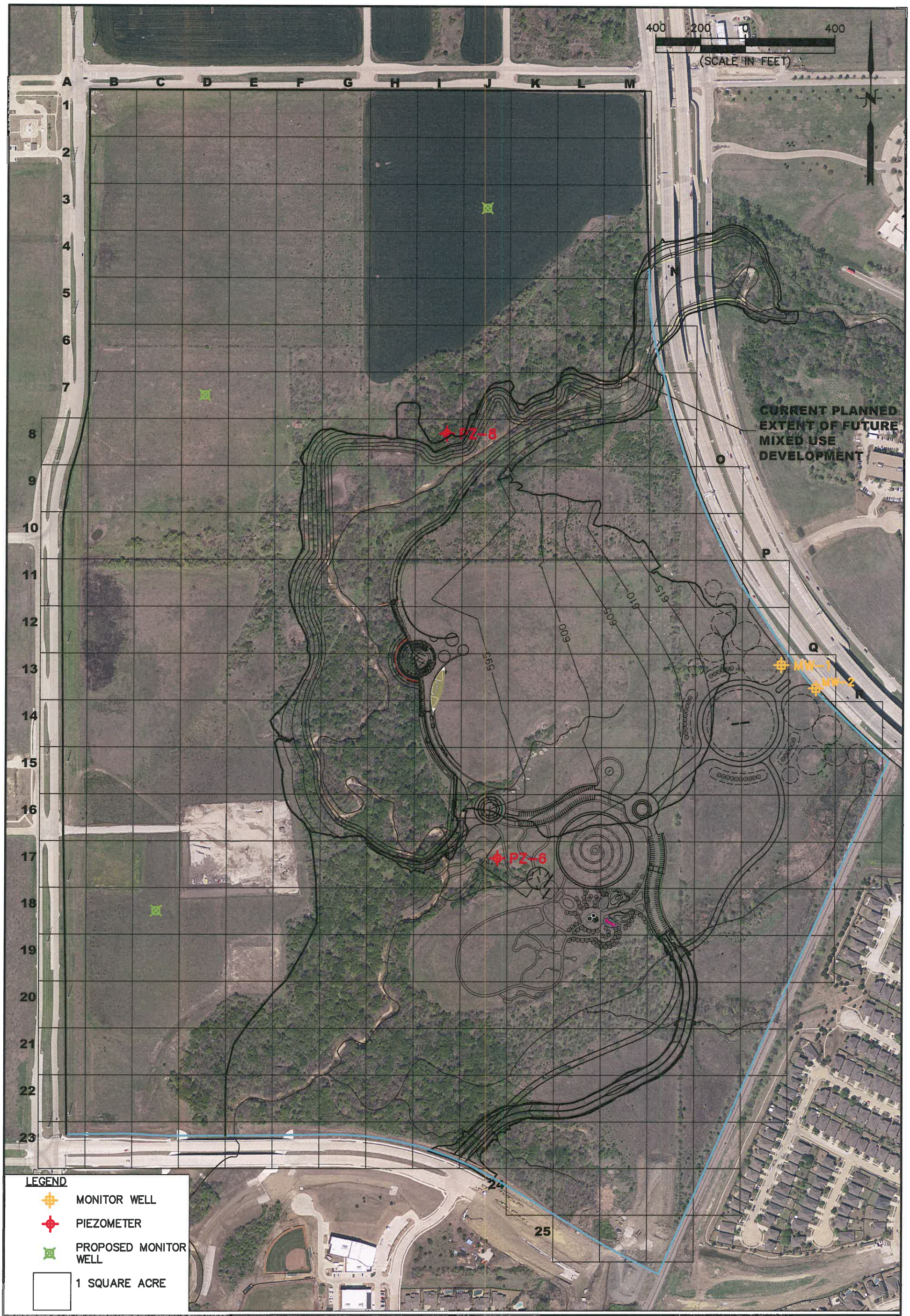
ENGINEERING AND CONSULTING
812 WEST ELEVENTH 512-474-9097
AUSTIN, TEXAS 78701
HUB & WBE CERTIFIED
TEXAS REGISTERED ENGINEERING FIRM F-883

PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
PROPOSED BORING LOCATION PLAN
FUTURE LAKES

DES BY			SCALE: 1" = 400'
DR BY	SDB		PROJECT NO. 13046.01
CHK BY	RDV		CJI NO. 13046018
APP BY	RDV		SHEET 1 OF 1 SHEETS
DATE ISSUED: 01-17-2014			FIGURE NO. 8
PURPOSE: APA WORKPLAN			

S:\CAD\City of Frisco\13046\13046018 Fig 8.dwg, 1/17/2014 1:55:19 PM



REV.	DATE	DESCRIPTION	DR BY	APP BY

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AUSTIN, TEXAS 78701
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PROJECT:
GRAND PARK
FRISCO, TEXAS

SHEET TITLE:
PROPOSED MONITOR WELL LOCATION PLAN

DES BY		
DR BY	SDB	
CHK BY	RDV	
APP BY	RDV	
DATE ISSUED: 01-17-2014		
PURPOSE: APA WORKPLAN		

SCALE:	1" = 400'
PROJECT NO.	13046.01
CJI NO.	13046020
SHEET	1 OF 1 SHEETS
FIGURE NO.	9

S:\CAD\City of Frisco\13046\13046020 Fig 9.dwg, 1/20/2014 8:57:35 AM